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Exploring Relationships of Psychopathology in Hypersexual Patients Using the MMPI-2

RORY C. REID AND BRUCE N. CARPENTER
Department of Clinical Psychology, Brigham Young University, Provo, Utah, USA

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This article reports the findings of a study investigating relationships among Minnesota Multiphasic Personality Inventory-2 (MMPI-2) scales as they pertain to a group of individuals seeking help for hypersexual behavior (N = 152). A number of MMPI-2 scale elevations were prevalent with this group, suggesting that some of these patients experience symptoms associated with psychopathology and interference or impairment in important areas of personal and interpersonal functioning. We failed to find any evidence in our data supporting the notion that hypersexual patients experience addictive tendencies. For a significant portion of the group, however, there were few-to-minimal elevations, reflecting normal psychological profiles. An overall important finding in our data suggests that patients presenting with hypersexual behavior are a diverse group, sufficiently so that studying subsamples of this group may lead to a clearer understanding of this behavior. Models that promote a homogenous conceptualization and treatment of hypersexuality likely miss important differences that provide valuable insight when working with this population.

A growing body of research is emerging from studies investigating the vast array of issues associated with hypersexual behavior. Psychopathology including depression, anxiety, attention-deficit, and substance-related disorders (e.g., Black, Kehrberg, Flumerfelt, & Schlosser, 1997; Guigliamo, 2006; Kafka, 2001; Kafka & Prentky, 1998; Kafka & Hennen, 2002; Raviv, 1993;

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Address correspondence to Rory C. Reid, 284 TLRB, Department of Clinical Psychology, Brigham Young University, Provo, UT 84602. E-mail: roryreid@byu.edu

Raymond, Coleman, & Miner, 2003; Reid, 2007), as well as personality traits such as shame, alexithymia, and loneliness have been observed in correlational studies of hypersexual patients (Reid, Carpenter, Spackman, & Willes, 2008; Reid, Harper, & Anderson, 2009; Wilson, 2000; Yoder, Virden, & Amin, 2005). As part of the continuing body of research, this article attempts to expand the current understanding of psychological symptom patterns among patients seeking help for hypersexual behavior using the Minnesota Multiphasic Personality Inventory-2 (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989).

DEFINITION OF HYPERSEXUAL BEHAVIOR

Several constructs have been proposed to conceptualize patterns of behavior in which individuals experience difficulty regulating their sexual thoughts, feelings, and behaviors. Labels such as sexual addiction, sexual compulsivity, sexual dependence, sexual impulsivity, and hypersexual behavior have been suggested (Barth & Kinder, 1987; Coleman, Miner, Ohlerking, & Raymond, 2001; Goodman, 2001; Kafka, 2001; Kalichman & Rompa, 1995; Reid, 2007; Reid & Woolley, 2006). Although some ambiguity and indecision exist about the advantages and disadvantages of these alternative conceptualizations, each label does seem to carry with it implications for how the indicated problems might be perceived and therefore treated (e.g., an addiction, an impulse control disorder, a compulsive behavior).

For the purpose of this study, hypersexual behavior is defined as difficulty regulating or diminishing sexual thoughts, urges, and behavior, to the extent that the individual or others experience negative consequences. Hypersexual individuals report significant personal or interpersonal distress related to preoccupation with sex, and their sexual choices are often incongruent with their personal values and/or desired goals. Behaviors associated with this phenomena can include solo or relational sexual activities as well as paraphilic tendencies (Kafka, 1997, 2003) and our definition of hypersexuality as a syndrome requires behavior to persist across a period of 6 months or more (Reid & Woolley, 2006; Reid, Carpenter, & Lloyd, 2009).

Our conceptualization of hypersexual behavior shares several common denominators with other theoretical perspectives (Coleman, 1987; Kafka, 2001; Miner, Coleman, Center, Ross, & Rosser, 2007). However, a unified construct for this phenomenon has yet to be agreed upon, creating a need for studies such as this to further investigate and define these behavioral tendencies.

In addition to questions about which conceptual approach best captures the parameters and core difficulties of hypersexual behavior, controversy exists about the etiology and latent factors that influence and perpetuate such behavior. Some investigators have attempted to publish theoretical dialogue

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calling for DSM-V inclusion of a new classification for hypersexual behavior (e.g., Manley & Koehler, 2001), while others have claimed the need for more refined diagnostic criteria for problematic hypersexuality in order to understand this phenomena in relation to other psychiatric disorders (Finlayson, Sealy, & Martin, 2001). Thus, the presence of psychopathology among hypersexual individuals is a topic that requires careful consideration. As some have noted, the frequency of sexual behavior need not indicate a pathological condition (Levine & Troiden, 1988; Moser, 1993; Todd, 2004). Yet for a portion of individuals, hypersexuality may reflect attempts to cope with or reduce symptom distress associated with psychopathology and can thus reflect a co-morbid condition (Reid et al., 2008; Reid, Harper, & Anderson, 2009).

RATIONALE FOR USING THE MMPI-2

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Despite the increase in studies about hypersexual behavior, there is a paucity of research using prominent psychological measures such as the Symptom Checklist 90, the NEO Personality Inventory-Revised, or the MMPI-2. Analyzing this population with such measures allows for the concurrent examination and comparison of a broader spectrum of psychiatric and personality variables. Such analysis also affords the opportunity to place the occurrence of these variables within the well-defined normative populations of these measures. During an extensive literature review, we found one previous study (a doctoral dissertation) that explored relationships between hypersexual behavior and personality profiles specifically using the MMPI-2 (Bradford, 1997). The study, which involved a small sample of male ($n = 22$) and female ($n = 26$) self-identified sex addicts participating in 12-step self-help support groups, showed elevations exceeding T-scores of 65 on clinical scales 2 (depression), 4 (psychopathic deviate), 7 (psychasthenia), and 8 (schizophrenia). The study, however, was limited in the operationalization of sexual addiction-based criteria, which it derived from clinical impressions rather than from deductively generated measures supported by a theoretical conceptualization of hypersexual behavior (Bradford, 1997). The current study attempts to clarify and expand upon these previous findings by using a psychometrically validated measure of hypersexual behavior and a larger sample size.

PURPOSE OF THE PRESENT STUDY

The purpose of the present study included several objectives. First, we wanted to explore what differences, if any, exist between hypersexual patients and the MMPI-2 normative group. Specifically, we wanted to explore

differences between the two groups on the clinical scales, the restructured scales, and several other scales associated with psychopathology and personality traits. Further, we wished to explore the kinds of conditions most likely to reach clinical significance when the chief complaint upon initiating clinical services is problematic hypersexual behaviors. Finally, we sought to determine whether, based on MMPI-2 data, there was support for organizing hypersexual clients into categories based on MMPI-2–based psychiatric symptomatology.

METHOD

Participants

The clinical sample used in this study consisted of male patients selected consecutively from an outpatient clinic that specialized in the treatment of hypersexuality. These subjects were selected based on (a) a primary complaint reported during intake and assessment being excessive and out-of-control sexual behavior; and (b) a willingness to participate in research, as reflected in consent provided at the outset of the treatment process. We had a 99% rate of participation and patients received no incentives for their involvement in our study. Exclusion criteria that eliminated six 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). Specifically, subjects were retained if they omitted fewer than 20 items, if infrequency scale (F) and back infrequency scale (Fb) T-scores were less than 100, and if variable response inconsistency (VRIN) and true response inconsistency (TRIN) T-scores were equal to or less than 75. Four subjects were excluded using these MMPI-2 criteria, yielding a final sample size of 152 subjects.

Ethnic representation among the sample included 1% Asian ($n = 2$), 3% Hispanic ($n = 4$), and 96% Caucasian ($n = 146$), and participants ranged from 18 to 64 years of age ($M = 31.6$, $SD = 9.3$). Relationship status included 34% who were never married ($n = 51$), 52% in their first marriage ($n = 79$), 1% who remarried ($n = 11$), 1% who were separated ($n = 7$), and 1% divorced ($n = 4$). Sexual preferences represented included 1% who self-identified as homosexual ($n = 4$), 1% bisexual ($n = 4$), and 98% heterosexual ($n = 144$).

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

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met criteria for paraphilia (7%) were included in this study because (a) they also met the criteria for our definition of hypersexual behavior, and (b) their data was not significantly different from subjects who were having problematic nonparaphilic hypersexual behaviors.

Clinical interviews among the patient sample revealed very little evidence of criminal history (beyond voyeurism and sexual solicitation in a few cases) and, on average, this group tended to be more educated and intelligent (although not part of the present study, our measurement of cognitive ability among these patients yielded above-average full-scale IQ scores, $M = 119$). Further, no patient had a history of drug or alcohol abuse.

Measures

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

MMPI-2

The MMPI-2 consists of 567 items that participants endorse as true or false. MMPI-2 scale scores are calculated by summing the number of endorsed items for the respective scale, and results are reported as T-scores. 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 (e.g., 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). 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). The scale data in this study yielded acceptable reliability ($\alpha = .79$).

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RESULTS

Comparison of Hypersexual Clients to Normal Individuals

MMPI-2 validity and clinical scales

The MMPI-2 mean scores for the validity, clinical, and restructured scales are found in Table 1. As can be seen, nearly all validity and clinical scales are higher for the hypersexual sample than they are for the norming sample. The comparison was evaluated with the *z*-test. Because the sample size is large, the σ_e is small, requiring an elevation of only 1.59 points for statistical significance at $p < .05$. Thus, all validity and clinical scales are significantly elevated except Fp, L, and 9. Given the large proportion of tests that were

TABLE 1. Comparison of Hypersexual and Norming Groups on Validity, Clinical, and Restructured Clinical Scales

MMPI-2 Scale	Hypersexual Group Mean T[1]	*z*	Cohen's d
Validity Scales			
L-Lie	51.17	1.44	.12
F-Infrequency	52.68	3.30**	.27
K-Social desirability	53.12	3.85**	.31
VRIN-Variable infrequency	52.89	3.56**	.29
TRIN-True/false infrequency	56.11	7.53**	.61
Fb-Infrequency back	54.22	5.20**	.42
Fp-Infrequency psychopathology	50.71	.88	.07
S-Dissimulation	52.74	3.38**	.27
Clinical Scales			
1-Hypochondriasis	56.02	7.42	.60
2-Depression	59.93	12.24**	.99
3-Hysteria	57.93	9.78**	.79
4-Psychopathic deviate	62.32	15.19**	1.23
5-Male/female	54.54	5.60**	.45
6-Paranoia	59.48	11.69**	.95
7-Psychasthenia	65.15	18.68**	1.52
8-Schizophrenia	63.10	16.15**	1.31
9-Mania	49.01	−1.22	−.10
0-Social introversion	54.62	5.70**	.46
Restructured Clinical Scales			
RCD-Demoralization	61.78	14.52**	1.18
RC1-Somatic complaints	52.52	3.11*	.25
RC2-Low positive emotionality	55.86	7.22**	.59
RC3-Cynicism	45.77	5.22**	−.42
RC4-Antisocial behaviors	49.55	−.55	−.05
RC6-Ideas of persecution	55.11	6.30**	.51
RC7-Dysfunctional negative emotions	52.40	2.96*	.24
RC8-Aberrant experiences	49.38	−.76	−.06
RC9-Hypomanic activation	46.20	4.68**	−.38

[1]MMPI-2 scores are standardized as T scores; thus, norm group *M*s = 50 and *SD*s = 10.
*$p < .01$.
**$p < .001$.

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significant and the level of significance, no correction for multiple comparisons was made.

Although many clinical scales differ significantly from norming sample means, these average elevations generally do not fall within the clinical range ($T \geq 65$). Rather, they are merely suggestive of several clinical features. Using a guideline of at least a moderate effect size (Cohen's $d \geq .5$), it appears that meaningful attributes of this group include depression, anxiety, difficulty with social norms, and difficulty managing thoughts, lowered inhibitions, behavioral control, and social alienation. (see Table 1).

Restructured clinical scales

The restructured clinical scales were recently designed to (a) separate out from other scales the common element of psychological distress (called demoralization), and (b) capture the core attribute of each clinical scale. Examination of the restructured clinical (RC) scales (Table 1) also shows a number of elevations. With the exceptions of demoralization (general distress), low positive emotionality, and ideas of persecution, however, the elevations probably do not capture differences large enough to be of much clinical interest. Thus, some of the elevated clinical scales appear to represent important differences mostly because they include elements of vulnerability, distress, and negative affect or because of aspects of the clinical scales that are peripheral to the scales' core construct.

Scales of interest

Group differences for several other scales were examined. Scales were chosen either because they clearly represent constructs about which controversy exists for hypersexuality or because they correspond to attributes often claimed to characterize the hypersexual population. The Psy-5 scales (Harkness, McNulty, Ben-Porath, & Graham, 2001) are also included to allow comparison to big five personality factors. These comparisons to the MMPI-2 norming group are found in Table 2. As with other scales, the hypersexual group presents with many significant elevations, again highlighting problems with general distress, negative emotionality, introversion, and low self-esteem. Of particular interest, these individuals show only a small elevation on obsessiveness, and they do not appear to experience tendencies toward personality attributes typically found in addiction populations.

Clinically Meaningful Elevations

In practice, clinicians often use clinically meaningful elevations to determine whether patients fall into various categories. That same principle can be applied to understanding how frequently hypersexual subjects produce MMPI-2 elevations that are diagnostically significant (usually regarded as $T \geq 65$). To better understand how frequently such elevations are found in

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TABLE 2. Comparison of Hypersexual and Norming Groups on MMPI-2 Supplementary and Content Scales

MMPI-2 Scale	Hypersexual Group Mean T[1]	*z*	Cohen's d
Psy-5 Scales			
Aggressiveness	44.68	−6.55**	−.53
Psychoticism	51.19	1.47	.12
Disconstraint	47.62	−2.93*	−.24
Negative emotionality	55.09	6.28**	.51
Introversion (low positive emotionality)	57.34	9.05**	.73
Content Scales			
Anxiety	57.17	8.84**	.72
Obsessiveness	52.94	3.62*	.29
Depression	59.66	11.91**	.97
Low self-esteem	57.93	9.78**	.79
Work interference	56.61	8.15**	.66
Supplementary Scales			
Anxiety	56.59	8.12**	.76
College maladjustment	58.72	10.75**	.87
Keane PTSD	58.76	10.80**	.88
MacAndrews alcoholism-revised	44.63	−6.62**	−.54
Addiction acknowledgment	45.49	−5.56**	−.45
Addiction potential	52.72	3.35*	.27

[1]MMPI-2 scores are standardized as T scores; thus norm group *M*s = 50 and *SD*s = 10.
*$p < .01$.
**$p < .001$.

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this hypersexual group, and to determine whether these elevations are related to compulsivity, obsessiveness, or addiction tendencies, we computed the frequencies of participants falling above and below this threshold on the MMPI-2 clinical scales.

For these data, 71% of subjects had at least one clinically meaningful elevation, with 59% having two or more, and 48% having three or more. As shown in Table 3, scales with the most frequent elevations are scales 7 (49% of the sample), 8 (43%), 4 (38%), and 2 (34%). No 2-point code types were particularly prevalent. The most common 2-point codes were 2–7 (6%), 4–7 (6%), 6–7 (5%), and 7–8 (7%), which are reasonably consistent with the prevalence of these code types in outpatient clinical populations. Of the 12% of participants who had only a single clinically meaningful elevation, nearly half had the elevation on scale 4.

To examine how the presence of MMPI-2 clinical scale elevations might indicate patterns of theoretical interest to hypersexuality, participants with elevated versus nonelevated MMPI-2 clinical scale scores were further compared on the sexual compulsivity scale and on the MMPI-2 scales of obsessiveness, MacAndrews alcoholism, and addiction potential. These data are also presented in Table 3. It is evident that elevations on any scale were associated with substantially higher obsessiveness scores. Elevations on only scales 6, 7, and 8 were associated with slightly higher scores on sexual

TABLE 3. Frequency of Clinical Elevations on MMPI-2 Clinical Scales and the Differences between Elevated and Non-Elevated Profiles

		Group Difference (M of those with clinical elevation minus M of those without)			
Scale	n (%) with $T \geq 65$	Sexual Compulsivity	Obsessiveness	MacAndrews Alcoholism	Addiction Potential
1	33 (22%)	1.28	6.19**	−1.77	.97
2	52 (34%)	.95	9.97**	−4.40**	−.98
3	32 (21%)	−.24	5.10*	−.83	1.10
4	58 (38%)	.95	5.76**	2.75	1.62
5	22 (15%)	2.38	8.31**	1.93	3.35*
6	37 (24%)	2.70*	10.83**	2.07	3.69*
7	74 (49%)	1.96*	11.62**	−2.46	1.99
8	65 (43%)	2.31*	8.73**	−.34	.08
9	9 (6%)	1.20	9.98*	8.55**	5.61
0	37 (24%)	1.27	11.97**	−6.76**	−3.17
Any scale	108 (71%)	2.70**	11.98**	−1.17	2.97

Note: Statistical comparison of elevated versus nonelevated group means was via t-tests.
*$p < .05$.
**$p < .01$.

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compulsivity. Elevations on scales 5 and 6 corresponded to slight but reliable increases in addiction potential scores. Interestingly, although patients with elevations on scale 9 scored higher on the index of alcoholic personality, elevations on scales 2 and 0 were associated with lower scores on the MacAndrews alcoholism scale.

Subgroups of Hypersexual Clients Based on Clustered MMPI-2 Configurations

The analysis of mean values tends to assume a homogeneity of subjects that is rarely present in clinical populations. In fact, there may be diverse paths to hypersexuality, and these may be reflected in characteristics represented by MMPI-2 subscales. To examine this, subjects were grouped using hierarchical cluster analysis with a squared Euclidean distance metric. Several methods were employed, following the recommendation of Morey, Blashfield, and Skinner (1983). The most interesting and seemingly useful grouping resulted from the four-cluster solutions using Ward's clustering method.

The cluster group means for the MMPI-2 clinical and validity scales for this solution are presented in Figure 1. Notice that the largest group, representing a little over one-third of the participants ($n = 57$; 38%), has a mean MMPI-2 profile that suggests normal psychological functioning. The next largest cluster ($n = 47$; 31%) yields a moderately elevated profile, with peaks on scales 4, 7, and 8. The third cluster ($n = 31$; 20%) is somewhat more deviant, with peaks on 2, 7, 8, and 0, indicating classic neurotic features emphasizing anxiety, depression, and social isolation. The last group

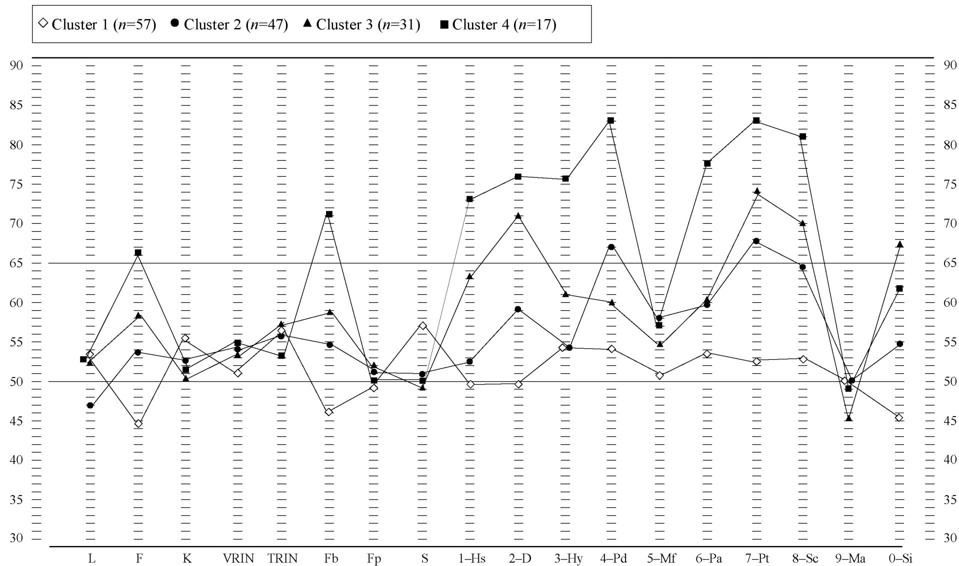

FIGURE 1. MMPI-2 clinical subscale means for a 4-cluster solution using Ward's method.

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($n = 17$; 11%) is the most deviant. It has pronounced elevations on 4, 6, 7, and 8, with smaller elevations on 1, 2, 3, and 0. This pattern suggests broad pathology, perhaps indicating personality pathology and even greater social difficulties.

Table 4 compares the four groups formed from the cluster analysis on the sexual compulsivity scale and on other MMPI-2 variables of interest. Note that the groups differ on most variables, suggesting quite different psychological functioning across groups. Recalling that in comparisons between the entire sample and the norming sample (Tables 1 and 2) differences were often small. This finding that the subgroups represented in Table 4 often show large differences underscores the heterogeneity of hypersexual subjects.

DISCUSSION

This study explored differences between hypersexual patients and the MMPI-2 norming group on the clinical scales, the restructured scales, and several other scales associated with psychopathology and personality traits. Differences were plentiful, with hypersexual clients having more elevated scores, although some differences yielded only small-to-moderate effect sizes. To the extent that pathology is measured on the MMPI-2 in this sample, most notable were elevations reflecting general distress, particularly depression, anxiety, difficulty managing thoughts, and social alienation. This pattern was only true for a portion of hypersexual patients, as over a third of the patients

TABLE 4. ANOVA's Comparing Clusters on Additional Variables

	Mean T Score by Cluster				
Scale	1	2	3	4	*F*
Sexual Compulsivity Scale	24.93	28.28	27.77	27.88	3.87*
Restructured Clinical Scales					
RCD-Demoralization	50.49	64.74	70.00	76.47	56.42***
RC1-Somatic complaints	45.58	49.72	61.48	67.18	38.46***
RC2-Low positive emotionality	47.35	55.68	64.10	69.82	38.78***
RC3-Cynicism	43.56	45.79	49.03	47.18	4.05**
RC4-Anti-social behaviors	47.44	52.17	47.55	53.00	5.63***
RC6-Ideas of persecution	53.05	53.17	58.52	61.12	4.86**
RC7-Dysfunctional negative emotions	44.81	54.32	59.23	60.12	22.73***
RC8-Aberrant experiences	44.95	50.40	52.94	54.94	9.03***
RC9-Hypomanic activation	46.11	48.21	42.84	47.06	2.62
Psy-5 Scales					
Aggressiveness	46.18	45.70	39.35	46.53	5.35**
Psychoticism	46.88	50.74	55.58	58.88	10.55***
Disconstraint	47.81	50.62	44.13	45.06	4.42**
Negative emotionality	48.26	57.57	59.97	62.18	18.35***
Introversion (low positive emotionality)	47.93	57.79	66.32	71.24	37.14***
Other					
Obsessiveness	45.42	54.83	59.61	60.76	17.68***
MacAndrews alcoholism	45.86	46.15	39.90	44.88	4.02**
Addiction potential	50.98	55.91	50.61	53.59	3.43*

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

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($n = 57$; 38%) in this sample showed few-to-no elevations on MMPI-2 scales. This important finding suggests that for a portion of individuals seeking help for hypersexual behavior, there appears to be no correlated psychopathology as captured by MMPI-2 results. Readers should remember that it is not uncommon for a significant portion of the general population to have one elevation on the MMPI-2 clinical scales, and thus, this finding in our population was not overly surprising. Because of the correlational nature of these data, we can only speculate as to whether the associated attributes are merely consequences of hypersexual behavior or have causal significance (either as risk factors or as correlates of risk factors). Regardless, the elevated attributes give a rich picture of client difficulties and may inform treatment.

Clinical Attributes in Hypersexual Clients

Both the clinical and restructured clinical scales suggest that, as a group, this sample struggles with issues related to affect regulation, including anxiety, depression, difficulty managing thoughts, tendencies towards feeling demoralized, and general emotional distress. It is particularly interesting to consider how attributes associated with elevations on scales 2, 4, 7, and 8 interact

in ways that synergistically intensify symptom distress. These notable clinical elevations warrant further discussion. We offer later some impressions of how the observed clinically significant elevations might be associated with hypersexulity, relying heavily on the suggestions by Graham (2006), who translates the large empirical literature on MMPI-2 attributes to modal interpretations.

Attributes underlying scales 4 and RC4 elevations

In this sample, 38% of subjects had clinically elevated scores ($T \geq 65$) on scale 4 which reflects anti-social tendencies. However, as noted in our methods, this population did not exhibit such traits. A more likely interpretation is the tendency of these patients to make decisions that discount social norms and cautions about their sexual practices and/or experience moderate social alienation.

Attributes underlying scale 7 and 8 elevations

The finding that 49% of this sample had elevated scores on scale 7 and 43% had elevated scores on scale 8 provides some evidence that is consistent with our clinical impressions of this group and suggests these patients experience worries associated with their self-worth, reflecting insecurities and a lack of self-confidence. These MMPI-2 subscale elevations also suggest this group is plagued by self-doubts, critical of their own shortcomings, and excessively ruminate over their mistakes. They may overvalue social acceptance making them vulnerable to being self-conscious about how others perceive them. A lack of cognitive flexibility common in this group may impair them from recruiting more positive and optimistic thoughts.

Elevations on scale 8 also tend to reflect a number of other features, such as poor judgment and social alienation. Characteristics suggested by scale 8 are also consistent with the observation of a tendency to be withdrawn and reclusive, or to maintaining a secretive lifestyle. These patients might be described as alexithymic (cf., Reid et al., 2008), lacking insight or awareness in their abilities to identify, describe, and express their internalized emotions.

Attributes underlying scales 2, RC2, and RCD elevations

There is some overlap in the attributes captured by clinical scales 2, 7, and 8, but the predominant features of elevated scores on scale 2 common to observations about hypersexual subjects, as noted previously, are feelings of depression, sadness, and hopelessness (also captured by RC2 and RCD). Loneliness is a common attribute, as are feelings of guilt, self-deprecation, and worthlessness. Maladaptive beliefs for these patients likely perpetuate depressed mood states, and negative attention bias causes these individuals to scan their environment for information that reinforces their distorted perceptions.

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CLINICALLY SIGNIFICANT ELEVATIONS

The comparisons between subjects with versus subjects without clinically significant elevations provide a simple test of several hypotheses about causal factors. It might be expected that clinical deviations would not only be evident in the sample as a whole, but would also be more prominent in the more troubled clients. This study found that those participants with prominent pathology, as reflected by clinically significant elevations on MMPI-2 clinical scales, were substantially more likely to also present with obsessiveness but not with other attributes typically associated with addiction tendencies. This is interesting, given that the sample as a whole was not particularly elevated on obsessiveness. We view these data as consistent with hypotheses that compulsive or obsessive tendencies may play a role in the development or maintenance of hypersexuality for some persons. In contrast, these findings argue against commonly held assumptions that hypersexuality develops in the same way as other addictions or that for addiction-prone individuals hypersexuality is simply another manifestation of that vulnerability.

SUBGROUP ANALYSIS

The heterogeneity of the sample reminds us that most of our understanding about the MMPI-2 elevations will only be relevant for certain hypersexual individuals. We propose that understanding this population as consisting of relatively homogenous subgroups will lead to a better understanding about distinct symptom patterns and causal pathways. Our clustering results offer one approach to the creation of more meaningful subtypes of hypersexuality, although we acknowledge that this is a first attempt.

For our data, one of the more interesting findings is that the largest subgroup presents with relatively benign MMPI-2s, reflecting relatively healthy psychological functioning and the absence of significant distress beyond their presenting difficulties. These individuals appear to be free of common psychiatric difficulties but with a sexual pattern in which they feel trapped and that shames them or impairs them in their relationships or use of time. For this group it is perhaps true that we should view their difficulty as nothing more than a case of the powerful reinforcement properties of sexual expression overwhelming them.

For the other groups, we are introduced to particular attributes that may lead to different models of understanding and intervention. For example, our group with the most elevated scores not only shows the classic features of distress and lowered functioning, but they also showed rather obvious elevations in scales 4 and 6. This group appears to have real problems with social connection and broad neurotic features. For these individuals, interventions that focus primarily on their hypersexual behavior may be likely to fail, and a broader attention to treating their social functioning and high levels of distress may be more fruitful.

Limitations

Despite a number of interesting findings, this study is correlational and therefore does not address whether attributes underlying the various MMPI-2 elevations exert a causal or interactive effect on hypersexual behavior. This study also possesses the limitations commonly associated with and found in studies in which self-report measures are used. Similarly, it should be remembered that MMPI-2 elevations are not equivalent to clinician-derived conclusions about the presence of psychiatric symptomatology, although numerous studies support the sensitivity of the MMPI-2 to such attributes.

Inferences about our findings beyond those listed in this study should be made with caution, in part because our sample was all male and because it made comparisons only to the MMPI-2 norming sample. Also, a more diverse ethnic representation among subjects in our sample would have been ideal.

Note that this sample lacks the co-morbidity with substance-related disorders noted in other studies (Black et al., 1997; Kafka & Prentky, 1994). We see this dynamic as a strength because the absence of substance-related problems makes these patients a more pure sample of the construct we are attempting to investigate, namely, hypersexual behavior.

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CONCLUSIONS

This study explored relationships in MMPI-2 data drawn from a sample of patients seeking help for hypersexual behavior. Although a number of scales were elevated for a substantial portion of subjects, a significant percentage of this group presented with normal profiles. Our cluster analysis provided evidence to support the idea that hypersexual patients are a diverse group of individuals, and future studies might consider investigating subgroups in order to further understand the vast array of issues associated with this population. We did not find support for addiction tendencies in this sample, nor did we find evidence to support classifying these patients as necessarily obsessive or compulsive, although clients presenting with pathology beyond hypersexuality were more likely to have difficulties with obsessiveness. Finally, the constellation of perspectives offered by the MMPI-2 in this sample are encouraging and future studies will likely benefit from using well-established psychological measures in exploring and understanding hypersexual populations.

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