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Psychometric development of the Hypersexual Behavior Consequences Scale

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Background and aims: The past decade has seen an increased interest in understanding hypersexual behavior and its associated features. Beyond the obvious risks for sexually transmitted infections, there is a paucity of literature examining specific challenges encountered by hypersexual individuals. This study investigated and developed a new scale, the Hypersexual Behavior Consequences Scale (HBCS), to assess the various consequences reported among hypersexual patients. *Methods:* Participants were drawn from a sample of patients recruited in a DSM-5 Field Trial for Hypersexual Disorder (HD). Participants completed the Hypersexual Behavior Inventory, a structured diagnostic interview to assess for psychopathology and HD, and self-report measures of personality, life satisfaction, and the initial item pool for the HBCS. *Results:* Factor analysis reduced the HBCS items to a single factor solution which showed high internal consistency and stability over time. Higher HBCS scores were positively correlated with higher levels of emotional dysregulation, impulsivity, and stress proneness and lower levels of satisfaction with life and happiness. HBCS scores among the hypersexual patients were significantly higher than non-hypersexual patients. *Conclusions:* The HBCS possesses good psychometric properties and appears to capture various consequences associated with the DSM-5 proposed criteria for HD. The HBCS can be used to aid clinicians and researchers in identifying consequences associated with hypersexual behavior. The HBCS may also prove a useful tool to guide treatment interventions aimed at reducing the negative impact of hypersexuality in patient populations.

Keywords: hypersexual disorder, sexual compulsivity, sexual addiction, consequences, sex-risk behavior

INTRODUCTION

Hypersexual disorder (HD) is being considered for inclusion in the forthcoming DSM-5. The diagnostic criteria for HD include repetitive and intense preoccupation with sexual fantasies, urges, and behaviors. The constellation of issues implicated with HD lead to unfavorable consequences and clinically significant distress or impairment in social, occupational, or other important areas of functioning (Kafka, 2010; Kaplan & Krueger, 2010; Reid, 2010). Diminished levels of perceived control over sexual fantasies, urges, and behaviors in response to dysphoric mood states or stressful life events are characteristics often associated with HD (Kafka, 2010). Despite the negative repercussions that result from HD, little research exists that examines specific types of consequences encountered by patients seeking help for hypersexual behavior. Moreover, beyond the obvious risks for sexually transmitted infections, there is a dearth of literature documenting other risks assumed by patients meeting criteria for HD. The current study seeks to bridge this gap in the literature through the development of a scale designed to assess consequences commonly encountered by hypersexual patients. The measure resulting from this investigation is named the Hypersexual Behavior Consequences Scale (HBCS).

Consequences of hypersexual behavior

Over the past decade, hypersexuality has received increased attention among mental health professionals. This increased interest highlights the need to more clearly elucidate the etiology and associated features of HD including possible health risks associated with sexually transmitted infections (Coleman et al., 2010; Dodge, Reece, Cole & Sandfort, 2004; Grov, Parsons & Bimbi, 2010; Parsons, Grov & Colub, 2012). In previous studies, patients have reported emotional distress, employment difficulties, relationship problems, legal issues, and demoralization as a result of their engagement in hypersexual behavior (Black, Kehrberg, Flumerfelt & Schlosser, 1997; Muench et al., 2007; Reid, Stein & Carpenter, 2011; Reid & Woolley, 2006). Wives have also reported that their marriages have been adversely affected by their husbands' hypersexual behavior (Reid, Carpenter, Draper & Manning, 2010). Collectively, these studies suggest that hypersexual patients experience significant consequences across several domains that are associated with the frequency and intensity of their sexual fantasies, urges, and behaviors.

Understanding the specific type of consequences encountered by hypersexual patients can provide important information for clinicians and researchers. Insights about these consequences can advance our understanding of how HD impacts people's lives and can provide information to consider when developing clinical interventions for these patients. In addition, treatment efforts that seek to reduce the negative symptoms and suffering associated with hypersexuality allow for the development of specific outcome indices to assess their effectiveness. Identifying consequences associated with HD aids in the establishment of a graded index of the severity of the disorder. Finally, given the high in-

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cidence of risk-taking associated with HD, public health officials should consider data obtained for this population when investigating the incidence and transmission of sexually transmitted infections. Thus, it is vitally important to study the prevalence and types of consequences reported by hypersexual patients given the clinical significance of the disorder as well as the potential impact of HD on public health.

Though existing measures designed to assess symptoms of HD often contain questions about consequences associated with the disorder, they fail to provide information about the variety and specificity of these consequences. For example, the *Hypersexual Behavior Inventory* asks individuals whether "My sexual activities interfere with aspects of my life such as work or school" (Reid, Garos & Carpenter, 2011). The *Compulsive Sexual Behavior Inventory* queries respondents "How often have your sexual activities caused financial problems for you?" (Coleman, Miner, Ohlerking & Raymond, 2001). Finally, the *Sexual Compulsivity Scale* contains an item asking whether "My sexual appetite has gotten in the way of my relationships" (Kalichman et al., 1994). However, in each of these measures, items pertaining to consequences are subsumed by questions intended to measure global patterns of hypersexual behavior rather than the various domains or types of consequences that result from the behavior.

In contrast, two studies have examined various negative outcomes associated with hypersexuality (McBride, Reece & Sanders, 2008; Muench et al., 2007) in an attempt to create scales for assessing consequences beyond those typically attributed to sexually transmitted infections. However, these measures have several limitations. For instance, the 36-item *Cognitive and Behavioral Outcomes of Sexual Behavior Scale* (CBOSBS) was developed using a large convenience sample of college students ($N = 390$) and purports to capture negative outcomes associated with sexual compulsivity (McBride et al., 2008). The CBOSBS items showed good internal consistency and indeed captured several consequences commonly reported in clinical populations. However, several scale items infer assumptions about potential respondents that are problematic. For example, the CBOSBS contains items that ask about consequences in "school" or whether sexual activities have been inconsistent with one's "religious" values. Items of this nature are self-limiting as they cannot be easily generalized to respondents who are not in school or who do not subscribe to a particular religious belief. Moreover, several items on the CBOSBS intended to examine the social consequences of HD lack specificity, thus limiting how the endorsement of these items should be interpreted. For instance, some items ask whether sexual activities have led to "problems" with friends, family members, or a significant other, but provide no information about what type of problems have been encountered. Perhaps the more serious limitation of the CBOSBS is the exclusion of questions that ask about solitary sexual activities. For example, several items contain language related to a "sex partner" and are typically under-endorsed by individuals who engage primarily in behavior such as compulsive masturbation or excessive use of pornography.

The 21-item *Compulsive Sexual Behavior Consequences Scale* (CSBCS) was developed from a small sample of predominantly gay men ($N = 28$; 4 participants identified as bisexual) participating in a randomized clinical trial to assess the efficacy of citalopram (Muench et al., 2007). Like the CBOSBS, the CSBCS contains several items that target relational sexual activities. Furthermore, multiple items probe whether relationships have been "harmed" but provide no additional information about the nature of harm encountered (e.g., was the relationship dissolved, was trust betrayed, or was there emotional or physical harm?) making endorsement of these items difficult to interpret. Despite these limitations, the CSBCS appears to be appropriate for samples of men having sex with men (MSM) and for use in studies evaluating changes in consequences in response to a clinical intervention (Muench et al., 2007). Finally, although the initial psychometric properties for the CSBCS appear promising, further research is needed to assess whether the reliability and validity of the scale items can be generalized to a larger clinical sample.

Given the limitations of the CBOSBS and CSBCS, the current study sought to create a scale that could (1) be used in clinical populations seeking help for hypersexual behavior, (2) provide greater specificity in the identification of consequences encountered by respondents, (3) discriminate between consequences incurred by individuals who engage in solo vs. relational sexual behavior, and (4) provide initial psychometric properties for the new scale.

METHOD

Participants

The participants in this study were drawn from a sample of patients recruited in a DSM-5 *Field Trial for Hypersexual Disorder* (Reid et al., in press) and included English speaking adults who were required to be at least 18 years of age. Clinics participating in the field trial were located in California, Pennsylvania, Utah, and Texas, and referred patients to the study who were seeking help for hypersexual behavior, a substance-related disorder, or a general psychiatric condition.

Hypersexual patients consisted of men ($n = 130$) and women ($n = 7$) who ranged in age from 18 to 71 years ($M = 41.5$, $SD = 12.7$). Ethnic representation among the patient sample included Asian ($n = 7$), Hispanic ($n = 5$), African American ($n = 30$), and Caucasian ($n = 122$). Relationship status included never married ($n = 38$), first marriage ($n = 49$), remarried ($n = 23$), divorced ($n = 12$), separated ($n = 6$), widowed ($n = 1$), and cohabitating ($n = 8$). Education among the sample included high school education ($n = 20$), some college ($n = 33$), bachelor's degree ($n = 44$), master's degree ($n = 17$), and doctorate degree ($n = 23$). Sexual preference included heterosexual ($n = 109$), homosexual ($n = 18$), and bisexual ($n = 10$). None of the patients included in this study met criteria for a paraphilic disorder.

Patients with a general psychiatric condition or a substance-related disorder consisted of men ($n = 38$) and women ($n = 11$) who ranged in age from 18 to 70 years ($M = 39.7$, $SD = 14.2$). Ethnic representation among the patient sample included Asian ($n = 1$), Hispanic ($n = 1$), African American ($n = 4$), and Caucasian ($n = 43$). Relationship status included never married ($n = 14$), first marriage ($n = 14$), remarried ($n = 9$), divorced ($n = 3$), separated ($n = 6$), and cohabitating ($n = 3$). Education among the sample included high school education ($n = 10$), some college ($n = 13$), bachelor's degree ($n = 11$), master's degree ($n = 7$), and doctorate degree ($n = 8$). Sexual preference included heterosexual ($n = 46$), homosexual ($n = 2$), and bisexual ($n = 1$).

Measures

Hypersexual Behavior Inventory (HBI). The HBI is a 19-item, 3-factor, self-report measure scored on a 5-point Likert format (1 = never to 5 = very often) with possible scores ranging from 19 to 95 (Reid, Garos & Carpenter, 2011). Confirmatory factor analysis has replicated the factor structure with an excellent goodness of fit (RMSEA = .05; CFI = .95) and the HBI items demonstrate good validity and reliability with alpha coefficients ranging from .89 to .95. Scale items reflect the DSM-5 proposed classification criteria for HD. HBI scores ≥ 53 are considered clinically significant. The items administered in the current sample show high internal consistency (α = .96).

Sexual Compulsivity Scale (SCS). The SCS (Kalichman & Rompa, 1995) was developed to assist in research of high-risk sexual behaviors and contains 10-items that queries sexual thoughts, feelings, and behaviors. Respondents endorse items on a 4-point Likert-type scale (1 = *Not at all like me* to 4 = *Very much like me*). Reliability is high with internal consistency for the scale ranging from α = .86 to α = .87 with a sample of homosexual men and inner-city men and women, respectively (Kalichman et al., 1994; Kalichman & Rompa, 1995). The reliability coefficient for the current sample shows high internal consistency (α = .93) among the items.

Hypersexual Disorder Diagnostic Clinical Interview (HD-DCI).[1] Following the format of established standard diagnostic interviews (SCID, DIS, MINI), diagnostic criteria for HD were phrased in question format at a level readily applied to one's own understanding of sexual fantasies, urges, and behavior. Each question was phrased to closely mirror diagnostic criteria, allowing follow-up questioning as needed to clarify if each criterion was met. There is emphasis given on ascertaining the presence of all core elements of Criterion A (e.g., recurrent and intense sexual fantasies, urges, and behaviors). Based on pre-study tests, the criterion of disregarding risk for harm encourages the interviewer to use examples to clarify what is meant. Each criterion is scored as present at any time in one's life (life-time) and during the past 12 months (current). Patients also reported which sexual behaviors were problematic based on the proposed specifiers for HD. The HD-DCI was assessed for content validity by 5 expert raters in the field including 2 members of the Sexual and Gender Identity Disorders Work Group. Inter-rater reliability using the HD-DCI was high, yielding a Kappa coefficient of .93, $p < .001$, 95% CI (.78–1.0), among members of the DSM-5 Field Trial team with an intraclass correlation of .95. The overall HD criteria test-retest reliability using the HD-DCI for a subset of patients (n = 32) over a two-week interval was high (r = .81, $p < .001$).

Mini International Neuropsychiatric Interview (MINI 6.0). The MINI is a structured diagnostic clinical interview used to assess DSM-IV-TR psychopathology along the Axis I domains and includes a module that assesses for adult ADHD. It is widely used and the psychometric properties have been established and reported in the literature. The instrument has also been validated against other structured clinical interviews (Sheehan et al., 1998).

NEO Personality Inventory – Revised (NEO-PI-R). The NEO-PI-R, designed to measure the Five Factor Model (FFM) of personality, was used to assess self-reported personality traits. The NEO has 240 items consisting of self-statements answered on a 5-point Likert scale from Strongly Disagree to Strongly Agree. The NEO assesses 30 facets, 6 for each dimension of the FFM. Raw scores are standardized as T-scores (M = 50, SD = 10) using respective sex norms reported in the NEO manual. Evidence on convergent and discriminant validity is presented in the NEO manual, including cross-observer agreement and prediction of external criteria (Costa & McCrae, 1992). The NEO facets of interest in the current study were those measuring emotional regulation (Depression and Anxiety), behavioral regulation (Impulsiveness and Self-Discipline), and stress proneness (Vulnerability).

Shame Inventory (SI). The current study used Part I of the SI which consists of 3 items answered on a 5-point Likert scale with items that query frequency, intensity/severity, and negative impact of maladaptive shame in response to a definition of shame (Rizvi, 2010). The items show good internal consistency with an alpha coefficient of .80 and a test–retest reliability coefficient of .85 over a one-week time period. The SI inventory has also demonstrated convergent validity with two existing trait-based measures of shame and divergent validity with a measure of guilt. The SI has also successfully discriminated between clinical populations and healthy controls (Rizvi, 2010). The items administered in the current sample show high internal consistency (α = .91).

Satisfaction with Life Scale (SWLS). The SWLS is a brief 5-item unidimensional measure of global life satisfaction answered on a 7-point Likert scale ranging from 1= strongly disagree to 7 = strongly agree (Diener, Emmons, Larsen & Griffin, 1985). It is one of the most widely administered scales in the measurement of life satisfaction (Oishi, 2006) with higher scores reflecting higher levels of satisfaction. A neutral score of 20 has been suggested, with scores above 30 representing high satisfaction and scores less than 9 indicative of extreme dissatisfaction with life (Pavot & Diener, 1993). The items show good internal consistency with an alpha coefficient of .87 and a test–retest reliability coefficient of .82 over a two-month period (Diener et al., 1985). A number of studies have provided validity for the SWLS with higher scores linked to positive affect and self-esteem (Pavot & Diener, 1993) and lower scores correlated with negative affect, anxiety, depression, and general psychological distress (Arrindell, Meeuwesen & Huyse, 1991; Blais, Vallerand, Pelletier & Briere, 1989; Larson, Diener & Emmonds, 1985). The items administered in the current sample show high internal consistency (α = .90).

Subjective Happiness Scale (SHS). The SHS is a brief 4-item unidimensional scale used to assess subjective reports of global happiness using a 7-point Likert scale with higher scores reflecting greater levels of perceived happiness (Lyubomirsky & Lepper, 1999). The items show good internal consistency with an alpha coefficient of .86 and a test–retest reliability coefficient of .72. Convergent validity has shown positive relationships with self-esteem, optimism, and positive emotionality (Lyubomirsky & Lepper, 1999). The items administered in the current sample show high internal consistency (α = .83).

Item pool for the HBCS

The initial item pool for the HBCS was derived from multiple sources including observations gathered from clinical experience, anecdotal reports, a review of the research, and

[1] Available upon request from the first author.

examination of items in the two scales mentioned previously. To address item construction limitations noted in other research, we created items following recommendations from several experts in test development (Anastasi, 1988; Comrey, 1988; DeVellis, 1991; Jackson, 1971; Neill & Jackson, 1970; Noar, 2003). Specifically, items were written in clear and concise language that (a) avoided double-barreled queries; (b) avoided the use of double negatives, which can lend ambiguity to test items; (c) was free from gender bias; and (d) covered the breadth of the hypothesized content domain.

A total of 42 items were generated using a 5-point response format (1 = Hasn't happened and is unlikely to happen; 2 = Hasn't happened but might happen; 3 = Hasn't happened but will very likely happen; 4 = Has happened once or twice; 5 = Has happened several times) with all items fully labeled with the Likert response categories in an effort to increase the interpretability of responses and reduce ambiguity associated with item endorsement (Weijters, Cabooter & Schillewaert, 2010). All items were evaluated by two licensed clinical psychologists, three board-certified psychiatrists, and a licensed clinical social worker using the criteria outlined above. These individuals made recommendations for relevance, clarity, brevity, and singularity (Fishman & Galgeura, 2003). Feedback was assessed and incorporated, reducing the initial pool for the HBCS to 34 items.

Procedure

At intake, patients were invited to participate in the research protocol, providing consent prior to completing the study measures and diagnostic interviews. Each participant received a structured diagnostic interview (MINI) to assess for psychopathology that might provide an alternative explanation for symptoms of HD (e.g., bipolar disorder, substance-related disorders). The interview assessing HD was conducted with each participant using the HD-DCI. Consistent with the DSM-5 proposed criteria for HD, patients were required to exhibit a pattern of persistent symptoms spanning a minimum of six consecutive months including (1) an excessive or disproportionate amount of time consumed by sexual thoughts, urges, and behaviors; (2) using sex in response to unpleasant affective states or to cope with stress; (3) multiple unsuccessful attempts to reduce or control sexual thoughts, fantasies, and behavior; (4) continued preoccupation with and pursuit of sex despite risks of physical or emotional harm to self or others; and (5) volitional impairment in interpersonal, social, or occupational domains of life (Kafka, 2010). Furthermore, the symptoms must have occurred independent of mania and could not be substance-induced. In addition to the diagnostic interviews, patients completed the study measures within the first week of intake. Additional information regarding the DSM-5 Field Trial for Hypersexual Disorder and trial study procedures have been noted elsewhere (Reid et al., in press).

RESULTS

Item reduction and exploratory factor analysis

Several items were eliminated because they loaded poorly. Two items were removed due to infrequent endorsement, and included hurting someone or having membership in an organization revoked due to hypersexual behavior. Three items that did not load in a unifactor model but loaded on the second factor were retained. These three items related to legal problems, arrests, or sexually transmitted infections associated with hypersexual behavior.

The remaining items were analyzed using a Principal Components factor analysis conducted using varimax rotation. Examination of factors based on eigenvalue size and on review of the scree plot suggested a 2-factor solution. However, when the data were submitted to an exploratory factor analysis using Principal Axis factoring with an oblique rotation, the correlations between the factors were high suggesting that the three items did not, in our opinion, justify the creation of a second factor, given they only added an additional 12.3% of the total variance. Subsequently, the factors were collapsed creating a univariate scale. As can be seen in Table 1, all items (except those addressing legal issues and sexually transmitted disease) yielded factor loadings of $\geq .50$ accounting for 56% of the total variance. After these analyses, 22 items remained for the final version of the HBCS (see Appendix).

Reliability

Internal consistency was high for the overall scale items which was calculated using the Cronbach's alpha coefficient ($\alpha = .84$). The scale test–retest reliability was adequate ($r = .76$, $p < .001$) based on a subset of patients ($n = 46$) who completed the scale a second time after a two-week interval demonstrating further support for the stability of the HBCS across the test–retest measurement point.

Validity

Discriminant validity was tested by comparing group differences on HBCS scores between hypersexual patients and non-hypersexual psychiatric patients. As might be expected, multivariate statistics revealed significant group differences (Wilks' $\lambda = .44$, $F(2,183) = 115.1$, $p = .0001$). As can be seen in Table 2, hypersexual patients yielded significantly higher HBCS and HBI scores compared to non-hypersexual patients. Additionally, the correlations in Table 3 show higher HBCS scores were inversely related to Self-Discipline, Happiness, and Life Satisfaction. Evidence for convergent validity is also shown in Table 3 where higher HBCS scores are positively related to higher HBI and SCS scores. These data also show that having more consequences for sexual behavior is linked to unhappiness, a lack of self-discipline, and greater dissatisfaction with life. Higher HBCS scores were also linked to significantly higher scores on indices of Depression, Anxiety, Shame, Stress Proneness (Vulnerability), and Impulsiveness (see Table 3).

Consequences for hypersexuality and age

Some have suggested that age may be a factor that influences treatment-seeking behavior among hypersexual patients. One plausible explanation to account for this relationship is that the longer an individual engages in problematic sexual behaviors, the greater likelihood they will encounter consequences that lead to emotional distress and personal suffering. We tested this hypothesis and found that age showed a non-significant relationship with the level of hypersexual behavior as measured by the HBI ($r = .07$, *ns*) and a positive relationship with scores on the HBCS ($r = .29$, $p < .01$).

Table 1. HBCS factor loadings and reported prevalence in hypersexual patients ($N = 137$)

HBCS items	Factor loading	Has happened once or twice		Has happened several times	
		%	*n*	%	*n*
I have lost a job because of my sexual activities.	.50	18.2	25	0.0	0
I have failed to keep an important commitment because of my sexual activities.	.68	33.6	46	38.7	53
A romantic relationship has ended because of my sexual activities.	.54	28.5	39	16.1	22
I have gotten a sexually transmitted disease or infection because of my sexual activities.	.36	5.8	8	22.6	31
I have had legal problems because of my sexual activities.	.48	16.8	23	1.5	2
I have been arrested because of my sexual activities.	.41	10.9	15	0.7	1
Important goals have been sacrificed because of my sexual activities.	.70	25.5	35	48.9	67
I have experienced unwanted financial losses because of my sexual activities.	.65	24.1	33	32.1	44
I have emotionally hurt someone I care about because of my sexual activities.	.68	18.2	25	72.3	99
I have betrayed trust in a significant relationship because of my sexual activities.	.65	24.1	33	63.5	87
My sexual activities have interfered with my ability to experience healthy sex.	.73	9.5	13	70.8	97
My sexual activities have interfered with my work or schooling.	.71	19.7	27	53.3	73
I have been humiliated or disgraced because of my sexual activities.	.69	32.8	45	43.8	60
I have lost the respect of people I care about because of my sexual activities.	.63	32.1	44	40.1	55
The way I think about sex has been negatively distorted because of my sexual activities.	.77	19.7	27	67.2	92
My sexual activities have negatively affected my mental health (e.g. depression, stress).	.80	19.7	26	75.9	104
I have become socially isolated and withdrawn from others because of my sexual activities.	.77	13.9	19	70.8	97
The quality of my personal relationships has suffered because of my sexual activities.	.83	10.9	15	84.7	116
My self-respect, self-esteem, or self-confidence, has been negatively impacted by my sexual activities.	.79	9.5	13	87.6	120
My ability to connect and feel close to others has been impaired by my sexual activities.	.81	11.7	16	83.2	114
My spiritual well-being has suffered because of my sexual activities.	.66	7.3	10	88.3	121
My sexual activities have interfered with my ability to become my best self.	.78	3.6	5	95.6	131

Principal Component factor analysis with varimax rotation. **Bold items** are those which loaded on a separate factor but were collapsed to create a single factor solution for the final scale after analyzing the data using Principal Axis factoring with an oblique rotation.

Table 2. Differences on the HBI and HBCS scores across patient groups

	Patients with hypersexual disorder diagnosis ($n = 137$)		General psychiatric or substance-related diagnosis ($n = 49$)			Effect size
Measures	Mean	*SD*	Mean	*SD*	*F*	η^2
HBCS Total	82.2	12.7	50.1	21.4	142.5*	.44
HBI Total	76.1	13.8	40.8	15.7	217.6*	.54

* $p < .0001$.

Table 3. Correlations between study variables among hypersexual patients ($N = 137$)

Variable	Hypersexual Behavior Consequences Scale
Hypersexual Behavior Inventory	.73*
Sexual Compulsivity Scale	.78*
Shame Inventory	.47*
NEO Depression	.51*
NEO Anxiety	.34*
NEO Impulsiveness	.48*
NEO Vulnerability (Stress)	.37*
NEO Self-Discipline	–.33*
Subjective Happiness Scale	–.31*
Satisfaction with Life Scale	–.53*

* $p < .01$.

DISCUSSION

This study reports the initial psychometric properties of the HBCS in a clinical sample of patients seeking help for non-paraphilic hypersexual behavior. The HBCS items successfully discriminated between patients seeking help for HD verses a general psychiatric condition or a substance-related problem. Convergent validity for the HBCS suggests that various difficulties (indicated by higher scores on the HBCS) show significant positive correlations with indices of mental health reflecting emotional dysregulation (depression, anxiety, and shame), behavioral control (impulsivity and self-discipline), a greater proneness to experience stress, and higher levels of hypersexual behavior as measured by the HBI and SCS. Hypersexual patients who showed higher scores on the HBCS were also less happy and experienced greater dissatisfaction with their lives. The HBCS items demonstrated high reliability over a two-week time interval and were shown to be internally consistent.

The data derived from this study support the notion that hypersexual patients experience a number of significant consequences associated with the frequency and intensity of their sexual fantasies, urges, and behaviors. Common problems associated with HD include relationship difficulties (e.g., feeling disconnected or isolated from others, betrayal of trust in relationships, emotionally hurting a loved one), interference with spiritual well-being, and diminished

self-esteem, self-respect, and self-confidence. A substantial number of hypersexual patients reported their disorder negatively impacted their mental health and interfered with their ability to experience sexual health. Relationship ruptures due to hypersexual behavior also occurred frequently among this sample. Significant impairment in work or school was evident for some who reported job loss, unwanted financial losses, and academic difficulties. Over a quarter (28.4%) of the hypersexual patients reported contracting a sexually transmitted infection as a result of their sexual activities and nearly a fifth (18.4%) of the patient sample encountered legal problems (~10% were arrested for non-paraphilic sexual activities such as soliciting sex from a prostitute). The latter statistics did not account for legal expenses or costs associated with divorce occurring in relation to hypersexual activities.

This is the first study to assess the consequences associated with hypersexual behavior assessed using the DSM-5 proposed criteria for HD. Collectively, these findings provide some support for the HD criteria. Specifically, these data indicate that hypersexual behavior is linked to clinically significant distress or impairment in social, occupational, or other important areas of functioning associated with the frequency and intensity of sexual fantasies, urges, and behaviors. Furthermore, patients' disregard for risks of emotional or physical harm to self and others is evidenced by the various consequences they encountered in these data. For example, during the diagnostic interview for HD, patients reported being well aware of the risks of harm associated with their behavior, yet they would frequently disregard potential consequences to engage in their sexual behaviors. Based on our analysis of HBCS scores and age, it also appears that consequences for hypersexual behavior may accrue over time. This is not surprising given that many hypersexual patients maintain secrecy about their activities until the multitude of lies eventually becomes unmanageable and their sexual behavior is discovered or disclosed. It is also plausible that over time, through a pattern of escalation, hypersexual individuals take increasingly more risks resulting in potentially greater consequences.

Clinical implications

The results of this study indicate that patients seeking help for hypersexual behavior experience a vast array of consequences beyond those commonly associated with risks of sexually transmitted infections. Clinical providers should be aware of the need to address various emotional, psychological, and employment difficulties encountered by hypersexual patients. Additionally, these data indicate relationships are often adversely impacted, suggesting providers consider how partners of hypersexual patients can be supported. A substantial number of patients indicated that hypersexual behavior interfered with healthy sex or that their views about sex had been negatively distorted. Subsequently, providers may consider dialogue with patients regarding sexual health and how to reorganize views about sexuality in positive ways. Patients at risk for sexually transmitted infections or unintended pregnancies might benefit from additional interventions targeting these domains. Similarly, if patients are engaging in sexual activities likely to result in legal consequences, additional interventions should be considered.

Limitations and future research

Despite a number of interesting findings, inferences about our results beyond those listed in this study should be made with caution, in part because the majority of our sample of hypersexual patients were male, predominantly Caucasian, and heterosexual. Future studies might consider exploring whether these findings can be replicated in a sample of hypersexual women as well as gay, lesbian, transgender, and bisexual populations. Larger representative samples of healthy controls who report frequent sexual activity in non-problematic ways would be desirable, including more ethnically diverse populations. Future studies should consider assessing whether cultural issues may moderate consequences in this population. For example, some cultures may not have legal prohibitions against commercial sex work, potentially reducing consequences of soliciting prostitution. Finally, studies might consider the extent to which consequences can be reduced through various clinical interventions, providing greater outcome research for this field.

CONCLUSION

This paper reports the findings from the psychometric development of a new measure designed to assess consequences of hypersexual behavior in a treatment-seeking sample. The HBCS demonstrated high internal consistency and reliability over time. Concurrent and discriminant validity for the HBCS provide empirical evidence that this scale uniquely contributes to our understanding of the specific types of consequences encountered by hypersexual patients. Furthermore, this study provides data in support of the DSM-5 proposed classification criteria for HD pertaining to clinically significant distress or impairment in social, occupational, or other important areas of functioning associated with hypersexual behavior. The HBCS is recommended as a useful scale for research and clinical practice.

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APPENDIX

HYPERSEXUAL BEHAVIOR CONSEQUENCES SCALE

Below are a number of statements that describe various consequences people experience because of their sexual behavior and activities. As you respond to each statement, indicate the extent to which each item applies to you. If you haven't experienced a particular item, indicate the likelihood that you will in the future. Use the scale below to guide your responses and write a number to the left of each statement. For the purpose of this survey, sex is defined as any activity or behavior that stimulates or arouses a person with the intent to produce an orgasm or sexual pleasure. ***Sexual behaviors may or may not involve a partner*** (e.g. self-masturbation or solo-sex, using pornography, intercourse with a partner, oral sex, anal sex, etc.).

Hasn't happened and is unlikely to happen	Hasn't happened but might happen	Hasn't happened but will very likely happen	Has happened once or twice	Has happened several times
1	2	3	4	5

1. _____ I have lost a job because of my sexual activities.
2. _____ I have failed to keep an important commitment because of my sexual activities.
3. _____ A romantic relationship has ended because of my sexual activities.
4. _____ I have gotten a sexually transmitted disease or infection because of my sexual activities.
5. _____ I have had legal problems because of my sexual activities.
6. _____ I have been arrested because of my sexual activities.
7. _____ Important goals have been sacrificed because of my sexual activities.
8. _____ I have experienced unwanted financial losses because of my sexual activities.
9. _____ I have emotionally hurt someone I care about because of my sexual activities.
10. _____ I have betrayed trust in a significant relationship because of my sexual activities.
11. _____ My sexual activities have interfered with my ability to experience healthy sex.
12. _____ My sexual activities have interfered with my work or schooling.
13. _____ I have been humiliated or disgraced because of my sexual activities.
14. _____ I have lost the respect of people I care about because of my sexual activities.
15. _____ The way I think about sex has been negatively distorted because of my sexual activities.
16. _____ My sexual activities have negatively affected my mental health (e.g. depression, stress).
17. _____ I have become socially isolated and withdrawn from others because of my sexual activities.
18. _____ The quality of my personal relationships has suffered because of my sexual activities.
19. _____ My self-respect, self-esteem, or self-confidence, has been negatively impacted by my sexual activities.
20. _____ My ability to connect and feel close to others has been impaired by my sexual activities.
21. _____ My spiritual well-being has suffered because of my sexual activities.
22. _____ My sexual activities have interfered with my ability to become my best self.