

Alexithymia, Emotional Instability, and Vulnerability to Stress Proneness in Patients Seeking Help for Hypersexual Behavior

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This article reports the findings of a study investigating alexithymia, emotional instability, and vulnerability to stress proneness among individuals (N = 120) seeking help for hypersexual behavior. At the onset of treatment at an outpatient community clinic, subjects completed the Sexual Compulsivity Scale (SCS), the 20-item Toronto Alexithymia Scale (TAS-20), and the NEO Personality Inventory Revised (NEO-PI-R). The results of a hierarchical regression analysis revealed the best model in predicting severity of hypersexual behavior included the facets of depression and vulnerability to stress from the NEO and the Difficulty Identifying Feelings (DIF) factor of the TAS-20. Although the NEO domain of neuroticism appeared to capture the majority of variance in hypersexual behavior, the difficulty identifying feelings factor of the TAS-20 did make some modest, but significant, contribution to the severity of hypersexual behavior after controlling for depression and vulnerability to stress. These data provide evidence for the hypothesis that individuals who manifest symptoms of hypersexual behavior are more likely to experience deficits in affect regulation and negative affect (including alexithymia, depression, and vulnerability to stress). Possible reasons for these results are suggested and future recommendations for research are offered.

An increasing number of individuals are seeking help for hypersexual behavior related to a constellation of symptoms that reflect difficulties in regulating sexual thoughts, feelings, and behaviors. Although a small percentage

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of these patients meet the diagnostic criteria for a sexual disorder, there are many aspects of their presenting problems that appear to be associated with other phenomena (Black, Kehrberg, Flumerfelt, & Schlosser, 1997; Guigliamo, 2007; Kafka & Hennen, 2002; Kafka & Prentky 1994, 1998; Raymond, Coleman, & Miner, 2003; Reid, 2007). The current study was designed to investigate the relationships between deficits in emotional processing (alexithymia), proneness to stress, and presence of emotional instability (as reflected by depression and other negative affect) in individuals with hypersexual behavior.

Hypersexual Behavior

Researchers differ in their theoretical constructs of hypersexual behavior. Our conceptualization of this phenomenon keys on behavior dysregulation as manifest through exaggerated frequency and focus on sexual behavior (from sexual activity with partners, to use of pornography, sexual fantasy, or other erotic stimuli, to excessive masturbation). Hypersexual behavior may include a sense of being out of control or a history of failed attempts at increased control, and it encompasses elements common to other psychiatric dysfunctions, such as impaired functioning in aspects of daily living, subjective distress, and deficits in coping strategies for addressing uncomfortable affective experiences (e.g., anxiety reduction), usually because of over reliance on sexual behavior as a means of affective regulation and relief. Many patients presenting with hypersexual behavior also report incongruence between their values and beliefs and their sexual behavior.

In describing hypersexuality, we recognize it is important to avoid pathologizing the expression of sexuality according to values not shared by some groups, particularly minority populations (Levine & Troiden, 1988; Todd, 2004). Additionally, cultural differences in the expression of sexuality must also be considered. Indeed, it may be that values are an important nexus between the behavioral patterns described in this article and the experiences of psychological distress that motivates people to seek help for their sexual concerns.

In the present study, the definition of Reid and Woolley (2006) was used to operationalize hypersexual behavior as:

difficulty in regulating (e.g., diminishing or inhibiting) sexual thoughts, feelings, or behavior to the extent that negative consequences are experienced by self or others. The behavior causes significant levels of personal or interpersonal distress and may include activities that are incongruent with personal values, beliefs, or desired goals. The behavior may function as a maladaptive coping mechanism (e.g., used to avoid emotional pain or used as a tension-reduction activity) and may coincide with other psychopathology or neurological impairments. (p. 220)

In keeping with our conceptualization of hypersexuality, it appears that such persons possess deficits in affective regulation similar to those encompassed by the constructs of alexithymia and neuroticism. Our own work with patients similar to those of the present study suggests such deficits. It is plausible that such deficits would influence exaggerated sexual behavior in some persons (e.g., in the absence of other coping strategies for successful affective monitoring and regulation, the stress-reduction aspects of sexual behavior as a substitute may be powerfully reinforced). In addition, the consequences of understanding the association might be significant. For example, aspects of successful treatment protocols used to address affect regulation deficits in patients with Borderline Personality Disorder (Linehan, Comtois, & Murray, 2006; Linehan, 2000; Linehan, Schmidt, & Dimeff, 1999) may also prove effective with patients seeking help for hypersexual behavior.

Emotional Instability, Alexithymia, and Stress Proneness

Associated features of hypersexual behavior could easily be encompassed by the larger domain of emotional intelligence; however, because alexithymia, stress proneness, and emotional instability (e.g., neuroticism) provide more specificity, these constructs were chosen as the variables of interest in this study.

Adams and Robinson (2001), as well as others (e.g., Schwartz & Masters, 1994; Wilson, 2000), have theoretically postulated that hypersexuality represents a compensatory behavior that attempts to alleviate symptom distress associated with problems of affect regulation. A similar theory among individuals with eating disorders was advanced by Heatherton and Baumeister (1991), who argued that motivation for binge eating emerged as an attempt to escape from negative appraisals associated with self-awareness and unpleasant mood states triggered by stressful events.

It can be reasonably argued that sexual activity provides a mood-altering experience enabling individuals to disassociate from uncomfortable, awkward, or unpleasant emotions (Quayle, Vaughan, & Taylor, 2006). Although such dissociation may not be elevated to psychiatric levels, it is plausible that such disconnection represents minor states of dissociation along a spectrum of symptoms implicated in dissociative disorders (Elmore, 2000; Putnam, 1995). The power of sexual experience to shield one from negative emotions, then, probably arises from sexual arousal's inherent ability to create intense focus on the competing state of pleasurable arousal, as well as the release of tension associated with orgasm. Furthermore, some individuals may find that fantasizing about sexual activity provides a greater distraction than partnered activity because it encourages—and maybe even requires—disconnect from relationships with their inherent problems, challenges, and complexities.

One plausible way to understand hypersexuality is seeing behaviors associated with reward, distraction, or soothing—such as overeating, exaggerated focus on somatic complaints, substance abuse, or hypersexuality—as being particularly likely in those for whom emotional distancing has high priority. This need for emotional distance can arise from increased stress proneness, negative affective states, emotional pain associated with unresolved trauma, or the inability to develop and form secure attachment bonds.

ALEXITHYMIA AND HYPERSEXUALITY

Although alexithymia was originally associated with psychosomatic disorders (Sifneos, 1973), it has evolved into a construct defined by a diminished capacity to identify and describe internal affective experiences. Aspects of this phenomenon have also been associated with a paucity of fantasy and deficits in the processing of cognitions and in the regulation of emotion (Krystal, 1988; Taylor, 1994; Taylor, Bagby, & Parker, 1991, 1997). Others have generalized alexithymia as a global impairment in emotional processing, not just the identification and expression of one's own feelings (Lane, Ahern, Schwartz, & Kaszniak, 1997).

Our clinical impressions of patients displaying hypersexuality, as defined above, are consistent with those of other researchers who have suggested that alexithymic individuals seek tension reduction from uncomfortable or unpleasant emotions (Keltikangas-Jarvinen, 1982; Kroner & Forth, 1995; Zimmermann, Rossier, de Stadelhofen, & Gaillard, 2005), thereby contributing to their eating disorders (Corcos et al., 2000; Larsen, van Strien, & Eisinga, 2006), substance abuse (Haviland, Hendryx, Shaw, & Henry, 1994), and the like. Although little is known about alexithymia in hypersexual patients, previous research reports alexithymia rates of between 17.2% and 29.6% among patients being treated for sexual disorders (Madioni & Mamma, 2001; Wise, Osbourne, Strand, Fagan, & Schmidt, 2002). Our rationale for suggesting associations of stress vulnerability, emotional instability, and alexithymia with hypersexual behavior also stems, in part, from our own observations of poor affect regulation and deficits in stress management among these patients.

STRESS PRONENESS AND VULNERABILITY

As noted above, negative mood states exacerbated by heightened vulnerability to stress are hypothesized to trigger hypersexual behavior (i.e., sexual activity is used to cope with stress). Research supports some associations between alexithymia and stress. For instance, high, as compared to low, alexithymic individuals show different cardiovascular response to stress (e.g., Linden, Lenz, & Stossel, 1996). Even in healthy persons, alexithymia has been associated with poor coping in relation to stress (Fukunishi & Rahe, 1995; Zimmermann et al., 2005).

EMOTIONAL INSTABILITY AND HYPERSEXUALITY

One way to conceptualize emotional instability is from a broad perspective such as neuroticism. However, more specifically, traits such as anxiety, depression, impulsiveness, and other such manifestations of affect regulation give more specificity to what is meant by emotional instability. Although we have suggested that these mood states can serve as the motivation behind hypersexual behavior, it is not clear that such states add anything beyond general distress. Even so, depression and other negative affective states are clearly correlated with stress vulnerability and alexithymia (e.g., Bagby, Taylor, & Parker, 1994; Bagby, Parker, & Taylor, 1994). The overlap in these two constructs makes it difficult to predict whether each is uniquely associated with hypersexuality.

Although negative mood states have been correlated with hypersexual behavior (Black et al., 1997; Kafka & Hennen, 2002; Kafka & Prentky, 1994, 1998; Raymond, Coleman, & Miner, 2003; Reid, 2007; Weiss, 2004), we found no studies to date exploring whether such mood states or other facets of neuroticism predict the severity or frequency of hypersexual behavior or are merely possible outcomes of either alexithymia or stress.

The purpose of the present study, then, is to explore associations of stress proneness, emotional instability, and alexithymia among patients seeking help for hypersexual behavior. We hope to establish prevalence rates and the extent to which these variables are implicated in the severity of hypersexual behavior so the clinical practitioner might be informed by these data as they work with patients seeking help for these issues.

METHOD

Participants

The convenience sample used in this study consisted of 116 male and 4 female patients recruited from an outpatient clinic that specialized in the treatment of hypersexuality. The study was conducted in 2006 and approved by the Internal Review Board for research with human subjects at Brigham Young University. These subjects were selected consecutively based on: (a) a primary complaint during intake and assessment of 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 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 four subjects from participation in this study included the presence of any psychotic symptoms, traumatic brain injury, or psychoactive substance abuse in the last 30 days. Ethnic representation among the sample included Asian ($n = 2$), Hispanic ($n = 5$), and Caucasian ($n = 113$) subjects, and participants

ranged from 18 to 58 years of age. Sexual preferences represented among participants included homosexual ($n = 4$), bisexual ($n = 1$), and heterosexual ($n = 115$).

Self-reported presenting sexual behaviors among participants included compulsive masturbation (88%), excessive pornography consumption (66%), voyeurism (2%), exhibitionism (2%), transvestic fetishism (3%), habitual solicitation of commercial sex workers (14%), 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 they also met the criteria for our definition of hypersexual behavior and their data was not significantly different from subjects who were exclusively hypersexual.

Measures

NEO PERSONALITY INVENTORY (NEO-PI-R)-REVISED

Stress vulnerability was assessed by the vulnerability subscale of the NEO-PI-R (other NEO subscales are also presented later). The NEO-PI-R (Costa & McCrae, 1992), designed to measure the five factor model (FFM) of personality, was used to assess self-reported personality traits. The NEO-PI-R consists of 240 items answered on a five-point Likert scale ranging from *strongly disagree* to *strongly agree*. The NEO-PI-R assesses 30 facets, six 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. In the current sample, the Cronbach's α was .86 for the neuroticism domain and .76 for items of the vulnerability facet. Additional evidence on convergent and discriminant validity is presented in the NEO manual (Costa & McCrae, 1992), including cross-observer agreement and prediction of external criteria such as psychological well-being, needs and motives, creativity, educational and occupational achievements, and coping mechanisms.

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 four-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 inner-city men and women, respectively (Kalichman & Rompa, 1995). The scale data in this study yielded acceptable reliability ($\alpha = .79$).

TORONTO ALEXITHYMIA SCALE

The 20-item Toronto Alexithymia Scale (TAS-20) is a widely used measure developed to assess difficulties in identifying and describing emotions (Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994). Items on the TAS-20 are presented in a five-point Likert scale ranging from 1 (strongly agree) to 5 (strongly disagree). The scale yields a total score and three factor scores of alexithymia: difficulty identifying feelings (DIF), difficulty describing feelings (DDF), and externally oriented thinking (EOT). Studies using this measure have correlated alexithymia with a number of psychiatric disorders and physical illnesses (Luminet, Bagby, Wagner, Taylor, & Parker, 1999; Taylor, Bagby, & Parker, 1997). Internal consistency for the scale total score is $\alpha = .79$, with the factor scales producing alpha coefficients of .78 (DIF), .73 (DDF), and .64 (EOT), respectively (Bagby, Taylor, Parker, & Loiselle, 1990; Parker, Bagby, Taylor, Endler, & Schmitz, 1993). Despite some controversy about the ability of the TAS-20 to capture and measure a trait which the subject may lack the ability to report accurately, Lumley et al. (2005) found evidence to support the validity and reliability of the TAS-20 when compared to other measures that purport to evaluate alexithymia.

RESULTS

Means and standard deviations for the study variables are found in Table 1. Comparisons of our hypersexual subjects to the normative samples of these

TABLE 1. Comparison of Hypersexual Subjects with Normative Data (N = 120)

Variable	Current Sample		Norming Sample		<i>z</i>
	Mean	SD	Mean	SD	
Sexual compulsivity ^a	25.93	5.80	18.70	7.20	11.00*
Alexithymia (TAS-20- Total) ^b	51.01	11.42	45.57	11.35	5.25*
Difficulty identifying feelings	17.08	5.64	14.38	5.21	5.68*
Difficulty describing feeling	14.79	4.70	12.50	4.20	5.97*
Externally oriented thinking	19.14	4.72	18.70	4.72	1.02
Neuroticism (NEO) ^c	61.29	12.95	50.00	10.00	12.37*
Depression	64.47	12.34	50.00	10.00	15.85*
Vulnerability to stress	60.70	14.49	50.00	10.00	11.72*

^aLow-income, inner-city men, $n = 60$ (Kalichman & Rompa, 1995).

^bAdult community sample, $n = 1933$ (Parker, Bagby, & Taylor, 2003).

^cNEO-PI-R *T*-scores (Costa & McCrae, 1992).

* $p < .001$ (2-tailed).

measures are also shown (a *z*-test is used because the norming sample is assumed to provide population parameters). The current sample of hypersexual patients is significantly elevated on all study variables except factor 3 of the TAS-20.

Correlations among study variables are listed in Table 2. Not surprisingly, the subscales of the TAS-20 are moderately to highly intercorrelated, as are the facet scales of NEO neuroticism. Scores on the SCS, selected to serve as the criterion, were significantly correlated with most of the predictor variables. Interestingly, the difficulty identifying feelings subscale correlated as strongly with SCS scores as did total TAS-20 scores. Regression analyses revealed that neither TAS-20 total scores nor the other two subscales contributed meaningfully beyond the predictive power of difficulty identifying feelings scores. Because of this and the conceptual advantage of using a narrower construct, analyses below use scores from the difficulty identifying feelings subscale as the index of alexithymia, although TAS-20 total scores yield similar results. Similarly, the NEO facet scores of depression and vulnerability to stress were as strongly associated with SCS scores as was the neuroticism factor score, and they were stronger correlates than the remaining facet scores.

Regression Analysis

The alexithymia factor of DIF, followed by NEO neuroticism factor were hierarchically regressed onto SCS scores, yielding the results in Table 3. As can be seen, neuroticism and several of its facet scores (N1–N6) significantly predict variance in SCS scores beyond that predicted by alexithymia. After neuroticism is entered, the unique variances of its facet scores do not make additional contribution. Replacing neuroticism with either depression or vulnerability facets yields similar results, revealing that most of the predictive power of negative affect is captured by these two variables. Vulnerability, by itself a slightly better predictor of SCS scores, overlaps somewhat more with DIF than does depression. Interestingly, the other aspects of NEO neuroticism— anxiety, anger-hostility, self-consciousness, and impulsivity—seem to play a much less central role in prediction of sexual compulsivity.

Repeating the analysis but entering neuroticism before difficulty identifying feelings reveals that neuroticism is, overall, a better predictor of SCS than is DIF (after entering neuroticism partial $r = .20$, $p = .03$). Thus, the additional contribution of DIF is modest but significant (R^2 change = $.03$), indicating that the predictive power of DIF is largely subsumed by neuroticism.

Categorical Analysis

Although continuous variables typically maximize predictive variance and are more likely to yield significant results, in practice we often think

TABLE 2. Pearson Correlations of Study Variables

	TOT	DIF	DDF	EOT	N	N1	N2	N3	N4	N5	N6
Sexual compulsivity	.33**	.36**	.24**	.13	.49**	.35**	.31**	.47**	.36**	.40**	.48**
Alexithymia (TOT)		.74**	.80**	.74**	.30**	.15	.26**	.35**	.17	.19*	.38**
Difficulty Identifying Feelings (DIF)			.37**	.23*	.41**	.17	.40**	.40**	.27**	.33**	.45**
Difficulty describing feelings (DDF)				.51**	.23*	.18*	.11	.27**	.13	.08	.28**
Externally oriented thinking (EOT)					.01	-.04	.03	.09	-.03	-.01	.10
Neuroticism (N)						.83**	.75**	.88**	.78**	.60**	.85**
Anxiety (N1)							.53	.67**	.61**	.41**	.65**
Anger/hostility (N2)								.56**	.48**	.47**	.53**
Depression (N3)									.62**	.44**	.81**
Self-consciousness (N4)										.36**	.61**
Impulsivity (N5)											.39**
Vulnerability (N6)											

* $p < .05$ (2-tailed); ** $p < .01$ (2-tailed).

TABLE 3. Predicting Sexual Compulsivity from Alexithymia and Emotional Instability

Predictors	Model 1			Model 2		
	<i>R</i>	<i>R</i> ² Change	Partial <i>r</i>	<i>R</i>	<i>R</i> ² Change	Partial <i>r</i>
Alexithymia DIF	.36**	.13**	.36**	.52**	.13**	.20*
Neuroticism			.40**		.14**	.40**
Anxiety			.31**			-.06
Anger/hostility			.19*			-.13
Depression			.38**			.07
Self-consciousness			.30**			-.02
Impulsivity			.33**			.14
Vulnerability			.38**			.09

p* < .05 (2-tailed); *p* < .01 (2-tailed).

categorically—in terms of group membership. Therefore, to further substantiate our model we also examined our data using categorical approaches. To accomplish this, it was necessary to transform the continuous variables into categorical variables. Where available, categorical data was calculated using published cut-off scores. The SCS group membership was assigned in two ways: (a) using a three-group approach that was derived from the distribution of SCS scores in our sample (lower quartile in group 1, middle half in group 2, upper quartile in group 3); and (b) a two-group approach with a cut-off score of 24, as suggested by Kalichman and Rompa (1995). The Alexithymia group membership was based on the empirically derived scores of Taylor, Bagby, and Parker (1992), using 61 and above as an index of “high alexithymia.” All other groups are based on scores 1.5 standard deviations above the mean (mean and SD from normative data), which selects for approximately the most elevated 7% of the norming sample.

TABLE 4. High Scoring Subjects by SCS Groups

Predictor variables	SCS 3-Group ^a				SCS 2-group ^b		
	Mild (<i>n</i> = 29)	Moderate (<i>n</i> = 57)	Severe (<i>n</i> = 34)	χ^2	Non-SC (<i>n</i> = 35)	SC (<i>n</i> = 85)	χ^2
Alexithymic total ^c	7% (2)	14% (8)	35% (12)	9.8**	6% (2)	24% (20)	5.3*
Alexithymic DIF ^d	10% (3)	18% (10)	27% (9)	2.8	9% (3)	22% (19)	3.1
Alexithymic DDF ^d	24% (7)	14% (8)	38% (13)	7.9*	20% (7)	25% (21)	.3
Alexithymic EOT ^d	7% (2)	9% (5)	12% (4)	.5	6% (2)	11% (9)	.7
Neurotic ^d	28% (8)	39% (22)	74% (25)	15.6**	29% (10)	53% (45)	5.9*
Depressed ^d	41% (12)	47% (27)	79% (27)	11.7**	46% (16)	59% (50)	1.7
Stress vulnerable ^d	21% (6)	26% (15)	68% (23)	19.9**	17% (6)	45% (38)	8.1*

^aBased on current sample: 10–22 (mild), 23–28 (moderate), 29–40 (severe).

^bCriteria of Kalichman & Rompa (1995): ≥ 24 (sexual compulsivity group).

^cCriteria of Taylor, Bagby, & Parker (1992): ≥ 61 (Alexithymic group).

^dBased on normative data: $\geq \mu + 1.5\sigma$.

p* < .05 (2-tailed), *p* < .01 (2-tailed).

Table 4 reveals that 85 patients (71%) were categorized as sexually compulsive (according to the criteria of Kalichman and Rompa (1995)), and half of the remaining patients are within three points of the cut-off. Also, 22 out of the 120 patients (18%) fall into the alexithymic group when using TAS-20 total scores or the difficulty identifying feelings factor scores. This prevalence for alexithymia is about three times that of the norming population, and it is within the ranges reported for some clinical populations in which a causal role for alexithymia has been postulated. Significantly elevated negative emotionality was reported by 46%, depression by 55%, and vulnerability to stress by 37%. Thus, feelings of vulnerability, depression, and other negative emotions are quite common in this hypersexual group.

A cross-tabulation of SCS groups and predictor variables is also presented in Table 4. (Only the row for elevated patients is reported on the predictor variables.) The statistical power lost from categorization results in DIF no longer being a predictor of sexual compulsivity group membership. In contrast, group membership reflecting elevated negative emotions was quite common in the high sexual compulsivity group(s). Also, it can be seen that the three-group SCS approach generally provides greater significance than the two-group approach, revealing that much of the power of the predictor variables is in distinguishing between moderate and high levels of sexual compulsivity.

DISCUSSION

These data support our hypothesis that alexithymia, emotional instability, and vulnerability to stress are associated with the severity of hypersexual behavior. More specifically, it appears that patients who present with more profound levels of hypersexual behavior are more depressed, alexithymic, and prone to stress. These data also suggest that the general domain of neuroticism has stronger associations with the severity of hypersexual behavior than alexithymia; however, alexithymia still accounts for some unique variance. These results were true for both continuous and categorical analyses.

These findings are consistent with our theoretical conceptualization of emotional instability among individuals with hypersexual behavior. Our clinical impressions suggest this population struggles with uncomfortable, awkward, or unpleasant affective states, and in fact, these data indicate that they also experience the prevalence of such emotions in greater proportions than those found in normal populations.

Our approach to making sense of this data, although exploratory, does provide some possibilities for future investigations. Many of the subjects in the present study displayed emotional deficits and a paucity of emotional awareness. Queries about feelings in therapy would often elicit a response such as "I don't know" or "I'm not feeling anything." This was true even

for those who self-referred without any familial pressure to seek counseling. Our clinical impressions of hypersexual patients suggest that many of these individuals habitually entertain negative self-appraisals that are likely influenced by attention bias which seeks evidence in daily experiences to confirm irrational beliefs (I'm unlovable, worthless, etc.). Additionally, many of these patients devote time to maintaining facades and implementing strategies of impression management that may further disconnect them from their authentic self, including their genuine emotions. Patients desperately desire external validation by others and privilege such adulation while marginalizing subjective positive perceptions about the self. Unable to control and predict the reactions of others, patients vacillate along a continuum of emotional instability. Negative appraisals by others become threats to their sense of self-worth, and such criticisms often result in disavowing aspects of the self. Specifically, the patients disconnect from undesirable emotional states. The structure of their lifestyle makes them more susceptible to stressors that might act as catalysts for hypersexual behavior. The function of sexual activity in these instances is stress reduction and escape from or avoidance of uncomfortable and unpleasant affective experiences attributable to difficulties in their interpersonal relationships and other challenges in daily living.

This study suggests several possible implications for clinical practitioners who work with patients seeking help for hypersexual behavior. These include:

1. An accurate assessment that evaluates emotional stability, levels of depression, vulnerability to stress, and alexithymia (i.e., identification of emotions).
2. Interventions that specifically address emotion regulation (e.g., emotional awareness, attention, and accurate appraisal of primary and secondary emotions).
3. Exercises that promote self-assessment of emotions and their meanings (e.g., helping a patient understand that feeling fear might suggest a need for reassurance, comfort, or safety).
4. Assertiveness training around core emotional needs such as having patients turn to loved ones and others for support or comfort rather than avoidant strategies like emotional disengagement through hypersexual behavior.
5. The acquisition of stress management skills. For example, clinicians can help patients explore strategies that incorporate cognitive restructuring around stimulus appraisal and emotional reactivity as well as behavioral techniques (e.g., meditation, muscle relaxation) and lifestyle changes (e.g., diet, exercise).
6. Alexithymic patients (e.g., those who have difficulty identifying or expressing their emotions) may be evaluated to determine if they possess a skill deficit or if they are deliberately choosing not to talk about their

emotions. For example, they may not feel safe or trust that others will care about their core vulnerable emotions. Similarly, they may also have fear about the repercussions from sharing how they *really* feel (e.g., fear of abandonment or being forsaken by a loved one).

7. Teaching patients about their increased vulnerability when negative affective states are present and helping patients discover alternative strategies to address these states in more effective ways.

Limitations and Future Research

Our hypotheses suggest that negative affective conditions, vulnerability to unpleasant emotionality, and difficulty identifying and dealing with feelings potentiate those who use sexual behavior as a coping mechanism to exaggerate this activity. This study is correlational, however, and therefore does not address whether alexithymia and negative mood states exert a causal or interactive affect on hypersexual behavior. This study also possesses the limitations commonly associated with and found in studies where self-report measures are used (note that the study uses no clinician-generated diagnoses or ratings, nor are there any objective measures of actual behavior—we leave this type of extension of our findings to future studies).

Another limitation of this study is that the measure of sexual compulsivity used in this study, although possessing acceptable psychometric properties, does not capture our conceptualization of hypersexual behavior in as comprehensive a way as we would like. In particular, this study lacks specificity about aspects of hypersexual behavior (e.g., risky sexual choices, time spent in pursuit of sex, interference in daily living), which might have provided further insights for the clinical practitioner. Additional relationships among the variables of interest might also have been revealed through measurement of hypersexual behavior that provides more specificity. In response to this need, the Hypersexual Behavior Inventory (Reid & Garos, 2007) was developed and is currently in the final stages of establishing its psychometric properties.

Inferences of our findings beyond this study should be made with caution, in part, because our sample was predominantly male and did not contain comparisons with individuals drawn from a nonclinical general population or a control group.

Future research might consider models that provide stronger evidence of causal relationships (e.g., structural equation modeling) and measures that yield greater specificity about the phenomena of hypersexual behavior. Future investigations might also consider broader domains of affect regulation, such as those associated with constructs of emotional intelligence. Other approaches might consider exploring causal relationships of the variables in this study, including changes in hypersexual behavior following the introduction of new stressors or depressogenic events such as a loss of a close

relationship or an attachment rupture. A larger sample size in the current study could have provided the opportunity to compare and contrast the variables of interest to other variables that might covary with the ones used in this investigation, and this, too, could be a subject of future studies.

There is also a paucity of research supporting treatment protocols and outcome studies to establish the effectiveness of interventions that elevate symptom distress related to hypersexual behavior. Although this study suggests that interventions that effectively help patients regulate their emotions might be promising, future research will need to explore how such treatments will impact outcomes in clinical populations.

SUMMARY AND CONCLUSIONS

This study found evidence suggesting that emotional instability, vulnerability to stress, and alexithymia are associated with hypersexual behavior. The specific facet of alexithymia that appeared to correlate most strongly with hypersexual behavior was difficulty identifying feelings. Although generalized neuroticism (which we have categorized as emotional instability) appeared to be the strongest predictor of hypersexual behavior, its facets of depression and vulnerability to stress captured the majority of the variance implicated in hypersexual behavior. These findings provide support for the hypothesis that alexithymia, emotional instability, and stress proneness are factors associated with patients seeking help for hypersexual behavior.

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