ORIGINAL RESEARCH—LGBT

An Item Response Theory Analysis of the Sexual Compulsivity Scale and Its Correspondence with the Hypersexual Disorder Screening Inventory among a Sample of Highly Sexually Active Gay and Bisexual Men

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ABSTRACT

Introduction. Numerous scales and assessments are available to assess sexual compulsivity (SC).
Aim. This study sought to conduct an item response theory (IRT) analysis of the Sexual Compulsivity Scale (SCS) to provide evidence about its measurement precision at the various levels of the SC construct in a sample of highly sexually active gay and bisexual men (GBM).
Methods. SCS data from a sample of 202 GBM who are highly sexually active but who vary in their experiences of SC symptoms were modeled using Samejima's polytomous graded response IRT model. To describe the performance of the SCS relative to the Hypersexual Disorder Screening Inventory (HDSI), SCS scores were compared with participants' corresponding HDSI results to determine sensitivity, specificity, positive and negative predictive values, and accuracy.
Main Outcome Measures. This study examined the correspondence between the SCS and the HDSI, a diagnostic instrument for the screening of hypersexuality.
Results. IRT analyses indicated that, although two of the SCS items had low reliability, the SCS as a whole was reliable across much of the SC continuum. Scores on the SCS and the HDSI were highly correlated; however, no potential cutoffs on the SCS corresponded strongly with the polythetic scoring criteria of the HDSI.
Conclusion. Comparisons of SCS scores with HDSI results indicated that the SCS itself could not serve as a substitute for the HDSI and would incorrectly classify a substantial number of individuals' levels of hypersexuality. However, the SCS could be a useful screening tool to provide a preliminary screening of people at risk for meeting criteria on the HDSI. Combining the SCS and the HDSI may be an appropriate evaluation strategy in classifying GBM as negative on both (i.e., "non-hypersexual/non-SC"), positive on the SCS only (i.e., "at risk"), and positive on both the SCS and the HDSI (i.e., "problematic hypersexuality/SC"). **Ventuneac A, Rendina HJ, Grov C, Mustanski B, and Parsons JT. An item response theory analysis of the Sexual Compulsivity Scale and its correspondence with the Hypersexual Disorder Screening Inventory among a sample of highly sexually active gay and bisexual men. J Sex Med 2015;12:481–493.**

Key Words. Gay and Bisexual Men; Sexual Compulsivity; Hypersexuality; Hypersexual Disorder; Item Response Theory; Psychometrics

Introduction

Various theoretical frameworks have been proposed to describe sexual compulsivity (SC) [1–8], which has been characterized as "sexual fantasies and behaviors that increase in intensity and frequency over time so as to interfere with personal, interpersonal, or vocational pursuits" [9–16]. Driven by little consensus about its fundamental features, research has described SC as being a dysregulation of sexual desire or arousal [1,17,18], a behavioral addiction [3,4], a part of the obsessive-compulsive disorder spectrum characterized by compulsive sexual behavior [2,11,19,20], and an impulse control disorder [21,22]. Terminology has also varied widely in the literature with various descriptors used in attempts to delineate the fundamental features and unique aspects of the theoretical perspective [5,6]. More recently, "hypersexuality" was proposed to synthesize the disparate and often competing perspectives and subsume the various elements of behavioral dysregulation, loss of control, and distress around excessive sexual thoughts and behaviors that result in clinically significant distress or problems in functioning [5].

Numerous scales and instruments are available to assess theoretically different aspects of SC. Hook and colleagues conducted a review of measures of SC and identified over 17 instruments that have been developed and used across diverse samples, including gay and bisexual men (GBM), heterosexual men and women, psychotherapy patients, community samples, and college students [23]. Currently, there are at least 10 self-report scales of SC symptoms and consequences, including the commonly used Sexual Compulsivity Scale (SCS) [11,24–26], four self-report checklists, and three clinician-rated scales of SC symptoms (see [23] for an in depth review). The SCS, the Compulsive Sexual Behavior Inventory [27,28], and the Sexual Inhibition Scale/Sexual Excitation Scales (SISSES) [29] have been found to be the most reliable and valid scales [5]. Additionally, the Hypersexual Disorder Screening Inventory (HDSI) was developed for the clinical assessment of HD, which was proposed for inclusion in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) [5,30–32].

Most of the available measures reviewed by Hook and colleagues were shown to have several limitations [23]. Some of the measures were developed recently and therefore have had limited research on their psychometric properties. Many of the studies investigating the psychometric properties of the scales have relied on small samples or specific populations (e.g., college students, individuals seeking treatment for SC). Internal consistency coefficients have been adequate, but little evidence exists about the temporal stability of instruments (i.e., test–retest reliability), the factor structure of the scales, or convergent and discriminant validity. The most important limitation is a lack of evidence of the ability of some scales to discriminate between individuals with severe or less severe SC, an important factor to consider both, analytically and clinically.

While the need for consensus about its definition and operational criteria has been identified [5,6,18], particularly in light of the need for epidemiological data, there is also a need to identify which validated instruments are best for capturing data about SC symptomology [23]. The SCS [11,24–26] is a self-report, 10-item scale of SC symptoms that is widely used in research studies and the most widely used measure of SC among GBM [15]. It has been shown to be a correlate of sexual risk taking [10,15,24,33]. Initially, higher SC was defined as the within-gender 80th-percentile score, which was subsequently demonstrated across a variety of studies to correspond to a score of approximately 24 [34,35]. With regard to its psychometric properties, the SCS has been used in studies with over 30 diverse samples and item-to-total correlations range from 0.46 to 0.68 and Cronbach's alpha ranges from 0.59 to 0.92 (almost all >0.70) [23]. Additionally, there is a body of research providing evidence of its convergent and discriminant validity. Test–retest reliability over a period of 2 weeks was high (0.95) and ranged from 0.64 to 0.80 when a longer period was tested (i.e., 3 months). An early study suggested a two-factor structure (i.e., a social disruptiveness dimension and a personal discomfort dimension) underlies the scale [24], but this factor structure has not been replicated [23].

Aims

Given the demonstrated strengths of the SCS with regard to reliability and validity, our study sought to conduct an item response theory (IRT) analysis of the SCS to provide evidence about its structure (i.e., its dimensionality) and its ability to discriminate among individuals with more or less severe SC, particularly when using the scale's commonly used cutoff score of 24. Previously published psychometric evaluations of the SCS have focused exclusively on classical test theory (CTT) statistics. In