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An examination of the Clinical Impairment Assessment among women at high risk for eating disorder onset

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ABSTRACT

Identifying measures that reliably and validly assess clinical impairment has important implications for eating disorder (ED) diagnosis and treatment. The current study examined the psychometric properties of the Clinical Impairment Assessment (CIA) in women at high risk for ED onset. Participants were 543 women (20.6 ± 2.0 years) who were classified into one of three ED categories: clinical ED, high risk for ED onset, and low risk control. Among high risk women, the CIA demonstrated high internal consistency ($\alpha = 0.93$) and good convergent validity with disordered eating attitudes ($rs = 0.27–0.68$, $ps < 0.001$). Examination of the CIA's discriminant validity revealed that CIA global scores were highest among women with a clinical ED (17.7 ± 10.7) followed by high risk women (10.6 ± 8.5) and low risk controls (3.0 ± 3.3), respectively ($p < 0.001$). High risk women reporting behavioral indices of ED psychopathology (objective and/or subjective binge episodes, purging behaviors, driven exercise, and ED treatment history) had higher CIA global scores than those without such indices ($ps < 0.05$), suggesting good criterion validity. These data establish the first norms for the CIA in a United States sample. The CIA is psychometrically sound among high risk women, and heightened levels of impairment among these individuals as compared to low risk women verify the relevance of early intervention efforts.

Central to the definition of a mental disorder is the notion of clinically significant distress and disability resulting from behavioral or psychological patterns (American Psychiatric Association [APA], 2000; APA, 2010). Disability refers to the experience of clinical impairment in one or more important domains of functioning, including occupational, academic, social, and role domains (APA, 2000; APA, 2010). Moving toward DSM-5, there is an increasing recognition that clinical impairment is a critical criterion to identify individuals in need of treatment because mental disorder symptoms may not always be associated with subjective emotional distress (Stein et al., 2010). The construct of clinical impairment may be especially relevant to determining the clinical significance of eating disorder psychopathology because many symptoms, such as intrusive thoughts related to an individual's shape and weight, can be ego-syntonic in nature (Polivy & Herman, 2002). Moreover, clinical impairment is often what prompts individuals with eating disorders to seek treatment and is considered a key treatment target and outcome measure (Fairburn, 2008). Therefore, the current study sought to examine clinical impairment among women with eating pathology.

Clinical impairment is a dimensional construct that varies greatly across a continuum (Stein et al., 2010). Therefore, research is needed to investigate clinical impairment in populations that vary by symptom severity to enhance diagnostic and treatment efforts. It is well established that full syndrome eating disorders are associated with marked clinical impairment as compared to individuals with low eating disorder psychopathology (Hudson, Hiripi, Pope, & Kessler, 2007; Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). Preliminary evidence suggests that individuals with subclinical levels of disordered eating attitudes and behaviors may evidence psychological and medical consequences comparable to their full syndrome counterparts (Ackard, Fulkerson, & Neumark-Sztainer, 2011; Peebles, Hardy, Wilson, & Lock, 2010). There has been no known empirical examination of the extent of clinical impairment in a population at high risk for eating disorder onset,

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such as those with elevated weight and shape concerns (Jacobi et al., 2011). An examination of clinical impairment across the broad range of eating pathology and eating disorder risk status would provide evidence for empirically distinguishing between clinically significant levels of impairment that indicate a need for treatment, moderate yet elevated levels of clinical impairment that identify high risk individuals and support the use of preventative interventions, and milder forms of clinical impairment that may not warrant intervention.

One criticism of the "clinical significance criterion" for mental disorders is that the constructs of distress and impairment are somewhat ambiguous and can rely too heavily on subjective judgments to determine clinical significance (Stein et al., 2010). The identification of psychometrically sound measures of clinical impairment would help to standardize and clearly operationalize this construct, thus bolstering researchers' and clinicians' confidence in the utility of the clinical significance criterion. The Clinical Impairment Assessment (CIA) was developed as a brief self-report questionnaire to assess the extent to which an individual's eating habits, exercising, or feelings about his or her shape, weight, or eating impact daily functioning in psychosocial domains (Bohn & Fairburn, 2008). The CIA is distinguished from other eating disorder-related quality of life measures in that the CIA clearly emphasizes the severity of impairment across important domains of functioning that occurs as a *direct* consequence of an individual's eating disorder psychopathology, which has been suggested as a critical feature for determining clinical impairment in the DSM-5 (Stein et al., 2010). Thus, establishing the psychometric properties of the CIA in populations across a wide range of eating pathology and eating disorder risk has the potential for broader implications for clinical impairment assessment beyond the eating disorder field.

Previous studies have established the psychometric properties of the CIA in clinical and community samples, but none have occurred among a high risk sample. The initial study of the CIA occurred in women enrolled in an eating disorder treatment trial (Bohn et al., 2008). The CIA demonstrated excellent internal consistency and test-retest reliability in this sample (Bohn et al., 2008). The CIA was also strongly correlated with self-reported eating disorder psychopathology and clinician ratings of impairment at all time points throughout treatment, indicating good construct validity (Bohn et al., 2008). Finally, the CIA had adequate discriminant validity, such that a small sample of recovered patients ($n = 37$) reported significantly less impairment than those with full syndrome eating disorders ($n = 33$) (Bohn et al., 2008). A second study investigated the psychometric properties of the CIA in a community sample of young women with low eating pathology (Reas, Ro, Kapstad, & Lask, 2010). Again, the CIA had excellent internal consistency and test-retest reliability as well as good construct validity with eating pathology (Reas et al., 2010). In the third study of the CIA, the measure was adapted to an interview format for use among adolescent schoolgirls with clinical and subclinical eating disorder symptoms from rural Fiji (Becker et al., 2010). The CIA interview format was tested among 215 schoolgirls and found to be internally consistent and to have adequate criterion and construct validity with measures of eating disorder psychopathology (Becker et al., 2010). Taken together, these results suggest that the CIA is a reliable measure in young women with full syndrome eating disorders and community samples. The CIA has also consistently demonstrated construct validity in previous studies; however, there has been limited work on the criterion and discriminant validity. An important next step in determining the clinical utility of the CIA is to examine its psychometric properties among individuals at high risk for eating disorder onset.

The establishment of norms for clinical impairment measures such as the CIA provides a useful framework within which clinicians can interpret varying levels of impairment severity. Normative data may allow the CIA to serve as a potentially powerful tool to estimate symptom severity and supplement clinicians' decisions regarding treatment planning. Mean CIA global scores in prior studies ranged between 6 and 9 in healthy women from Sweden and Norway and in adolescents from Fiji (Becker et al., 2010; Reas et al., 2010; Welch, Birgegard, Parling, & Ghaderi, 2011). On the other hand, a mean CIA global score of approximately 30 has been estimated for those diagnosed with eating disorders in clinical samples from the United Kingdom and Sweden (Bohn et al., 2008; Welch et al., 2011). To date, there have been no known studies of the CIA within the United States. Due to potential cultural differences, it is unclear as to whether the CIA norms will be the same as in previous studies; thus normative United States data for the CIA is important to inform the generalizability of study findings.

The primary objective of the current study was to examine the psychometric properties of the CIA for a sample of college-age women at high risk for developing an eating disorder. We hypothesized that the CIA would demonstrate excellent internal consistency and good criterion and convergent validity in relation to eating pathology among high risk women. We also expected to replicate the CIA's factor structure. In terms of discriminant validity, we further anticipated that CIA global scores would increase as risk level increased from low risk, high risk, to clinical eating disorder groups. As a secondary objective, we sought to extend previous studies by establishing norms across the spectrum of disordered eating in sample from the United States and to compare these norms with results from prior studies.

Methods

Participants

Participants were women at varying levels of eating disorder risk between 18 and 25 years of age and had a body mass index between 18 and 32 kg/m^2. Women were recruited broadly from two private universities and three public colleges/universities in the Sacramento and San Francisco Bay areas and from one community college, one public university, four small graduate schools/liberal arts colleges, and three private universities in the Saint Louis metropolitan area. The vast majority of these women were enrolled in undergraduate or graduate level courses at these local universities and colleges. Interested women were excluded if they were actively suicidal or psychotic, were suffering from bipolar disorder, did not have regular Internet access, or resided outside the metropolitan regions of the university sites. Women who reported current prescription medication for mood or anxiety disorders were included if their medication was stable for at least two weeks.

Procedures

Study participants were recruited via study fliers posted at local academic institutions, Facebook, Craigslist, campus email solicitations from study staff and campus leaders, and a recruitment organization called Volunteers for Health (only at Washington University). Recruitment materials were broadly targeted for women who were concerned about their weight, wanting to feel better about their body, experiencing interpersonal problems, and/or having difficulty focusing on their schoolwork. Advertisements also stated that the research team was studying the benefits of a program focused on improving body image and developing healthy coping skills. Potential participants completed a brief screening questionnaire through email or over the phone, and women identified as potentially meeting study inclusion criteria were asked to complete an in-person assessment. Each participant