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Body dissatisfaction and suicidal ideation among psychiatric inpatients with eating disorders

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ABSTRACT

The current study the relationship between eating disorders (EDs) and suicidal ideation and suicide attempt in adult inpatients. In particular, the present study investigated one potential mechanism, body dissatisfaction (BD), which may contribute to increased risk for suicide in adult ED patients. A sample of 432 psychiatric inpatients ranging from 18 to 65 years of age participated in the current study. Findings indicated that patients who have higher levels of BD also had higher levels of passive and active suicidal ideation and previous suicide attempts. Higher levels of BD were also related to increased suicidal ideation after controlling for depression and emotion dysregulation. Although additional risk factors for suicide should be investigated in adults with EDs, this study provides evidence regarding the relationship between BD and risk for suicide ideation and attempt.

1. Body dissatisfaction and suicidal ideation among psychiatric inpatients

Eating disorders (EDs) are characterized by issues with body image, excessive or no control over eating habits, and extreme behaviors to maintain body weight [1]. It has been suggested that EDs manifest due to an exposure to a thin ideal, which is then internalized, and used to compare one's body to the ideal. This body disturbance can lead to body dissatisfaction (BD) and dietary restrictions. BD has been defined as one's negative perception of one's own body and is associated with increased risk and maintenance of EDs [2].

Suicide was the 10th leading cause of death in the United States and the 2nd leading cause of death among adolescents and young adults in 2014 [3]. Further, it was estimated that 30 million individuals (20 million women and 10 million men) have been diagnosed with an ED at some point in their life [4]. EDs are often associated with suicidality, as found by The National Comorbidity Survey Replication Adolescent Supplement [5]. Furthermore, meta-analyses revealed that individuals with anorexia nervosa (AN) had the highest suicide mortality risk following those with substance use disorders [6] and were 18.1 times more likely to die by suicide than the general population [7]. Additionally, those with bulimia nervosa (BN) and eating disorder not otherwise specified (EDNOS) exhibited elevated suicide risks at a statistically significant level in a sample of ED outpatients [8].

Although research has established that those with EDs are at an increased risk for suicidality [5], the mechanism by which EDs lead to suicidal ideation and attempts is still not completely understood. The Interpersonal Theory of Suicide (IPTS) suggests that suicidal ideation occurs when an individual demonstrates a feeling of thwarted belongingness (social isolation) and perceived burdensomeness (belief that one is a burden on family or others), and suicidal behavior occurs when an individual has the capability for suicide (elevated pain tolerance, habituated exposure) [9,10]. However, recent research has linked body dissatisfaction to thwarted belongingness and perceived burdensomeness [11,12]. More specifically, Forrest et al. [11] showed that current body dissatisfaction was positively related to thwarted belongingness and burdensomeness, even after controlling for depression. This was further supported when Kwan et al. [12] revealed an indirect effect of body dissatisfaction on suicide risk through thwarted belongingness and perceived burdensomeness in an undergraduate sample.

The work of Israel Orbach on the Suicidal Body further elucidates this concept. According to this theory, suicidal individuals have different bodily experiences and attitudes toward their body than non-suicidal individuals [13]. Orbach states that:

> …negative bodily experiences, distorted bodily experiences, and negative attitudes and feelings that are also related to early care may enhance a self-destructive tendency. Thus, body hate, rejection

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of the body, … and other distorted bodily experiences may facilitate destruction ([13], p.2).

Research with adolescent populations has more directly associated the link between body dissatisfaction and suicide. More specifically, Rodriguez-Cano, Beato-Fernandez, and Llario [14] found that even after controlling for gender and other possible predictors, previous suicidal thinking and body dissatisfaction predicted suicide attempts over the prospective two years. Similarly, Crow et al. [15] found that suicide ideation and suicide attempts were more common in adolescents with body dissatisfaction, regardless of gender, even after controlling for depressive symptoms.

While several studies have been carried out studying BD's predictive ability on suicidal ideation and attempts in adolescents, very few have been conducted in adults. The purpose of the present study is to add to the existing literature regarding the relationship between BD and suicidal ideation and attempts among adult ED inpatients. The aim is to better understand this relationship in order to aid in the treatment of this population.

2. Method

2.1. Participants

The present study included 432 psychiatric inpatients ranging from 18 to 65 years of age ($M = 28.59$, $SD = 10.72$) who were referred for an ED consult by their treatment team. These patients were evaluated by a member of the ED team for participation in the ED specialty treatment track based on previous history of an ED, self-reported symptoms of an ED, and/or clinical judgment of the treatment team. Patients in this setting typically manifest multiple, comorbid conditions, prominently mood, anxiety, substance-related, and personality disorders, as most patients are referred following unsatisfactory response to prior medical and/or psychological treatments. The sample was skewed toward female (78.2%) and a large majority (86.8%) was Caucasian. Regarding education history, 58.7% had less than a college degree, 24.1% completed a Bachelor's degree, and 17.2% had a graduate degree. The average length of inpatient stay for the present sample was 50.49 days ($SD = 21.48$). The number of reported lifetime suicide attempts ranged from zero to 12 ($M = 1.08$, $SD = 1.89$); 235 (56.4%) reported no lifetime attempts, 80 (19.2%) reported one attempt, and 102 (24.5%) reported multiple attempts. The sample was evenly split, with 229 participants (53.4%) below the clinical level for body dissatisfaction and 200 participants (46.6%) at or above the clinical level.

2.2. Procedures

As part of the hospital standard outcomes battery, patients completed an assessment protocol and a patient information questionnaire that includes demographic information. Patients completed study instruments (except the ED specific measure) at admission and prior to discharge via an existing computer-based assessment system, with the aid of a trained research assistant. Participants were selected for participation in this study after recommendation for an ED consultation by their treatment team, at which time they also completed the ED specific measure. All participants provided written informed consent, and this study was approved by the Institutional Review Board of Baylor College of Medicine and the University of Houston-Downtown.

2.3. Measures

The *Columbia-Suicide Severity Rating Scale* (C-SSRS; [16]) is a clinician-administered rating scale measuring past and present suicidal ideation and behavior. It measures four domains: severity, intensity, behavior, and lethality. For the purpose of the present study, items reflecting current passive and active suicidal ideation and the current ideation intensity subscale were utilized. The C-SSRS includes items that assess frequency, duration, and controllability of ideations, and it has shown excellent internal reliability and good convergent, divergent, and predictive validity [16].

The *Eating Disorder Inventory* (EDI-3; [17]) is used to assess psychological traits relevant to individuals with EDs. The EDI-3 contains 91 items and is scored on a Likert scale with higher scores representing greater struggles within the domain measured. There are three ED risk scales: Drive for Thinness, Bulimia, and Body Dissatisfaction. It also contains nine psychological scales: Low Self-Esteem, Personal Alienation, Interpersonal Insecurity, Interpersonal Alienation, Interoceptive Deficits, Emotion Dysregulation, Perfectionism, Asceticism, and Maturity Fears. This questionnaire is used as a standard measure within the ED literature and has good reliability and validity [17]. Cronbach's alpha in the present sample was 0.88.

The *Patient Health Questionnaire* (PHQ-9) is a 9-item self-report measure assessing depressive symptoms in the prior two weeks via four Likert-type answer choices ranging from “not at all” to “nearly every day” [18]. The PHQ-9 includes items that evaluate anhedonia, sleep, and appetite and is considered a reliable and valid measure of depressive symptoms [19–21]. Cronbach's alpha in the present sample was 0.87.

The *Difficulties in Emotion Regulation Scale* (DERS; [22]) is a self-report measure assessing emotion regulation and dysregulation. It contains 36 items that load onto six factors of: Nonacceptance of Emotional Responses, Difficulties in Engaging in Goal-Directed Behavior, Impulse Control Difficulties, Lack of Emotional Awareness, Limited Access to Emotion Regulation Strategies, and Lack of Emotional Clarity. The instrument developers report high internal consistency and strong predictive validity [22]. Cronbach's alpha in the present sample was 0.94.

3. Results

Analyses in this study utilized the groupings of participants who were at or above the clinical level (45 or above) compared to those who were below the clinical threshold (0–44) for BD, as indicated by the guidelines in the EDI-3 [17]. Pearson's Chi-square tests were conducted to determine the relationship between BD and passive vs. active suicidal ideation as well as previous attempts in adults with ED symptoms. Results revealed a significant association between BD and passive ideation χ^2 (1) = 8.53 $p < 0.01$. Based on the odds ratio, participants above the clinical cut off for BD are 1.85 [CI: 1.22–2.78] times more likely to endorse passive suicidal ideation than those who are not. Similarly, results revealed a significant association between BD and active suicidal ideation χ^2 (1) = 18.65 $p < 0.001$. Based on the odds ratio, participants above the clinical cut off for BD are 2.38 [CI: 1.60–3.54] times more likely to endorse active ideation than those who are not. Furthermore, results revealed a significant association between BD and previous suicide attempts χ^2 (1) = 3.83 $p = 0.050$. Based on the odds ratio, participants above the clinical cut off for BD are 1.47 [CI: 1.00–2.18] times more likely to report a previous suicide attempt than those who are not. Finally, results of a one way analysis of variance (ANOVA) revealed there was a significant difference in ideation intensity for participants above and below the cut off for BD [$F(1,427) = 21.371$, $p < 0.001$]. Participants scoring at or above the cutoff for BD had significantly higher ideation intensity ($M = 11.87$, $SD = 7.43$) than participants scoring below the cutoff ($M = 8.58$, $SD = 7.28$).

Correlations were conducted for all study variables. Point-biserial correlations were calculated between continuous and dichotomous variables, phi coefficients were calculated for two dichotomous variables, and Pearson's correlations were calculated between two continuous variables (see Table 1 for results). Comparisons of means were calculated using Analyses of Covariance (ANCOVAs) controlling for both depression (PHQ-9) and difficulty with emotion regulation