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Problematic eating behaviors in adolescents with low self-esteem and elevated depressive symptoms

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ABSTRACT

Previous research has indicated that low self-esteem may be an important risk factor for the development of eating disorders. Few longitudinal studies have examined the relationships between low self-esteem, depressive symptoms, and eating disorders in adolescents. The present study investigated whether low self-esteem was associated with depressive symptoms and problematic eating behaviors. Measures of low self-esteem and problematic eating behaviors were administered to a sample of 197 adolescent primary-care patients. Depressive symptoms and problematic eating behaviors were assessed ten months later. Youths with low self-esteem were at greater risk for high levels of depressive symptoms and eating disorder symptoms. In addition, depressive symptoms mediated the association of low self-esteem with problematic eating behaviors.

There has been evidence of an increase in the incidence of eating disorders (Nielsen, 2001; Hoek & van Hoeken, 2003). Research suggests that middle to late adolescence is most likely the period of greatest vulnerability for the onset of eating disorders (Lewinsohn, Striegel-Moore, & Seeley, 2000; Stice, Killen, Hayward, & Taylor, 1998). Further, several studies have investigated possible precursors to the development of eating disorders, suggesting associations between certain personality traits and problematic eating behaviors (Lilenfeld, Wonderlich, Riso, Crosby, & Mitchell, 2006; Cassin & von Ranson, 2005). Research on personality and eating disorders supports that self-esteem (Frederick & Grow, 1996), perfectionism (Ashby, Kottman, & Schoen, 1998), and OCD-like symptoms (Rogers & Petrie, 2001), are associated with eating pathology.

Possible etiological models of eating disorders suggest that adolescence is a period of identity formation and when one's sense of identity is disturbed, adolescents are left with a great amount of instability about feelings of the self (Fairburn & Wilson, 1993). This disruption in self-identity often results in low self-esteem. Fairburn and Wilson (1993) suggest that adolescents with low self-esteem become more self-conscious and increasingly self-critical, possibly making them more susceptible to developing eating disorders. For example, in a study of 17–26 year old undergraduates, subjects identified as having bulimia nervosa reported greater identity confusion and disturbance in their concept of the self compared to non-eating disordered subjects and binge eaters (Schupak-Neuberg & Nemeroff, 1993). The authors postulate that subjects with disordered eating are focusing on the physical body (i.e. obsession with controlling weight and shape) as a way of coping with the internal difficulties with the self. Furthermore, eating disorder research in adolescent samples has suggested that personal appearance plays an important role in self-esteem during adolescence (Geller, Srikameswaran, Cockell, & Zaitsoff, 2000; Tomori & Rus-Makovec, 2000). Some research has even suggested that chronic low self-esteem is a prerequisite for the development of eating disorders (Silverstone, 1992).

Several empirical studies suggest an association between low self-esteem and eating pathology (French et al., 2001; Fryer, Waller, & Kroese, 1997; Wade, Treloar, & Martin, 2001; Mintz & Betz, 1988). Findings from other studies suggest that low self-esteem is an important vulnerability factor for eating disorders (Button, Sonuga-Barke, Davies, & Thompson, 1996; Button, Loan,

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Davies, & Sonuga-Barke, 1997; Fairburn, Cooper, Doll, & Welch, 1999; Fairburn, Welch, Doll, Davies, & O'Connor, 1998). For example, in a study comparing healthy controls, psychiatric controls, subjects with bulimia nervosa and subjects with anorexia nervosa, both pre-morbid negative self-evaluation and perfectionism were common risk factors for the onset of anorexia nervosa (Fairburn et al., 1999). In a different study, low self-esteem was associated with body dissatisfaction and pathologic eating behaviors in a sample of 4700 high school students (Tomori & Rus-Makovec, 2000). Patients with eating disorders possess traits associated with low self-esteem, such as problems with self-image and excessive concern over weight and body shape (Button et al., 1997). This research suggests that low self-esteem is associated with eating pathology in both clinical and non-clinical samples.

The co-occurrence of eating disorders with other pathologies has been thoroughly investigated. Eating pathology has been associated with depression, substance abuse, and anxiety disorders (Johnson, Cohen, Kasen, & Brook, 2002; Stice & Shaw, 2003; Stice, Burton, & Shaw, 2004; Lewinsohn et al., 2000). The co-morbidity between depression and eating disorders has been well-established (Lewinsohn et al., 2000; Johnson, Cohen et al., 2002, Johnson, Harris et al., 2002; Fairburn, Cooper, Doll, Norman, & O'Connor, 2000). Elevated depressive symptoms have been shown to predict the future onset of other pathology, including eating pathology (Stice et al., 2004; Stice, Presnell, & Spangler, 2002; Spoor et al., 2006). An earlier epidemiological study (Zaider, Johnson, & Cockell, 2000), using the same adolescent sample from the present study, found that chronic or early onset depressive symptoms were associated with the development of eating disorders.

The current study seeks to further examine the etiology of eating disorders by investigating the relationship between low self-esteem with depressive symptoms and problematic eating behaviors in adolescent primary-care patients. It is hypothesized that low self-esteem will be associated with elevated depressive symptoms and problematic eating behaviors at the follow-up period. Additionally, it is predicted that elevated depressive symptoms will mediate the association of low self-esteem with problematic eating behaviors.

1. Method

1.1. Sample and procedure

The participants in this study were 197 adolescent primary care patients (21.3% male, 78.7% female) between 14 and 19 years of age ($M = 16.31$, SD = 1.074), recruited from consecutive admissions to the following primary care offices and clinics in New York, New Jersey and Ohio: The Columbia Presbyterian Medical Center Adolescent Medical Clinic in New York ($N = 15$), the Staten Island New York Hospital Adolescent Medical Clinic ($N = 53$), the Monmouth County New Jersey Medical Center ($N = 2$), a primary care physician's office in Monmouth, New Jersey ($N = 3$), and the school nurse's offices at Keyport High School in Keyport, New Jersey ($N = 56$), Green High School in Green, Ohio ($N = 55$), the First Care Family Health and Immediate Care Center in Akron, Ohio ($N = 4$), and St. Mary's Regional High School in South Amboy, New Jersey ($N = 9$). The composition of this sample was 71.6% Caucasian, 7.6% African-American, 14.7% Hispanic, 2.5% Asian or Pacific Islander, 3.5% Other. The majority of respondents in the present sample reported visiting their physician or nurse for minor physical health problems (e.g., cold, flu, headaches, digestive problems) ($N = 130$, 66%), a medical examination, or medical tests (e.g., pregnancy tests) ($N = 139$, 70.6%). Twenty-one respondents (10.7%) reported seeking medical attention for major physical health problems (e.g., diabetes, lung problems), or help for emotional problems (e.g., anxiety, depression, problems with alcohol or drugs) ($N = 13$, 6.6%). The adolescents who were recruited from medical clinics reported seeing their doctor for medical examination or testing (χ^2 (1, $N = 197$) = 6.88; $p < .05$), major physical problems ($\chi^2(1, N = 197) = 5.10$; $p < .05$), minor physical problems (χ^2 (1, $N = 197$) = 4.19; $p < .05$), more frequently than did those who were recruited from high schools.

The participants in the present study were a subset of an initial group of 403 adolescents who had participated in an earlier epidemiological study conducted to examine the prevalence of Axis I and Axis II psychiatric disorders and their comorbidity (Zaider et al., 2000). This wave of data will be referred to as T1 in the remainder of this report. Questionnaire packets and informed consent forms were mailed to each respondent approximately 10 months after their participation in the epidemiological study. One hundred and ninety-seven participants completed these measures and returned them by mail to the research team. These 197 participants did not differ significantly from the original sample with regard to age, gender, ethnicity, or socioeconomic status, the baseline prevalence of eating disorder symptoms, or the baseline prevalence of Axis I or Axis II diagnoses. This wave of data will be referred to as T2 in the remainder of this report. The respondents and their parents provided written informed consent, after being provided with a written explanation of study procedures. A check for twenty-five dollars was mailed to the respondents who returned the completed questionnaire packet and signed consent forms.

The study procedures were approved by the Columbia University College of Physicians and Surgeons Institutional Review Board and the New York State Psychiatric Institute Institutional Review Board. A National Institute of Mental Health Certificate of Confidentiality has been obtained for these data.

1.2. Measures

1.2.1. Assessment of eating behaviors

A history of problematic eating behavior was assessed using *The Patient Health Questionnaire for Adolescents* (PHQ-A). The PHQ-A is a self-report version of the Primary Care Evaluation of Mental Disorders (PRIME-MD; Spitzer et al., 1994), a structured diagnostic interview that assesses Axis I disorders that are commonly encountered in primary care settings. Research has supported the reliability and validity of the PHQ-A. The PHQ-A has demonstrated satisfactory levels of diagnostic agreement with