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Universal prevention efforts should address eating disorder pathology across the weight spectrum: Implications for screening and intervention on college campuses

Andrea E. Kass ^{a,*,1}, Megan Jones ^{b,c,1}, Rachel P. Kolko ^d, Myra Altman ^e, Ellen E. Fitzsimmons-Craft ^f, Dawn M. Eichen ^g, Katherine N. Balantekin ^f, Mickey Trockel ^c, C. Barr Taylor ^{c,h}, Denise E. Wilfley ^{e,f}

- ^a Department of Medicine, The University of Chicago, Chicago, IL, USA
- ^b Lantern, San Francisco, CA, USA
- ^c Department of Psychiatry, Stanford University School of Medicine, Stanford, CA, USA
- ^d Department of Psychiatry, University of Pittsburgh, Pittsburgh, PA, USA
- ^e Department of Psychology, Washington University in St. Louis, St. Louis, MO, USA
- ^f Department of Psychiatry, Washington University School of Medicine, St. Louis, MO, USA
- g Department of Pediatrics, University of California, San Diego, San Diego, CA, USA
- ^h Center for mHealth, Palo Alto University, Palo Alto, CA, USA

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ABSTRACT

Purpose: Given shared risk and maintaining factors between eating disorders and obesity, it may be important to include both eating disorder intervention and healthy weight management within a universal eating disorder care delivery program. This study evaluated differential eating disorder screening responses by initial weight status among university students, to assess eating disorder risk and pathology among individuals with overweight/obesity versus normal weight or underweight.

Methods: 1529 individuals were screened and analyzed. Screening was conducted via pilot implementation of the Internet-based Healthy Body Image program on two university campuses.

Results: Fifteen percent of the sample had overweight/obesity. Over half (58%) of individuals with overweight/obesity screened as high risk for an eating disorder or warranting clinical referral, and 58% of individuals with overweight/obesity endorsed a ≥10-pound weight change over the past year. Compared to individuals with normal weight or underweight, individuals with overweight/obesity were more likely to identify as Black, endorse objective binge eating and fasting, endorse that eating disorder-related concerns impaired their relationships/social life and made them feel badly, and endorse higher weight/shape concerns.

Conclusions: Results suggest rates of eating disorder pathology and clinical impairment are highest among students with overweight/obesity, and targeted intervention across weight categories and diverse races/ethnicities is warranted within universal eating disorder intervention efforts. Integrating eating disorder intervention and healthy weight management into universal prevention programs could reduce the incidence and prevalence of eating disorders, unhealthy weight control practices, and obesity among university students.

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1. Introduction

Eating disorders (EDs) and obesity are serious problems affecting university students (American College Health Association, 2007; Eisenberg, Nicklett, Roeder, & Kirz, 2011; Racette, Deusinger, Strube, Highstein, & Deusinger, 2008). EDs most typically onset between adolescence and young adulthood (Hudson, Hiripi, Pope, & Kessler, 2007; Nagl et al., 2016; Stice, Marti, Shaw, & Jaconis, 2009), and the

college years are associated with a significant reduction in students' healthy lifestyle behaviors, which has implications for cardiovascular health and individuals' weight gain trajectories (Arts, Fernandez, & Lofgren, 2014; Nelson, Larson, Barr-Anderson, Neumark-Sztainer, & Story, 2009; Nelson, Story, Larson, Neumark-Sztainer, & Lytle, 2008; Spring et al., 2014). Indeed, research has indicated that adults aged 18–29 years are more likely to develop obesity than individuals of older ages (Mokdad et al., 1999). Both EDs and obesity are associated with significant medical consequences and are commonly comorbid with psychiatric illnesses (Aspen et al., 2014; Balantekin, Birch, & Savage, 2015; Campbell & Peebles, 2014; Eddy et al., 2007; Glasofer et al., 2007; Goldschmidt, Aspen, Sinton, Tanofsky-Kraff, & Wilfley, 2008; National Heart Lung and Blood Institute, 2013; Rancourt &

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^{*} Corresponding author at: Department of Medicine, The University of Chicago, 5841 S. Maryland Avenue, MC 1000, Chicago, IL 60637, USA.

 $[\]textit{E-mail address:} \ a kass@medicine.bsd.uchicago.edu \ (A.E.\ Kass).$

¹ Both authors contributed equally to this work.

McCullough, 2015; Tanofsky-Kraff et al., 2007), are associated with impairment and stigmatization (Klump, Bulik, Kaye, Treasure, & Tyson, 2009; Puhl & Latner, 2007; Puhl & Suh, 2015), may interfere with academic achievement and impede academic outcomes (Krukowski et al., 2009), and result in high healthcare utilization and cost (Crow, 2014; Finkelstein, 2014).

Although universities represent an ideal setting for implementing behavioral interventions (Plotnikoff et al., 2015) and university health and counseling centers aim to provide mental and behavioral health care for their campus population, the high prevalence of mental health issues among college students precludes providing one-on-one treatment services to all students in need of care (Hunt & Eisenberg, 2010; Wilfley, Agras, & Taylor, 2013). Accordingly, efforts are needed that can complement the traditional model for health care delivery on college campuses (i.e., presenting for in-person treatment to the health or counseling center) by focusing on reducing incidence through providing prevention and treatment through alternate modes of delivery in order to optimize the number of college students who can receive care for EDs and weight management.

Online approaches to screening, prevention, and treatment can increase reach and offset in-person clinical demands by (1) enabling widespread identification of mental and behavioral health issues using minimal resources from campus clinicians and other relevant stakeholders; (2) informing clinical decision-making to ensure interventions are precisely delivered to match individuals' needs; and (3) utilizing low-cost, low resource-intensive programs as first-line interventions while conserving in-person services for those most in need (Bauer & Moessner, 2013; Fairburn & Wilson, 2013; Kazdin & Blase, 2011; Paxton, 2013). One example of a comprehensive, online approach to ED screening and intervention is the Healthy Body Image program (HBI), an Internet-based program for delivering screening and intervention that aims to reduce the incidence and prevalence of EDs (Jones, Kass et al., 2014; Wilfley et al., 2013). Individuals are screened with a brief online assessment, and responses are used to classify individuals as low-risk for, high-risk for, or with a clinical or subthreshold ED. Users receive individualized feedback about their risk/clinical profile, and screen results inform the specific interventions that users are offered: (a) an online universal or targeted preventive intervention (i.e., Staying Fit[™] or StudentBodies[™], respectively)(Jones, Taylor Lynch, et al., 2014; Kass et al., 2014; Taylor et al., 2006, 2012); (b) an online cognitive-behavioral guided self-help treatment program (i.e., StudentBodies-Eating Disorders™); or (c) referral to in-person treatment services. The online platform is anonymous, accommodating to students' schedules via access at any time by computer or Smartphone, and can easily incorporate new modules for subpopulations of users. Campuses can also implement in-person community outreach programming and an online community culture change intervention for all students regardless of risk/clinical status, to promote universal messaging supporting a campus culture of positive body esteem and healthy lifestyle behaviors. Combined, HBI facilitates campus-wide intervention across multiple spheres of influence, such that intervention to impact individual behavior change is supported by healthoriented programming within the residence halls, among peer groups and academic courses, and from campus leadership instrumental in enacting policy changes for improving college mental health.

We embarked on a pilot project to implement HBI on two college campuses (Jones, Kass et al., 2014).² Results showed that implementation was feasible, offering colleges a comprehensive system for ED screening, intervention, and community culture change. However, to date, our team has not specifically addressed overweight or obesity within HBI. Indeed, integrating prevention for EDs and obesity that provides universal messaging around healthy eating and physical activity

and addresses sociocultural factors related to weight represents a promising target for weight-related intervention (Ciao, Loth, & Neumark-Sztainer, 2014). Obesity is a potent risk factor for EDs (Hilbert et al., 2014; Jacobi, Hayward, de Zwaan, Kraemer, & Agras, 2004), and engaging in ED behaviors and/or unhealthy weight control practices confers risk for excess weight gain and obesity (Cuypers et al., 2012; Goldschmidt, Jones et al., 2008; Hilbert, Hartmann, Czaja, & Schoebi, 2013; Neumark-Sztainer et al., 2006; Sonneville et al., 2013; Stice, Cameron, Killen, Hayward, & Taylor, 1999; Tanofsky-Kraff et al., 2009, 2011). Thus, given the shared risk and maintaining factors for EDs and obesity, we examined screening responses among university students with overweight/obesity versus those with normal weight or underweight to evaluate differences by weight status in ED risk/clinical status and in associated ED pathology. This work could influence opportunities for expansion and enhancement of HBI as well as have important implications for universal ED prevention programs more broadly, resulting in improved, comprehensive prevention of EDs and healthy weight management among university students.

2. Methods

2.1. Participants & procedure

Participants were male and female students at two universities engaged in the pilot implementation of HBI. At one campus ("University A"), all students were targeted for recruitment, and at a second campus ("University B"), first and second year undergraduates were targeted for recruitment. Participants were recruited via the HBI website, email, social media, word of mouth, presentations and workshops, flyers, staff training, and campus referral. Interested individuals completed the Stanford-Washington University Eating Disorder (SWED) Screen, hosted by HealthMunk LLC. Students provided online approval indicating their acknowledgement of the privacy practices prior to completing the screen and agreeing that their de-identified data could be used for research. Data were stored on HIPAA-compliant servers, accessible only by trained study staff. This study was deemed "exempt" from the universities' Institutional Review Boards, as these projects were implemented as quality improvement initiatives and no identifying information was stored or used for research. Full study details have been published previously (Jones, Kass et al., 2014).

2.2. Measures

The SWED Screen (Jones, Kass et al., 2014; Wilfley et al., 2013) is a brief, online self-report tool that assesses ED pathology and risk. Questions assessed demographics, height and weight, weight/shape concerns (using the validated 5-item Weight Concerns Scale; Jacobi, Abascal, & Taylor, 2004; Killen et al., 1994), endorsement of objective binge eating over the past four weeks, vomiting over the past four weeks (using the prompt, "Have you made yourself throw-up?"), laxative or diuretic misuse over the past four weeks (using the prompt, "Have you used diuretics or laxatives?"), excessive exercise over the past four weeks (using the prompt, "Have you exercised excessively (e.g., pushed yourself very hard; had to stick to a specific exercise schedule no matter what; felt compelled to exercise)"), fasting over the past four weeks (using the prompt, "Have you fasted (intentionally not eaten anything at all for at least 8 waking hours?"), significant weight changes over the past year (assessed as, "In the past year, has your weight either increased or decreased by more than 10 pounds?"), loss of menses for three or more months (only pertaining to females, with text specifying "not related to contraceptive methods that affect hormonal regulation"), lifetime history of an ED (assessed as, "Have you ever had an eating disorder?"), and clinical impairment over the past four weeks. Questions regarding clinical impairment were based on items from the Clinical Impairment Assessment Questionnaire (Bohn & Fairburn, 2008; Bohn et al., 2008) and inquired about whether

² At the time of this study, the StudentBodies-Eating Disorder™ intervention was not yet integrated within the HBI program. Thus, participants with clinical or subthreshold EDs were offered care via an in-person referral.

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