Eating Behaviors 13 (2012) 54–57

Contents lists available at SciVerse ScienceDirect

Eating Behaviors

Direct and indirect effects of stress on bulimic symptoms and BMI: The mediating role of irrational food beliefs

Timothy M. Osberg *, Meredith Eggert

Niagara University, United States

ARTICLE INFO

Article history:
Received 3 June 2011
Received in revised form 1 September 2011
Accepted 30 September 2011
Available online 7 October 2011

Keywords:
BMI
Bingeing
Bulimia
Cognitive theories
Stress
Irrational food beliefs

ABSTRACT

Objective: To test the possible mediating role of irrational food beliefs (IFBs) in the connection between stress and bulimic symptoms and BMI in a subclinical population.
Methods: Participants were college students ($N = 356$) administered measures of daily hassles, IFBs, and bulimic symptoms. Simple mediation analyses using bootstrapping methods were performed to examine the potential direct effects of stress, and indirect effects of stress through IFBs, on bulimic symptoms and BMI.
Results: Daily hassles exerted a direct effect on bulimic symptoms, but not on BMI. Indirect effects of daily hassles, through IFBs, on both bulimic symptoms and BMI were observed. The pattern of results was not altered when gender was included in the models as a covariate.
Conclusions: The findings support a cognitive mediation model of the effects of stress on eating disorder symptoms and body mass through irrational food beliefs in both men and women.
© 2011 Elsevier Ltd. All rights reserved.

1. Introduction

Recent assessments of cognitive theories of bulimia nervosa and binge-eating (e.g., Cooper, 2005) have concluded that (1) studies often do not use appropriate measures to tap cognitive constructs, (2) more studies of the *mechanisms* involved in theories are needed, and (3) more innovation and creativity are needed in teasing apart the specific and detailed cognitions that link emotion to eating behavior. Consistent with Cooper's (2005) call for innovation in the assessment of cognitive constructs related to eating pathology, Osberg, Poland, Aguayo, and MacDougall (2008) developed a measure of a construct they call *irrational food beliefs*, which they believe plays an important role in the development and maintenance of eating disorders such as bulimia nervosa. These authors defined the construct as *cognitively distorted and unhealthy attitudes and beliefs pertaining to food* (e.g., "food is my only source of pleasure," "food is a good way to lift depression," and "food is a good substitute for sex"). Their work was built on the contention that "cognitive–behavioral approaches to the treatment of obesity and other eating disorders must be narrowed to assess and modify individuals' faulty thinking pertaining *specifically to food* in order to improve long-term weight maintenance" (p. 26).

In a series of five studies, Osberg et al. (2008) found that the degree of endorsement of irrational food beliefs, as assessed by the *Irrational Food Beliefs Scale* (IFBS), was strongly associated with first semester weight gain in college freshmen, and with measures of recent weight gain and poor weight loss maintenance in another college sample. Scores on the IFBS also were associated with bulimic symptoms in both college and community samples. Jáuregui Lobera and Bolaños (2010) replicated the latter findings using a Spanish translation of the IFBS in a sample of Spanish adolescents. Moreover, the results of a study by Wang, Worsley, and Cunningham (2009) demonstrated that Australian female baby boomers' scores on a shortened version of the IFBS were associated with unhealthy food consumption. Given its association with bulimic symptoms and unhealthy eating in different age groups and across cultures, the construct of irrational food beliefs deserves further attention. The present research sought to examine the potential mediating role irrational food beliefs may play in the link between stress, disordered eating, and BMI.

1.1. The link between stress and disordered eating

Greeno and Wing's (1994) seminal review of the literature on stress-induced eating examined the evidence accumulated at that time and concluded that an individual-difference model in humans had the best support. It posited that certain types of individuals may be particularly vulnerable to eating when under stress such as obese people, restrained eaters, and women. They found the best support for a model wherein restrained eating predicted

* Corresponding author at: Department of Psychology, DePaul Hall, Niagara University, NY 14109-2208, United States.
E-mail address: tosberg@niagara.edu (T.M. Osberg).

1471-0153/$ – see front matter © 2011 Elsevier Ltd. All rights reserved.
doi:10.1016/j.eatbeh.2011.09.008

vulnerability to stress-induced eating among women. Since that review, several studies have demonstrated a link between stress and disordered eating (e.g., Crowther, Sanftner, Bonifazi, & Shepherd, 2001; Goldfield, Adamo, Rutherford, & Legg, 2008; Habhab, Sheldon, & Loeb, 2009; O'Connor, Jones, Connor, McMillan, & Ferguson, 2008; Smyth et al., 2007).

1.2. The present study

What are the mechanisms through which stress impacts upon bulimic symptoms and other forms of disordered eating? In the present study, we tested a model wherein stress impacts on bulimic symptoms and body weight both directly, and in part indirectly, by priming cognitions or beliefs related to an irrational view of the role of food in daily living. Hypothesis 1 predicted that stress, as assessed by daily hassles scores, would be directly linked to scores on a measure of bulimic symptoms. Hypothesis 2 entailed the prediction that stress would impact on bulimic symptoms indirectly through its influence on irrational food beliefs, which in turn would impact on bulimic symptoms. Hypotheses 3 and 4 involved the prediction of similar direct and indirect effects of stress through irrational food beliefs on BMI.

2. Method

2.1. Participants

Participants were 356 students (114 men, 239 women; 3 did not indicate gender) enrolled at a northeastern university. Their mean age was 20.54 years ($SD = 3.94$, range 18–43).

2.2. Measures

2.2.1. Daily Hassles Scale (DHS; Kanner, Coyne, Schaefer, & Lazarus, 1981)

The DHS is a 117-item measure that assesses both major and minor stressors experienced in areas such as work, family, friends, money, and health. Because some items are not relevant to college students, the survey was narrowed to 65 items. Participants answered each question using a scale ranging from 0 ("no impact") to 3 ("severe impact"). The Cronbach alpha for the shortened DHS used in this study was .96.

2.2.2. Bulimia Test—Revised (BULIT-R; Thelen, Farmer, Wonderlich, & Smith, 1991)

The BULIT-R is a 36-item measure of bulimia nervosa and includes items such as, "There are times when I rapidly eat a large amount of food" and "I hate the way my body looks after I eat too much." The Cronbach alpha for the BULIT-R obtained in this study was .93.

2.2.3. Irrational Food Beliefs Scale (IFBS; Osberg et al., 2008)

The IFBS (described above) comprised 57 items, 41 of which are contained in the irrational food beliefs subscale. We administered only the irrational food beliefs subscale. The Cronbach alpha for the IFBS was .91.

2.2.4. Demographic variables

Participants also responded to questions pertaining to their age, gender, height and weight.

2.3. Procedure

Participants responded via a secured, online survey containing the measures described above.

3. Results

3.1. Bivariate correlations and descriptive statistics for study variables

The left side of Table 1 displays the bivariate correlations among the study variables. As can be seen, hassles scores were significantly associated with irrational food beliefs ($r = .37$) and bulimic symptoms as assessed by the BULIT-R ($r = .42$, $ps < .01$), but were unrelated to BMI ($r = .11$, $p > .05$). Irrational food beliefs scores were significantly associated with both bulimic symptoms ($r = .40$) and BMI ($r = .20$, $ps < .01$). Bulimic symptoms were significantly associated with BMI ($r = .26$, $p < .01$). The right side of Table 1 provides means and standard deviations for the study variables and comparisons by gender. Men and women did not differ in their endorsement of irrational food beliefs, nor were they significantly different in BMI ($ps > .39$). However, women reported significantly more hassles than men ($p < .05$), and experienced more bulimic symptoms than men ($p < .05$).

3.2. Mediation analysis of the direct and indirect effects of hassles on bulimic symptoms and BMI

In conducting mediation analysis, Preacher and Hayes (2008) recommend a resampling method such as bootstrapping to increase power and decrease Type I error rates. Preacher and Hayes described an SPSS macro they developed that is available online to calculate total, direct, and indirect effects using bootstrapping, which we used in the present analyses.

3.2.1. Direct effects of hassles on bulimic symptoms and BMI

Consistent with Hypothesis 1, hassles had a direct effect on bulimic symptoms, $\beta = .1909$, $SE = .0316$, $t = 6.0397$, $p < .001$. Because of the effects of gender on most of the study variables, we also ran the analyses with gender as a covariate. We adopted this hybrid approach of reporting the analyses for models with and without gender as a covariate because the SPSS macro used in the analyses does not calculate Sobel tests of indirect effects for models involving covariates. When holding gender constant, hassles still had a significant direct effect on bulimic symptoms, $\beta = .1858$, $SE = .0319$, $t = 5.8296$, $p < .001$. The partial effect of gender on bulimic symptoms was not significant ($p > .24$). Concerning BMI, hassles did not have a significant direct effect ($p > .50$). Thus, Hypothesis 3 was not supported. The results were similar when controlling for gender ($p > .38$) and the partial effect of gender on BMI was nonsignificant as well ($p > .12$).

3.2.2. Indirect effects of hassles on bulimic symptoms through irrational food beliefs

Table 2 displays the point estimates, standard errors, Sobel test statistics (Z), p values, and bootstrapped, bias-corrected and accelerated 95% confidence intervals for the indirect effect of irrational food beliefs on bulimic symptoms (upper panel) and on BMI (lower panel). The numbers presented in parentheses represent the statistics derived from the analyses when controlling for gender. As can be seen, significant Sobel tests were obtained for the indirect effect of hassles through irrational food beliefs on both bulimic symptoms and BMI. These findings were consistent with the bootstrapping analyses for which the confidence intervals for these comparisons did not contain zero, an indicator that the contrast is significant at the .05 level. The pattern of findings was not altered when gender was included in the model as a covariate. Thus, Hypotheses 2 and 4 were supported.

4. Discussion

The present study tested a cognitive mediation model of the effects of stress on bulimic symptoms and BMI in a sample of college students. Consistent with the findings of earlier studies examining

Download English Version:

https://daneshyari.com/en/article/906517

Download Persian Version:

https://daneshyari.com/article/906517

Daneshyari.com