Body Image Disturbance and Perfectionism as Predictor's Factors of Disordered Eating Behavior among Female Students

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Abstract

Introduction

The prevalence of disordered eating behaviors has been reported to increase in recent decades; therefore, scientific studies should perform for specifying psychological variables that may contribute to the etiology of this disorder. In this study, we examined the role of body image disturbance and perfectionism variables in predicting disordered eating behaviors among female students.

Methods and Materials

This cross-sectional study was performed in 2014 upon a sample consisting of 464 female students in Allame Tabatabaie University were selected based on a Morgan formula and multi-stage cluster random sampling. Then, participants responded to the questionnaires of body image disturbance of Reas and et al. (2002), perfectionism scale of Besharat (2004) and eating attitudes test of Garner and Garfinkel (1979). The data were analyzed by correlation techniques and stepwise regression.

Results

The results showed that these were internal correlation among body image disturbance and perfectionism and disordered eating behavior. Also, the results of stepwise regression analysis revealed that body image disturbance and perfectionism significantly predicted, respectively, almost 16% and 14% of variances of disordered eating behaviors among female students.

Conclusion

According to the findings of the present study, body image disturbance and perfectionism can predict disordered eating behaviors. Therefore, considering these variables can be important to prevent the development of eating-related diseases and to promote students' health.

Key Words: Body image disturbance, Disordered eating behavior, Perfectionism, Students.

Introduction

Disordered eating (DE) comprises a wide range of abnormal eating behaviors with different severity that involve of fear of fatness, unhealthy weight control behaviors and preoccupation thinking about food; Eating disorders are ranked at the extreme end of disordered eating spectrum and these unhealthy behaviors do not warrant meeting the diagnostic criteria for eating disorders (1). Almost 44 percent of adolescent girls exhibit some eating pathology, and the prevalence of binge eating behaviors in college women is almost 16–25% (2). In the college population, almost half of female students report being eating, self induced vomiting, laxative/diuretic use, fasting, or excessive exercise to compensate for food consumption or avoid weight gain at least weekly (3) and a significant percentage of male students also report Eating disorder (ED) symptoms (4). College students in particular appear to be at risk, due to a variety of individual (e.g., body image) and environmental (e.g., peers who engage in or promote unhealthy eating habits) elements (5). The recognition of risk elements that specifically relate to the development of eating disorders has been a focus of recent studies (6). However, the elements related to eating disorders among students are poorly understood and studies are required to identify a suitable theoretical framework for their disordered eating. Disturbance of body image is diagnosed to be a key factor and often persistent symptom in eating disorders (7). Body image disturbance is a multidimensional concept, which includes several psychopathological dimensions, such as overestimation of body size or body parts, body dissatisfaction, overvaluation of weight and shape for self-esteem, body weight control and body checking behaviors, denial of outcomes of weight loss, and extreme reward experience when weight loss is obtained (8). Although body image disturbance is prevalent and important from a prognostic perspective, little studies were performed about its relationship with disordered eating behavior (9). Body image disturbance recognized as one of the most robust risk and maintenance elements for disordered eating behavior among female (10). Body image disturbance predicts a various range of negative consequences including depressive symptoms, low self-esteem and negative emotions, dieting and eating pathology, weight gain, and reduced physical activity and fruit and vegetable intake (11). One of the issues investigated in the present study is the examination of the relationship between body image disturbance and the disordered eating behavior.

Also, perfectionism variable is a complex personality construct that recognized by the setting of high performance standards and striving for flawlessness, accompanied by tendencies to ultra critical evaluations of one's own behaviors and negative cognitions involving a chronic sense that things are not "complete and correct" (12, 13). One approach to the multidimensional construct of perfectionism includes considering both its personal and social dimensions. Self-oriented perfectionism dimension (SOP; having excessively high personal standards and being motivated to attain them) and Socially prescribed perfectionism dimension (SPP; believing that others hold excessively high standards for one) (14). Perfectionism is widely recognized element in the development and maintenance of disordered eating behaviors (15). However, to our knowledge few studies were performed about the relationship between the perfectionism and disordered eating behavior in college students and this sort of research is very important because in this population disordered eating behavior

is prevalent and where prevention/ intervention efforts are needed so serious.

In attention to above materials and prior research has been accomplished on the Iranian population and reflects the high prevalence of disordered eating behavior in Iran, the aim of current research was to systematically investigate the role of body image disturbance and perfectionism variables in predicting disordered eating behaviors among female students.

Methods and Materials

This descriptive study on 464 female students was administrated from January to February 2014 in Allame Tabatabaie University, Tehran the capital of Iran. The sample was selected based on a Morgan formula and multi-stage cluster random sampling. Initially, five faculties were selected from the schools of Allameh Tabatabai University and then, 100 students from each school that is from each class 25 students were selected randomly. The inclusion criteria of the study were the desire of the student to participating in this study and studying in the university. The exclusion criteria of the study were the unwillingness of the student to participate in research and lack of studying in university at the time of this study. Informed consent was obtained from each participant and was approved the research by the appropriately Constituted Ethics Committees at Allame Tabatabaie University. After the selection of participants based on inclusion and exclusion criteria, they were responded the questionnaires of the current research.

Measurements

Validated instruments were used for data collection on body image disturbance, perfectionism and disordered eating behaviors. At first, all questionnaires were translated from English into persian and independently back-translated into English by a second translator. The few discrepancies between the original English and the back-translated version resulted in adjustment in the Persian translation based on direct discussion between the translators. At next step, psychometric characteristics of instruments were examined. Linguistic validation was performed by three experts of psychology department and five experts of health departments. Thus, the questionnaires were piloted and finalized with an advisory group of students to ensure that the scales items were comprehensible and appropriate to the context. Moreover, conceptual analysis was confirmed the content validity of all instrument. The questionnaires were distributed to participants with the help of researchers. Participants were assured of confidentiality and informed consent in written format was acquired from each them. The following questionnaires were used:

1) Body Image Disturbance Questionnaire: a 23-item self-report questionnaire, with appropriate validity and reliability, measure the body image disturbance. This scale was made and validated by Reas and et al. (16). High scores in this questionnaire related with the more intense of "body dissatisfaction", "fear of obesity", "avoidance behaviors of body image" and "eating disorders". It is based on 5-degree Likert scale from 1 (never) to 5 (very often). In this scale, the maximum score is 115 and the minimum is 23. In Iran, this tool for the first time was used by Azimzade and et al. (17) and was translated into Persian and validated on the student population. In their research, the reliability of this scale was reported by Cronbach's alpha 0.94.

Also, the results of this study about the validity of the scale supported the high validity of the scale. The overall score of this had a good correlations with "body form questionnaire" (r=0.86). Evidence of reliability of this scale, as administered to Iranian relevant populations, in this

research, by Alpha Coefficient is 0.87 and by Split-half is 0.84. The validity coefficients of questions are between 0.22 and 0.89 that all the validity coefficients are significant at p=0.000.

2) Tehran Multidimensional Perfectionism Scale (TMPS; Besharat (18)). An original pool of 30 items is validated for the purpose of measuring perfectionism in Iranian population (18).

Items consisted of statements that had previously proved in terms of assessing of the perfectionism. The three dimensions of the scale are:

Self-oriented perfectionism, other-oriented perfectionism, and community- oriented Perfectionism. Each sub-scale has 10 questions which are based on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Each subject in each of the sub-scales will get grades 10 to 50. The reliability of the scale by the Besharat (18) for perfectionism and its' subscales calculated using Cronbach's alpha for the self-oriented perfectionism 0.92, other-oriented perfectionism 0.87 and community-oriented perfectionism 0.84. In the present study, reliability coefficient was calculated by Cronbach's alpha of 0.78.

3) Eating Attitudes Test-26 (EAT-26) (19): The EAT-26 of Garner and Garfinkel (19) is 26-item scale, widely used, standardized, and self-reported scale to identify abnormal eating attitudes. To complete the EAT-26, participants rate their responses on a 6- point scale (always, usually, often, sometimes, rarely, or never).

The scale is divided into three subscales: Dieting (13 items), Bulimia and Food Preoccupation (six items), and Oral Control (seven items). The higher the final score, the more the individual is preoccupied by food consumption. A score of 20 or more considered as disordered eating attitudes (19). Primarily, EAT-26 was translated into Persian by help of psychologists and health experts, then was given 10 students and rewritten according to students comments on unclear questions.

The validity and reliability of this scale was assessed in a pilot study. Test-retest coefficient for the EAT-26 was 0.80. The scale's Cronbach's α (alpha) was 0.76. The Score 20 or higher in this scale defined as disordered eating attitudes (19). Internal consistencies (Cronbach's α) in this study in Iran were 0.84, which was good for this scale.

The Statistical Package for the Social Sciences (SPSS) version 15 was used to analyze the data. Also, descriptive statistics was used to summarize and organize the data, and were analyzed by stepwise regression analysis.

Results

Mean, standard deviation and internal correlations of variables under study are presented in (Table. 1). As can be seen, there were significant relationships among body image disturbance, perfectionism and disordered eating behaviors (p<0.01).

Table 1: Mean, Error Standard and internal collections of variables

Variables			Correlations		
	$\bar{X}$	SD	1	2	3
1. body image disturbance	55.61	9.67	1		
2.perfectionism	41.16	8.61	0.27**	1	
3.disordered eating behavior	27.61	5.67	0.46**	0.45**	1

As can be seen, there were significant relationships among body image disturbance, perfectionism and disordered eating behaviors (p<0.01).

To assess the predictive power of disordered eating behaviors by body image disturbance and perfectionism variables were used of the stepwise regression analysis. The results of model summary are presented in (Table. 2).

Table 2: Summary of regression analysis model

Variable	R	R^2	ΔR^2	ΔF^2	Sig.
Step 1: body image disturbance	0.46	0.21	0.21	91.78	.000
Step 2: body image disturbance and perfectionism	0.57	0.32	0.11	55.60	.000

The results of regression model for explaining disordered eating behaviors based on body image disturbance and perfectionism indicated that F-statistic for both models is significant in p<0.001.

Therefore, there was the explanation possible of disordered eating behaviors based on both variables. In (Table.3), the regression coefficients of stepwise regression analysis are presented.

Table 3: Summary of stepwise regression analysis to predict disordered eating behaviors based on body image disturbance and perfectionism

Variable	β	B	SE B	t	R^2	Sig.
body image disturbance	0.37	0.43	0.05	7.91	0.16	.000
perfectionism	0.34	0.32	0.04	7.46	0.14	.000

As can be seen, body image disturbance with β=0.37 can significantly predict almost %16 of the variance of disordered eating behaviors. Also, perfectionism variable with β=0.34 can significantly predict almost %14 of the variance of disordered eating behaviors.

Discussion

The result of the current research showed there body image disturbance variable significantly predicted disordered eating behavior among female students. The result is consistent with the findings of the previous studies (20-23) and can be interpreted on the basis of the following possibilities:

Studies evidence indicates that there was the current societal standard of attractiveness for women is a thin ideal body. This ideal is so prevalent that body image concerns and dieting behaviors are widespread among both adolescent and young adult females. Socio-cultural perspectives propose that social ideals for body weight and shape emphasize a thin-ideal body. For example, Tripartite Influence Model which integrates a number of theoretical perspectives on body image disturbance and disordered eating behavior, family members, peers and the media are important predictors to the development of body image disturbance, with their influence being mediated by the mechanisms of social comparison and internalization of the thin-ideal (21). Subsequently, body image disturbance directly affect the disordered eating behaviors of dietary restraint and bulimic behaviors. When utilized to examine familial influences, the Tripartite Influence Model provides a helpful theoretical framework to understanding the development of body image disturbance and disordered eating within young females (22). The body image disturbance is an "essential precursor" to eating disorders (23). Disordered eating includes

a wide variation of disordered eating behaviors with different severity and eating disorders ranking at the extreme end of it. Fear of fatness, unhealthy weight control behaviors and preoccupation thinking about food is samples of disordered eating (1). The previous studies showed body image disturbance to remain considerably stable across the adult women lifespan and commonly reported among younger females associated with dieting and disordered eating behaviors (24, 25).

Also, the current research results showed perfectionism variable significantly predicted disordered eating behavior among female students. The result is consistent with the findings of the previous studies (26-29) and can be interpreted on the basis of the following possibilities:

Perfectionism has been identified as both a risk element and a maintaining variable for disordered eating behavior. In a prior study, participants with severe anorexia nervosa who scored highly on perfectionism at pretest has poorer prognosis, as indicated by assessments 5–10 years later (26). The previous studies indicated that perfectionism increases and maintains eating disorder pathology, and is significantly elevated in anorexia nervosa, bulimia nervosa and eating disorder not otherwise specified compared to controls. The study results suggests that all dimensions of perfectionism are related to eating pathology, including those generally seen as consisting of 'positive achievement striving' such as self-oriented perfectionism (27). According to cognitive–behavioral perspective of the development and maintenance of disordered eating behavior, over-evaluation of eating, weight, and body shape interacts with perfectionist standards for achievement and self-control to drive the development and maintenance of disordered eating behavior (28). In therapy of "clinical perfectionism" that use of standard cognitive–behavioral therapy for eating disorders, addressed this dysfunctional scheme for self-evaluation (29).

In summary, the results of this study showed that body image disturbance and perfectionism significantly predicted disordered eating behavior. The cross-sectional nature of our data precludes making causal influences; however, the present study promotes the understanding of the role of body image disturbance and perfectionism in disordered eating behavior. These findings open the door for future studies on these variables in eating disorder that may also prove helpful from an intervention perspective in patient with eating disorder. The future studies should explore the role of body image disturbance and perfectionism in a clinical population with eating disorders to further investigation how they recognize and using emotions and cognition(30-32).

This study is an exploratory one, and consequently has a number of limitations that need to be addressed in further studies. The present study needs to be replicated in different populations and needs more empirical support. Till then, the findings of the study should be interpreted with caution. Further, the cross-sectional design of the study and participants (i.e., a group of university students) exert some limitations on the generalization of the findings. Finally, the problems and limitations on the use of self-repotting instruments should not be overlooked.

Conflict of interests: None

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