

## ORIGINAL

# Traits of irrational beliefs related to eating problems in Japanese college women

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**Abstract :** This study focused on the relation of irrational beliefs and Body Mass Index (BMI) to inappropriate eating attitudes in Japanese college women. A total of 110 nonclinical subjects completed the Japanese Irrational Belief Test (JIBT) and the Japanese version of the Eating Attitudes Test (EAT). The JIBT subscale of 'self expectation' had significant positive correlations with the EAT total score and the subscales of 'obsession with eating', 'dieting' and 'obese-phobia'. The JIBT subscale of 'dependence' had a significant positive correlation with the EAT subscale of 'obsession with eating'. BMI score showed significant positive correlations with the EAT total score and the subscales of 'dieting' and 'obese-phobia'. The present results suggest that characteristic irrational beliefs are associated with inappropriate eating attitudes, suggesting that clarifying and then modifying the irrationality may be a useful method of preventive intervention in nonclinical young women with eating problems. *J. Med. Invest.* 49 : 51-55, 2002

**Keywords :** *cognitive behavior therapy, irrational belief, BMI, eating problem, college women*

## INTRODUCTION

Most women pay attention to their body weight, shape and eating habits. Dieting is extremely common and there has been a recent proliferation in the number of slimming articles in women's magazines (1, 2). The desire to be slim may stem from several kinds of motivations. It may be intended to improve physical health, or may be a reaction to the social stigma attached to being overweight, or may reflect a desire to conform to the contemporary cultural preference for extreme slimness (2). Under these circumstances, eating problems have become a

common condition. A large number of women with inappropriate eating attitudes visit clinicians for helpful advice, although some are left untreated (3).

Cognitive behavior therapy, one of the widely practiced forms of psychotherapy, has gradually become the most effective method of intervention for eating disorder in the past two decades. Of the several cognitive behavioral approaches, rational emotive behavior therapy was first constructed by Ellis in the 1950s (4). The theory is based on the A-B-C model of psychological disturbance and therapy where "A" is some activating stressful life event such as frustration, failure or rejection, "B" refers to irrational beliefs, and "C" refers to the psychological and behavioral consequences of the irrational beliefs. This theory assumes that maladaptive behaviors are caused by irrational beliefs, and in the therapeutic sessions, clients are assisted to recognize their usually unconscious irrational beliefs producing maladaptive

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behaviors and negative affects and to become able to modify their irrationality. This therapy has been applied to the treatment of several mental disorders (5, 6). Moreover, in the past decade, it has been frequently utilized for stress management in nonclinical populations (7).

Although many studies have been concerned with eating problems in nonclinical populations (8-11), a few have referred to the relation between irrational beliefs and eating problems (12). The purpose of the present study was to investigate the possible relation between the traits of irrational beliefs and inappropriate eating attitudes in nonclinical women.

## SUBJECTS AND METHODS

The subjects were 110 Japanese college women aged 19 to 24 years (mean age=19.5 years, SD=1.0 year), who gave informed consent to participate in this study. They were asked to fulfill two self-report type measures of the Japanese Irrational Belief Test (JIBT) (13) and the Japanese version of the Eating Attitudes Test (EAT) (14, 15). Referring to a guide book (16), JIBT was constructed as a means to aid the clinical research on rational emotive behavior therapy in Japan. The five-point scale questionnaire consists of seven subscales of 10 items each, and has adequate reliability and validity (13). These subscales measure the testee's beliefs on 'self expectation', 'problem avoidance', 'ethical blame', 'helplessness over inside', 'dependence', 'cooperativism' and 'helplessness over outside'. The Japanese version of the EAT consisting of 40 items was constructed to measure the tendency to eating disorders, using six-point scales, and the reliability and validity of it have been

Table 1. Demographic characteristics of subjects and scores on psychological measures (N=110)

	Mean	S.D.
Age (years)	19.5	1.0
BMI (kg)	20.6	1.9
EAT total score (40-240)	85.7	18.3
EAT subscales score		
Obsession with eating (8-48)	12.2	4.7
Dieting (8-48)	15.5	6.0
Obese-phobia (4-24)	12.5	5.1
JIBT subscales score		
Self expectation (10-50)	21.7	7.2
Problem avoidance (10-50)	26.1	6.1
Ethical blame (10-50)	33.9	5.2
Helplessness over inside (10-50)	36.3	4.3
Dependence (10-50)	32.2	5.4
Cooperativism (10-50)	33.3	5.2
Helplessness over outside (10-50)	25.0	5.8

BMI = Body Mass Index, EAT = Eating Attitudes Test, JIBT = Japanese Irrational Belief Test.

verified (15). This test has three subscales of 'obsession with eating', 'dieting' and 'obese-phobia'.

The demographic characteristics of subjects and scores on the psychological measures are presented in Table 1. The correlations among the scores on Body Mass Index (BMI), the JIBT and the EAT were assessed by the Spearman rank-correlation coefficient.

## RESULTS

The relation among BMI, irrational beliefs and eating attitudes are shown in Table 2. BMI score showed significant positive correlations with the

Table 2. Coefficients by Spearman rank correlations of BMI and JIBT subscales with EAT total and subscales score

	EAT total score	Obsession with eating	Dieting	Obese-phobia
BMI	0.253**	0.084	0.326**	0.352**
JIBT subscales				
Self expectation	0.376**	0.364**	0.404**	0.223*
Problem avoidance	0.018	-0.028	-0.026	-0.030
Ethical blame	0.101	0.103	0.032	0.098
Helplessness over inside	0.173	0.136	-0.011	0.182
Dependence	0.078	0.201*	0.021	-0.004
Cooperativism	0.024	0.025	0.083	-0.017
Helplessness over outside	0.078	0.169	0.034	-0.063

BMI = Body Mass Index, JIBT = Japanese Irrational Belief Test, EAT = Eating Attitudes Test, \* =  $p < 0.05$ , \*\* =  $p < 0.001$ .

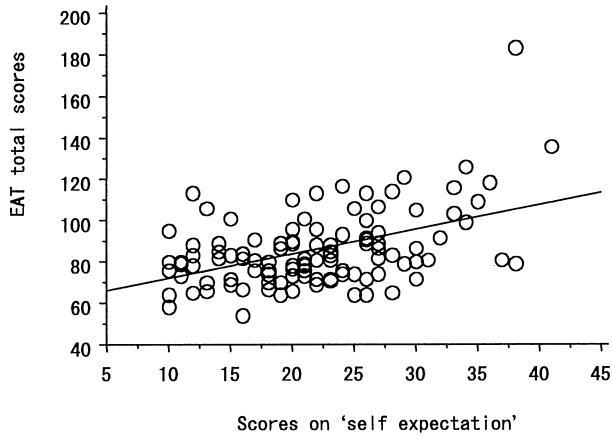


Fig. 1. The relation between the scores on the Japanese Irrational Belief Test (JIBT) subscale of 'self expectation' and Eating Attitudes Test (EAT) total scores. There was a significant positive correlation between scores on 'self expectation' and EAT total scores (Spearman's  $\rho=0.376$ ,  $p<0.001$ ).

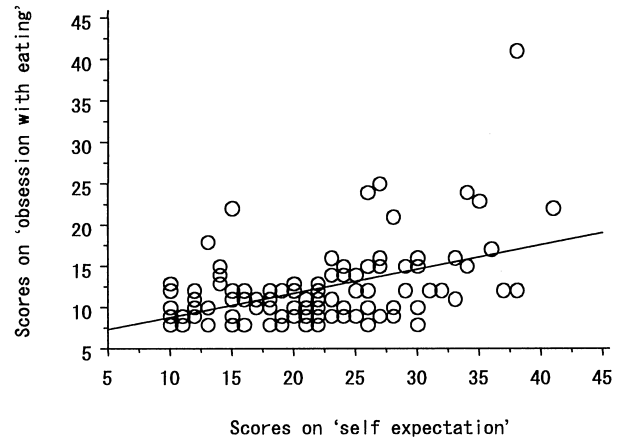


Fig. 2. The relation between the scores on the JIBT subscale of 'self expectation' and EAT subscale 'obsession with eating.' There was a significant positive correlation between the scores on 'self expectation' and 'obsession with eating' (Spearman's  $\rho=0.364$ ,  $p<0.001$ ).

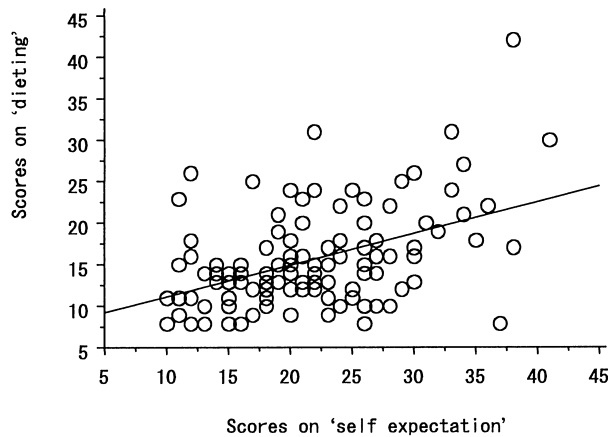


Fig. 3. The relation between the scores on the JIBT subscale 'self expectation' and EAT subscale 'dieting.' There was a significant positive correlation between the scores on 'self expectation' and 'dieting' (Spearman's  $\rho=0.404$ ,  $p<0.001$ ).

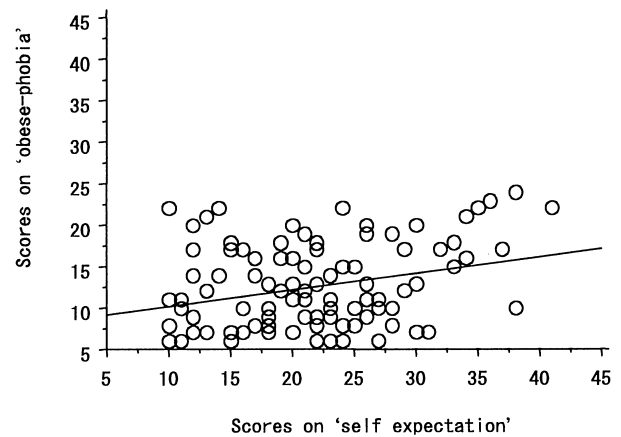


Fig.4. The relation between the scores on the JIBT subscale of 'self expectation' and EAT subscale of 'obese-phobia.' There was a significant positive correlation between the scores on 'self expectation' and 'obese-phobia' (Spearman's  $\rho=0.223$ ,  $p<0.05$ ).

EAT total score (Spearman's  $\rho=0.253$ ,  $p<0.001$ ) and the subscales of 'dieting' (Spearman's  $\rho=0.326$ ,  $p<0.001$ ) and 'obese-phobia' (Spearman's  $\rho=0.352$ ,  $p<0.001$ ). Fig.1 shows the relation between the scores on the JIBT subscale of 'self expectation' and the EAT total scores. There was a positive correlation between the JIBT subscale of 'self expectation' and the EAT total score (Spearman's  $\rho=0.376$ ,  $p<0.001$ ). Fig.2, Fig.3 and Fig.4 show the relation between the scores on the JIBT subscale of 'self expectation' and the EAT subscales of 'obsession with eating', 'dieting' and 'obese-phobia', respectively. The JIBT subscale of 'self expectation' was also positively correlated with the EAT subscales of 'obsession with eating' (Spearman's  $\rho=0.364$ ,  $p<0.001$ ), 'dieting' (Spearman's  $\rho=0.404$ ,  $p<0.001$ ) and 'obese-phobia'

(Spearman's  $\rho=0.223$ ,  $p<0.05$ ). Moreover, a positive correlation was found between the JIBT subscale of 'dependence' and the EAT subscale of 'obsession with eating' (Spearman's  $\rho=0.201$ ,  $p<0.05$ ).

## DISCUSSION

Previous studies of nonclinical young women have yielded a prevalence of eating disorders of 0.2-2.0% (8, 17, 18). Many postulated risk factors for developing eating disorders have been examined and those factors specifically associated with abnormal eating attitudes were identified as past amenorrhoea, past or current overweight, parental concern with eating, and stress in social life and school (19). Above all,

numerous studies have suggested that dieting, or restrained eating, is one of the major contributing factors (20). From the therapeutic point of view, the observation that early intervention resulted in good outcome suggests that the investigation of subclinical cases may have important therapeutic implications (21, 22). A number of studies have commented on the occurrence of subclinical cases who, while not fulfilling strict diagnostic criteria, present serious eating problems (3). These subclinical cases were repeatedly shown to produce high EAT scores (3, 23, 24). The subjects who scored high on the EAT were, therefore, considered to have a high risk for eating disorder. As for the age when abnormal eating attitudes develop, Nylander (25) reported that the feeling of being fat and dieting begin to increase at the ages of 14 to 18 years. Therefore, college women were thought to be suitable for research on eating problems.

For the relationship between BMI and eating attitudes, the BMI score showed significant positive correlations with the EAT total score and the subscales of 'dieting' and 'obese-phobia' in the present study. These findings show that BMI is an important factor associated with eating problems even in nonclinical young women. For the relation among weight-fitness, inappropriate eating behavior and cognitive responses in a nonclinical population, Kamimura and Sakano (12) reported that inappropriate eating behavior was associated with negative beliefs, high public self-consciousness and difficulty in assertive behavior, and extraordinary weight-gain/-loss women have obsessive attitudes on eating. In the present study, it was newly found that some irrational beliefs had a strong correlation with inappropriate eating attitudes. In particular, the JIBT subscale of 'self expectation' had significant positive correlations with the EAT total score and the EAT subscales of 'obsession with eating', 'dieting' and 'obese-phobia'. The belief of 'self expectation' shows higher expectations for one's own behavior and ability (13). For example, such beliefs are ; "I must be free from faults", "I must always do remarkable things", "I must always raise my achievements", "I must be capable in all points", "I must perfectly accomplish all things". These findings clearly suggest that characteristic irrational beliefs, especially the belief of 'self expectation', are associated with eating problems. It is suggested that individuals with such irrational beliefs tend to be in stressful situations.

## CONCLUSIONS

The present findings provided evidence that characteristic irrational beliefs are related to inappropriate eating attitudes. It is suggested that clarifying and modifying the irrational beliefs might be a part of a preventive intervention.

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