Validation of the Korean Version of the Eating Disorder Inventory-2: Psychometric Properties and Cross-Cultural Comparison

Jung-Hyun Lee,[1,2] Mi-Yeon Shin,[2] Hye-Hyeon Jo,[1,3] Young-Chul Jung,[1,4] Joon-Ki Kim,[2] and Kyung Ran Kim[1,4]

[1]Institute of Behavioral Science in Medicine, Yonsei University College of Medicine, Gwangju;
[2]Mind & Mind Eating Disorder Clinic, Seoul; [3]Severance Mental Health Hospital, Gwangju;
[4]Department of Psychiatry, Yonsei University College of Medicine, Seoul, Korea.

Purpose: The purpose of the present study was to examine the validity and reliability of the Korean version of the Eating Disorder Inventory-2 (EDI-2) in Korean patients with eating disorders and healthy controls, and to investigate cultural differences of EDI-2 between a Korean group and a North American standardization sample. **Materials and Methods:** The Korean version of the EDI-2 was prepared after comprehensive clinical assessment of Korean patients with eating disorders (n=327) as well as female undergraduates (n=176). Results were compared between eating disorder subgroups (anorexia nervosa, bulimia nervosa and eating disorders not otherwise specified) and those of a North American standardization sample and healthy controls. **Results:** The results showed that the Korean EDI-2 had adequate internal consistency (0.77-0.93) and discriminated well between patients with eating disorders and healthy controls on all subscales. Significant differences in EDI-2 subscale scores between the eating disorder groups and the healthy control group were observed; however, there was no discernible difference among the eating disorder subgroups. When compared with a North American standardization sample, the Korean control group showed significantly higher scores for drive for thinness and asceticism. When patient groups were compared, the Korean group showed significantly lower scores for perfectionism. **Conclusion:** As expected, the results accurately reflected psychometric properties of the Korean version of EDI-2 for eating disorder patients in Korea. These findings also suggest that common characteristics for the eating disorder exist as a whole rather than with significant difference between each subgroup. In addition, significant differences between the Korean and the North American groups for both patients and controls also demonstrated specific cultural differences.

Key Words: Cross-cultural comparison, Eating Disorder Inventory, EDI-2, factor analysis, validation

INTRODUCTION

With emerging socio-cultural tendency of the modern Western society to empha-

size a woman's appearance and to value thinness as ideal beauty, the perspective on what beauty is has changed. Some aspects of Western culture have been thought to play an important role in the nature of eating disorders, and the adoption of Western values has been clearly associated with the prevalence of eating disorders in non-Western cultures,[1,2] including China, Hong Kong, Japan,[1,3] as well as Korea. Despite several explanations suggesting that eating disorders are becoming more prevalent throughout social classes and cultures,[2,4] cross-cultural comparisons are simply not sufficient. Lower scores for perfectionism were reported for Swedish[5] and Japanese subjects, comparing with the healthy samples of North America.[6] With recent increase in eating disorders in Asia, studies to investigate the characteristics of eating disorder patients, based on Eating Disorder Inventory-2 (EDI-2), have been done in Asian countries including Hong Kong and Japan.[7,8] In these studies, comparison with a North American standardization sample group showed significant differences in a number of EDI-2 subscales; therefore, they concluded the presence of cultural differences between the West and East therein.

For understanding the psychological characteristics and psychopathology of eating disorders and for providing appropriate management thereof based on such understanding, effective tools for evaluating symptoms provide useful information. The EDI-2[6] is one of the most widely used measures of eating disorder pathology. EDI-2 was developed to measure behavior and attitude related to anorexia nervosa and bulimia nervosa, and is made up of 91 items on a 6 point scale. These items are grouped into 11 subscales, with eight original subscales consisting of drive for thinness, bulimia, body dissatisfaction, ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, and maturity fear, and three subscales of asceticism, impulse regulation, and social insecurity newly added. EDI-2 has been translated into many languages and data have been collected from various European countries. However, the dimension and factor structure of the EDI-2 were not presented in the original Professional Manual.[6]

Despite rapid increase in the prevalence of eating disorders in Korea, there is a lack of studies concerning the validation of assessment instruments for understanding psychological characteristics and clinical presentations of eating disorders as well as a lack of descriptive data with cross-cultural comparison. To date, a few studies have so far been carried out in Korea to explain psychological characteristics of eating disorder patients. In one study,[9] the subjects were divided into non-eating disorder groups (low restriction group, high restriction group, and overweight group) and a eating disorder group, and patients with an eating disorder were shown to have significantly higher scores than the other three non-eating disorder groups, in the subscales of bulimia, perfectionism, interpersonal distrust, interoceptive awareness, asceticism, impulse regulation, and social insecurity. However, because these researchers used only a small number of subjects, the study was limited in explaining psychological characteristics of the Korean eating disorder group.

The aim of the current study was to examine psychometric properties of the Korean version of EDI-2 and compare EDI-2 subscores with an adequate number of subjects, by investigating psychological characteristics of patients with eating disorders as well as subgroups thereof including anorexia nervosa (AN), bulimia nervosa (BN), and other eating disorders not otherwise specified (EDNOS). In addition, we assessed potential cultural differences by comparing a North American standardization sample group and Korean patients with eating disorder, in the hope that the resulting data could provide tentative answers regarding the role of culture in eating disorders.

MATERIALS AND METHODS

Participants

From 2003 to 2007, 327 consecutive female outpatients who sought treatment for their eating disorder at the Mind & Mind Eating Disorder Clinic and the Severance Mental Health Hospital were recruited. All patients who satisfied the DSM-IV criteria for eating disorders were included. To avoid excessively strict diagnostic criteria, we allocated several patients in the eating disorder into category otherwise not specified. Potential participants were excluded if they had significant medical illness, pregnantly substance dependence within the past 6 months, psychosis, or a risk of suicide.

If subjects met the above criteria for an eating disorder, they were recruited in a self-report study utilizing the EDI-2. The eating disorder group comprised the restricting type (R) (n=5) and the binge eating/purging type (B/P) (n=70) from the AN group; the purging type (P) (n=141) and the non-purging type (NP) (n=24) from the BN group; and the eating disorders of NOS (EDNOS) group (n=87). The control group comprised 176 female undergraduate students. Potential control subjects, recruited by an advertisement,

were screened with a diagnostic interview to ensure that they did not meet the criteria for any Axis I disorders or had any history of eating behavior problems. All participants completed the EDI-2, and sociodemographic information, and informed consent was obtained before data collection. The North American EDI-2 standardization sample was taken from Garner's 1991 study. Patient sample groups were assembled from consecutive eating disorder referrals at the Toronto General Hospital and from Michigan eating disorders program. The control group consisted of 205 female college students attending Michigan State University.[6] This study was approved by the Institutional Review Board of the Severance Mental Health Hospital.

Instrument

EDI-2 was developed by Garner, et al.[6] to measure the behaviors and attitudes related to anorexia nervosa and bulimia nervosa. It comprises 91 items, and three subscales measuring eating behavior and specific mental pathology (drive for thinness, bulimia, and body dissatisfaction), and eight subscales assessing general psychopathology (ineffectiveness, perfectionism, interpersonal distrust, interoceptive awareness, maturity fear, asceticism, impulse regulation, and social insecurity). Responses are scored on a 6-point Likert scale and recoded into a 4-point scale, with a "0" assigned to the three least symptomatic responses and a "3" assigned the most symptomatic responses. The Cronbach α (alpha) reliability index for the recorded 11 subscales were as follows: drive for thinness 0.63; bulimia 0.87; body dissatisfaction 0.88; ineffectiveness 0.91; perfectionism 0.46; interpersonal distrust 0.57; interoceptive awareness 0.86; maturity fears 0.75; asceticism 0.57; impulse regulation 0.77; and social insecurity 0.81. The Cronbach α reliability index for the entire score was 0.95.

Statistical analysis

Data for patients and control group were expressed as mean and standard deviations. Chi-square tests or one-way analysis of variance were used to compare EDI-2 subscales between groups. Tukey's post hoc test was used to examine pairwise differences, and significance level was set at $p < 0.05$. To investigate construct validity, maximum likelihood factor analysis with Varimax rotation was applied.[10] Significant loadings were supposed to exceed 0.3. In cases of cross loading, the item was classified according to the highest loading. Items with poor communality (0.3) and low contribution were omitted from factor analysis. Internal consistency was

calculated by Cronbach's α.

RESULTS

Descriptions of the participants

Age between the eating disorder group (M=23.63, SD= 4.95) and the control group (M=20.68, SD=1.84) was found to be significantly different [t (497)=7.64, $p < 0.0001$]. Although there was no significant difference in body mass index between the eating disorder group and the control group, body weight change (highest weight-lowest weight) showed a statistically significant difference between the two [t (492)= 13.04, $p < 0.0001$].

Comparison of EDI-2 scores between Korean patients with eating disorders

The comparison of EDI-2 results for each eating disorder group is presented in Table 1. In comparison with the control group, drive for thinness for the pathology related to eating behavior showed a significant difference (t=12.90, $p < 0.0001$). For general psychopathology, ineffectiveness (t=14.06, $p < 0.0001$), interpersonal distrust (t=8.75, $p < 0.0001$), interoceptive awareness (t=16.44, $p < 0.0001$), maturity fear (t=7.90, $p < 0.0001$), asceticism (t=10.81, $p < 0.0001$), impulse regulation (t=8.52, $p < 0.0001$), and social insecurity (t=9.08, $p < 0.0001$) showed statistically significant differences from the control group.

In terms of eating behavior-related pathology, bulimia (the subscale of EDI-2) showed statistically significant high scores in the anorexia nervosa binge eating/purging type group and the bulimia nervosa purging group, compared to the other groups (F=106.25, $p < 0.0001$), while the bulimia nervosa group showed a significantly high score for body dissatisfaction compared to the other groups (F=7.24, $p < 0.0001$).

Factorial validity

Confirmative factor analysis was conducted to test the adequacy of fit of the original eleven-factor model to EDI-2 items. Results accounted for 51.42% of the total variance, but no meaningful interpretation could be given to the weakest factors. Fourteen items had low communality (items 20, 29, 33, 35, 43, 62, 63, 66, 68, 73, 78, 81, 86, 88). We performed a new analysis after these 14 items were excluded. The best structure was achieved in a five-factor solution, explaining 42.44% of the total variance. These factors were self-esteem (α=0.93), bulimia (α=0.95), emotional intelli-

Table 1. Comparisons of EDI Subscales Across Korean Diagnostic Groups (M and SD)

EDI-2 scales	AN-B/P (n=70)	BN-P (n=141)	BN-NP (n=24)	NOS (n=85)	Control (n=176)
Drive for thinness	13.99 (5.99)*	15.35 (4.55)*	16.04 (4.65)*	15.12 (5.03)*	7.13 (5.74)†
Bulimia	13.76 (4.88)*,†,‡	14.74 (4.73)*	12.50 (5.63)*,†,‡	11.91 (5.68)†	2.99 (3.84)‡
Body dissatisfaction	12.97 (6.39)*	16.26 (6.24)†,‡	20.00 (5.01)*	14.56 (6.74)‡	12.18 (7.77)*
Ineffectiveness	14.49 (8.02)*	13.18 (7.61)*	14.58 (8.08)*	13.21 (8.27)*	4.09 (4.79)†
Perfectionism	7.07 (4.48)*,†	7.66 (4.14)*	7.46 (4.10)*,†	7.86 (4.12)*	5.95 (3.93)†
Interpersonal distrust	6.09 (5.10)*	6.62 (4.62)*	6.83 (4.39)*	6.04 (4.84)*	2.61 (3.18)†
Interoceptive awareness	15.39 (7.90)*	15.38 (6.81)*	16.42 (5.91)*	15.12 (7.31)*	4.69 (5.33)†
Maturity fears	9.36 (5.49)*	9.67 (5.58)*	8.83 (5.63)*	9.21 (5.47)*	5.57 (4.11)†
Asceticism	8.59 (3.79)*	8.48 (4.11)*	9.29 (4.49)*	8.14 (4.30)*	4.89 (2.67)†
Impulse regulation	8.61 (5.87)*	8.84 (6.28)*	10.58 (5.74)*	8.13 (6.13)*	3.80 (4.30)†
Social insecurity	9.31 (5.39)*	9.13 (5.20)*	11.33 (4.77)*	9.39 (5.87)*	4.81 (4.21)†

EDI-2, Eating Disorder Inventory-2; AN-B/P, anorexia nervosa binge eating purging type; BN-P, bulimia nervosa purging type; BN-NP, bulimia nervosa non-purging type; NOS, eating disorder not otherwise specified; SD, standard deviation; M, mean.
Significant differences between diagnostic groups are indicated by superscript characters.
Each superscript character indicates significant differences between group based on Tukey comparisons with $p<0.05$.
*$p>0.05$.
†$p<0.05$.
‡$p<0.0001$.

Table 2. Internal Consistencies (Cronbach' α), Discriminant Validity and Factor Loadings of EDI-2

Factor	α		n	M	SD	t	p value
Self-esteem	0.93	ED	195	68.28	20.44	12.20	0.000
		NC	176	43.80	17.97		
Bulimia	0.95	ED	195	59.65	14.60	21.16	0.000
		NC	176	26.52	15.56		
Emotional intelligence	0.87	ED	195	51.67	16.19	10.77	0.000
		NC	176	34.02	15.25		
Preoccupation of weight and body shape	0.89	ED	195	35.16	12.19	3.58	0.061
		NC	176	30.77	11.39		
Maturity fear	0.77	ED	195	18.39	8.26	4.61	0.000
		NC	176	14.90	6.24		

ED, eating disorder; NC, normal control; EDI-2, Eating Disorder Inventory-2; SD, standard deviation; M, mean.
Self-esteem (items: 50, 89, 30, 73, 37, 80, 23, 84, 10, 69, 27, 42, 57, 34, 56, 76, 15, 21, 24, 26, 17, 41, 87, 91).
Bulimia (items: 28, 64, 38, 61, 46, 53, 11, 5, 25, 16, 4, 49, 47, 40, 68, 1).
Emotional intelligence (items: 79, 85, 36, 77, 52, 44, 70, 51, 67, 71, 8, 65, 83, 60, 82, 54, 35, 90, 75, 13, 72).
Preoccupation with weight and body shape (items: 59, 45, 9, 55, 32, 7, 19, 12, 2, 31).
Maturity fear (items: 14, 48, 3, 58, 22, 39, 6).

gence (α=0.87), preoccupation with weight and body shape (α=0.89), as well as maturity fear (α=0.77) (Table 2).

Comparison of Korean EDI-2 subscores with North American standardization sample EDI-2 subscores

The comparison of EDI-2 data between Korean and North American Standardization sample groups is presented in Table 3. The Korean control group had significantly higher scores in drive for thinness (t=2.81, $p<0.0001$) and asceticism (t=5.88, $p<0.0001$) than its North American counterpart (Fig. 1), and the Korean eating disorder group and the control group showed significantly higher scores in bulimia

(t=5.62, $p<0.0001$), interoceptive awareness (t=3.48, $p<0.0001$), maturity fear (t=7.75, $p<0.0001$), and impulse regulation (t=3.66, $p<0.0001$). The Korean control group and bulimia nervosa group had significantly higher scores for ineffectiveness [t=4.06 (control), 3.57 (BN), $p<0.0001$] and social insecurity [t=3.84 (control), 2.84 (BN), $p<0.0001$], in comparison with their North American counterparts. The Korean bulimia group showed significantly higher interpersonal distrust (t=3.40, $p<0.0001$). However, the Korean eating disorder group's score for perfectionism [t=-3.15 (BN), -3.3 (AN), $p<0.0001$] was significantly lower than that of the North American sample eating disorder group.

Table 3. Comparison of EDI-2 Subscale Scores in Korean and North American Groups

	Korean			American			t*	p value
	AN-B/P (n=70)	BN (n=165)	Control (n=176)	AN-B/P (n=103)	BN (n=657)	Control (n=205)		
Drive for thinness	13.99 (5.9)	15.45 (4.5)	7.13 (5.7)	15.0 (5.6)	15.0 (5.0)	5.5 (5.5)		NS
Bulimia	13.76 (4.8)	14.41 (4.9)	2.99 (3.8)	8.9 (5.8)	10.8 (5.4)	1.2 (1.9)	5.62	<0.0001
Body dissatisfaction	12.97 (6.3)	16.80 (6.2)	12.18 (7.7)	14.4 (8.5)	17.9 (7.9)	12.2 (8.3)		NS
Ineffectiveness	14.49 (8.0)	13.38 (7.6)	4.09 (4.7)	13.1 (8.7)	11.0 (7.5)	2.3 (3.6)		NS
Perfectionism	7.07 (4.4)	7.63 (4.1)	5.95 (3.9)	9.5 (5.1)	8.8 (4.8)	6.2 (3.9)		NS
Interpersonal distrust	6.09 (5.1)	6.65 (4.5)	2.61 (3.1)	7.3 (4.9)	5.3 (4.5)	2.0 (3.1)		NS
Interoceptive awareness	15.39 (7.9)	15.53 (6.6)	4.69 (5.3)	12.9 (7.5)	11.1 (6.8)	3.0 (3.9)	3.48	<0.0001
Maturity fears	9.36 (5.4)	9.55 (5.5)	5.57 (4.1)	4.6 (4.9)	4.4 (4.6)	2.7 (2.9)	7.75	<0.0001
Asceticism	8.59 (3.7)	8.59 (4.1)	4.89 (2.6)	7.6 (4.5)	8.5 (4.0)	3.4 (2.2)		NS
Impulse regulation	8.61 (5.8)	9.10 (6.2)	3.80 (4.3)	5.8 (5.6)	6.1 (5.4)	2.3 (3.6)	3.66	<0.0001
Social insecurity	9.31 (5.3)	9.45 (5.1)	4.81 (4.2)	9.1 (5.8)	8.2 (4.5)	3.3 (3.3)		NS

EDI-2, Eating Disorder Inventory-2; AN-B/P, anorexia nervosa binge eating purging type; BN, bulimia nervosa; NS, non specific.
Data are presented as mean (standard deviation).
*t-test was used to test for differences between overall Korean and American Standardization sample.

DISCUSSION

To our best knowledge, this is the first study to examine the psychometric properties and psychological characteristics of Korean patients with eating disorders and subgroups thereof, according to EDI-2 assessment, and the results obtained appear to broadly support the validity of the Korean version of the EDI-2.

The factor solution, based on 91 items, had a clearly different structure from that reported in the eleven original factors of the EDI-2. The number of factors was lower and some of the items had low communality, which meant low relevance in the factor solution. After omitting these items from the analysis, a clear and descriptive five-factor solution was able to be extrapolated.

The five dimensions of the EDI-2 item are not surprising.[11] The first factor of self-esteem mainly described ineffectiveness (I), social insecurity (SI), and interpersonal distrust (ID). However, recognition of emotional states, feeling of general inadequacy, insecurity and worthlessness are conceptually related very closely to low self-esteem and negative self-evaluation. The second factor of bulimia represents definite features of eating disorders, and bulimic tendency estimates thoughts of binge eating and uncontrollable eating behaviors. The third factor of emotional intelligence is consisted of interoceptive awareness (IA) and impulse regulation (IR), and emotional intelligence involves accurate appraisal and expression of emotions in oneself and others as well as the recognition of emotional qualities,[12] which af-
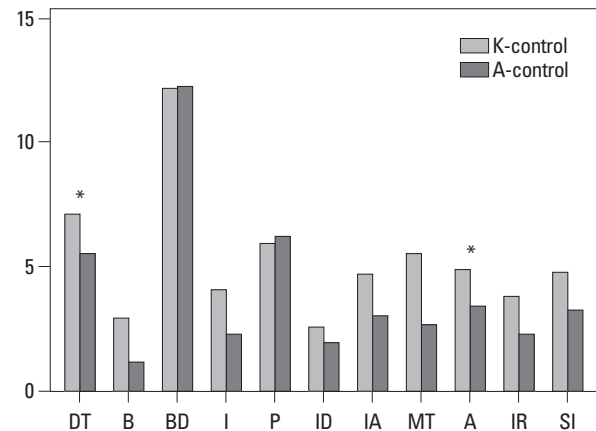

Fig. 1. The mean profiles of EDI-2 subscale scores for Korean (n=176) and North American (n=205). *DT (t=2.81, p<0.0001) and A (t=5.88, p<0.0001) were statistically different between groups. EDI-2, Eating Disorder Inventory-2; K-Control, Korean control groups; A-Control, North American control groups; DT, drive for Thinness; B, bulimia; BD, body dissatisfaction; I, ineffectiveness; P, perfectionism; ID, interpersonal distrust; IA, interoceptive awareness; MF, maturity fears; A, asceticism; IR, impulse regulation; SI, social insecurity.

fects adaptation, coping with stressful situations in eating disorder patients. The fourth factor of preoccupation with weight and body shape represents the desire for thinness and body dissatisfaction. This factor is considered as the core feature of eating disorder psychopathology. Fairburn suggested that over-evaluation of shape and weight and their control are the first step in developing and maintaining eating disorder symptoms. The fifth factor of maturity fears represents the desire to retreat to the security of childhood to avoid overwhelming demands of adulthood.[6] According to some researchers, starvation becomes a mechanism for avoiding psychobiologic maturity, because it results in the

return of earlier appearance and hormonal status. This regression is believed to provide relief from adolescent turmoil and conflicts within the family.[12] Also, our five factor model reached high internal consistency (0.93-0.77) and good discriminant validity, thus supporting our newly developed five-factor (self-esteem, bulimia, emotional intelligence, preoccupation of weight and body shape, and maturity fear) model, rather than the original eleven-factor model which is more appropriate for the assessment of eating disorder patients in Korea.

In the present study, the descriptive data from the Korean EDI-2 provided a profile of eating pathology for both Korean patients with eating disorders and healthy controls. When the Korean eating disorder group and the control group were compared, significant differences in terms of drive for thinness, ineffectiveness, interpersonal distrust, interoceptive awareness, maturity fears, asceticism, impulse regulation, and social insecurity existed between the two groups. When the eating disorder subgroups were compared, there were no differences except with bulimia and body dissatisfaction, in terms of eating behavior-related pathology, possibly explaining the distinctiveness of the subgroup types. These findings suggest that there are common pathological attributes for eating disorders rather than differences in each subgroup. Previous study,[13] which showed that anorexia nervosa, bulimia nervosa, and EDNOS groups all share a characteristic psychopathology related to eating disorders is in support of our findings.

Fairburn, et al.[13] suggested that all of eating disorder subtypes share the same distinctive psychopathology, and patients shift between these diagnostic states over time. This observation suggests that common mechanisms are involved in the maintenance of eating disorder including bulimia nervosa, anorexia nervosa and atypical eating disorders.

Compared with the North American control group, the Korean control group showed significantly higher scores for drive for thinness and asceticism. These results correspond to a study,[14] which suggested that individuals in a country like Korea with a strong collectivistic culture may be more vulnerable to eating problems: due to the pressure to adhere to the standards of the group, it may be difficult to distinguish one's internal state and external expectations, leading to the development of eating disorder. In Korean culture, which emphasizes social harmony, the individual is seen more as a part in a social relationship rather than an independent entity.[15,16] Accordingly, the characteristic of the self-perceived by a Korean is determined by one's role and

function within the group "us". For this reason, Koreans follow what are considered socially valuable.

The result in our present study that Koreans showed higher scores for maturity fear corresponds well with the study results of China and Japan.[7,17] As Eastern culture places greater emphasis on collectivism and mutual dependence among family members, establishing individual independence may be delayed compared with the West.[18] Hence, the fear of maturity shown by Koreans in general could be said to reflect an overall difference in cultural value rather than a characteristic inherent to eating disorders. Cultural differences in social demands for young women to achieve autonomy might influence the dissociation of physical puberty and social puberty.[19]

Significantly high scores in ineffectiveness, impulse regulation, and social insecurity correspond with the previous study results[20] in Japan. As in Japan, the high rate of computer usage in Korea, although it has positive aspects, causes individuals to be more passive and interferes in the sense of reality. In particular, excessive computer use creates not only social isolation, but also difficulty in impulse regulation. Another possibility is that the items measuring impulse regulation, interoceptive awareness and asceticism in EDI-2 may not overcome cultural differences. In our study, interoceptive awareness was composed of and divided into two factors: inability to perceive hunger and inability to perceive inner emotional state; the former was classified as the desire to become thin, bulimia and bulimic behavior, and the latter was classified as impulse regulation with an emotional instability element. When the eating disorder groups were compared, the Korean group had substantially lower scores for perfectionism than the North American sample group. The family-centered culture of the East puts the family ahead of outstanding achievement of the individual, and it has a long tradition of considering modesty and restraint as a virtue, as an aspect of Confucianism. This characteristic is deemed not to be reflected well in the items, such as extremely high achievement and outstanding performance by an individual, that measure perfectionism in EDI-2.

Finally, the Korean bulimia nervosa group showed a significantly higher score for interpersonal distrust than the North American bulimia nervosa group. This does not correspond with the results of a study which tried to explain the characteristics of eating disorder patients of the East using EDI-2. On the other hand, a study conducted in Korea[21] showed that the bulimia nervosa group displayed a lower self-esteem and higher anxiety level than the anorexia ner-

vosa or the healthy control groups. People with a low self-esteem, rather than acting according to their own belief or conviction, not only have a strong tendency to simply conform to external normative pressure or expectations, but also react sensitively to evaluation by others. Therefore, this limits self-disclosure, revealing more about oneself to others. It can be inferred that this attribute together with Korean cultural characteristics affected the results.

Several limitations of this study have to be considered. First, there was a significant difference in average ages of the compared groups. Second, in the anorexia nervosa group, the data for the restricted type were difficult to obtain because the number of subjects were inadequate. Third, comparison was made with a standardization sample group rather than an actual group. The American standardized sample as a control group would potentially be different in personal and social groups. Last, there was a great difference in the time when the sample study was conducted. Since the standardization sample study was done in 1992, EDI-2 scores thereof may have potentially changed with time, therefore, they might be inadequate in many areas for explaining the characteristics of the current clinical group.

Nevertheless, through this study, we were able to confirm that EDI-2 was a useful tool in differentiating a Korean eating disorder patient group and a control group. By using an adequate number of study subjects, we were also able to better explain psychological attributes of the eating disorder patient group. Based on the present results, a treatment approach and method for eating disorder patients should be sought, focusing not only on the eating behavior problems and particular psychopathology, but also on the difficulty with interpersonal relationships, ineffectiveness, and personality-based issues as underlying problems. However, this is only a preliminary assessment of Korean subjects, and further research with a comparable control group is required.

Finally, it should be mentioned that the application of EDI-2 has shown different results in different countries, indicating that particular cultural attributes must be taken into consideration when using EDI-2.[6,22] The results of the current study must be viewed as preliminary, and a more comprehensive assessment and further evaluation for cultural differences are necessary.

ACKNOWLEDGEMENTS

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