

# Comparison of Eating Disorders and Other Dietary/Weight Groups on Measures of Perceived Control, Assertiveness, Self-Esteem, and Self-Directed Hostility

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*Anorexic and bulimic patients were compared to obese dieters, nonobese dieters, and normal controls on measures of perceived control, assertiveness, self-esteem, self-directed hostility, and psychiatric caseness. The anorexic and bulimic groups both scored significantly differently in the expected direction from the other three groups on all measures. There were no significant differences between the anorexic and bulimic groups and in turn, no significant differences among the obese, nonobese dieters, and normal controls. Results are in keeping with the notion that perceived control, low assertiveness, low self-esteem, and self-directed hostility are characteristics of eating disorder patients that differentiate them from individuals who display dietary/weight features, as well as from normal controls. © 1993 by John Wiley & Sons, Inc.*

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Perceived external control, low assertiveness, low self-esteem, and self-directed hostility have been noted anecdotally as important features of primary eating disorder patients (Bruch, 1978; Selvini-Palazzoli, 1974). However, there have been recent suggestions that investigation of primary eating disorder characteristics should also include comparison groups that are also characterized by dietary-weight features. Comparison of primary eating disorder groups with nondietary controls alone is insufficient to establish important components of eating disorder psychopathology (Rossiter, Wilson, & Goldstein, 1989; Sunday, Halmi, Werdmann, & Levy 1992). Williams, Chamove, and Millar (1990) took this approach by comparing eating disorder patients with a group of dieters and normal controls on measures of perceived control, assertiveness, and self-directed hostility. Results indicated that these features did differentiate eating disorder patients from the dietary/weight group as well as the normal controls. The nature of the measures used would also suggest that the eating disorder group was lower in self-esteem. However, the study was weakened by inadequate control group inclusion criteria and use of a heterogeneous eating disorder group.

These methodological weaknesses in the Williams et al. (1990) study, along with the sparsity and contradictory results of other research, prevent any firm conclusions. Further investigation is required to establish whether the four aforementioned characteristics are important features of eating disorder patients that differentiate these patients from other dietary/weight groups as well as from normal controls.

## METHOD

### Subjects

One hundred fifty-seven subjects were allocated to five groups (1) anorexia nervosa ( $n = 32$ ); (2) bulimia nervosa ( $n = 30$ ); (3) obese dieters ( $n = 31$ ); (4) nonobese dieters ( $n = 29$ ); (5) normal controls ( $n = 35$ ).

Anorexic and bulimic patients were selected from existing patient lists and diagnosed according to DSM-III-R (American Psychiatric Association, 1987) criteria by practicing psychiatrists or clinical psychologists. Only those patients with a primary diagnosis of eating disorder (not secondary) were selected for recruitment. This resulted in approximately 20% of potential patients being excluded as they also met full diagnostic criteria for major depressive disorder. Obese dieters were on calorie controlled diets under the supervision of British Health Service dieticians. The criterion for obesity was set as currently 20% overweight for height and build. Patients whose obesity was associated with endocrine imbalance (thyroid) or diabetes were not included and any patients who reported a history of eating or psychological disorder were excluded ( $n = 2$ ). Nonobese dieters were on calorie controlled diets under the supervision of local community Weight Watcher classes. Only dieters who were less than currently 20% overweight for height and weight were included. Those reporting a history of eating or psychological disorder were excluded ( $n = 3$ ).

Normal controls were nonobese nondieters with no history of eating disorder, obesity, or psychological disorder and who had not dieted in the past 6 months. Those failing this criteria were excluded ( $n = 8$ ).

### Measures

All subjects completed the following questionnaires: (a) Eating Attitudes Test-40 (EAT-40; Garner & Garfinkel, 1979). (b) Bulimia Test (Smith & Thelen, 1984). (c) I.P.C. Scales (Levenson, 1974) (with modified scoring system such that all items were scored on a 1-6 scale in the direction of externality). (d) Rathus Assertiveness Schedule (Rathus, 1973). (e) Hostility and Direction of Hostility Questionnaire (Caine, Foulds, & Hope, 1967). (f) Rosenberg Self-Esteem Scale (Rosenberg, 1965). (g) General Health Questionnaire-28 (GHQ-28; Goldberg & Hillier, 1979) (utilizing cutoff point of 12). (h) Personal Details Form (to collect information from the patient concerning demographics, weight and health history, and all the exclusion variables noted above).

### RESULTS

Demographic data for the five groups are presented in Table 1.

Chi and analysis of variance (ANOVA) were employed to assess demographic differences across the groups. There were significant differences across the groups on marital status ( $\chi^2 = 61.6, p < .01$ ), socioeconomic class ( $\chi^2 = 35.4, p < .01$ ), and age ( $F = 12.2, p < .01, df = 4,151$ ). The frequencies and means indicated that subjects in the obese dieter group were older, of lower socioeconomic class, and more likely to be married. On the basis of comparative literature it was considered that socioeconomic class and age variables may have some effect on group score. However, correlating socioeconomic class with all scales and subscales produced only one significant correlation on a subscale not central to this project (activated hostility); also analysis of covariance indicated that there was no significant effect on outcome by age ( $F = 0.273, p = .96, df =$

Table 1. Summary of demographic data for the five groups

Variable	Group				
	Anorexic	Bulimic	Obese Dieters	Nonobese Dieters	Controls
Age					
Mean	25.1	26.0	32.7	32.2	26.9
SD	6.3	6.9	6.6	7.1	8.4
Height (cm)					
Mean	160.5	162.5	160.5	162.4	165.5
SD	5.7	6.2	6.7	7.5	6.8
Weight (kg)					
Mean	43.8	61.4	87.3	66.8	61.7
SD	8.5	11.5	13.7	7.4	8.4
Marital status					
Single	28	21	05	05	25
Married	03	05	23	21	10
Divorced/separated	01	04	03	03	00
Socioeconomic class					
1	11	08	02	6	10
2	12	10	08	17	15
3	05	05	12	04	06
4	03	06	06	01	03
5	01	01	03	01	01

4,152). Between group differences were calculated by one-way ANOVA and post-hoc Scheffe tests. Table 2 presents the group means and comparisons for all measures.

Analysis of the Eat-40 indicated that there were significant differences across the groups in terms of anorexic behavior. Group means were in the expected direction with anorexic patients scoring highest, followed by bulimic patients, and the normal control subjects attaining the lowest score. There were significant differences among the anorexic, bulimic, obese, and nonobese dieters, but not between the nonobese dieters and the normal controls.

Analysis of the Bulimia Test indicated that there were significant differences across the groups with the bulimic patients, as expected, attaining a significantly higher mean than the other four groups. Patients in the anorexic group were significantly higher than the other three groups and the group mean was 1 point above the cutoff point for bulimia as set by Smith and Thelen (1984). Obese, nonobese dieters, and normal controls were below the cutoff point and not significantly different to each other.

In the case of the Rathus Assertiveness schedule, the three I.P.C. Scales of perceived control, the Rossenburbg Self-Esteem Scale, and the two self-directed hostility of guilt and self-criticism, a consistent pattern of group mean scores was found. On all seven scales the two eating disorder groups attained significantly more pathological scores than the three comparison groups. That is the eating disorder groups reported more external control, lower assertiveness, lower self-esteem, and higher self-directed hostility than the three comparison groups. On all seven scales there were no significant differences between the two eating disorder groups. Likewise, there were no significant differences among the obese dieters, nonobese dieters, and the normal controls.

### **GHQ Scores**

Analysis of the overall score revealed the same pattern of clustering produced by the other psychological measures. There were highly significant differences across the groups. The two eating disorder groups were not different to each other but both were significantly more dysfunctional than the other three groups, which in turn were not different to each other. Analysis of individual scores revealed that 17 (54%) of the anorexic group and 19 (63%) of the bulimic group above the chosen cut off point for psychiatric caseness. None of the obese dieters and nonobese dieters or the normal control subjects were above the cutoff point.

## **DISCUSSION**

As expected, both eating disorder groups reported significantly more anorexic and bulimic symptomatology than the other three groups. The results of the four cognitive/emotional measures revealed a consistent pattern of score clustering. In comparison with dietary/weight groups and controls the anorexic and bulimic groups reported significantly more control by external forces, were less able to display self-assertion, were lower in self-esteem, and reported higher levels of self-directed hostility in terms of guilt and self-criticism. In addition, the eating disorder groups reported significantly more psychiatric disturbance and had greater proportions of psychiatric cases.

The results support the anecdotal contentions that perceived external control, low assertiveness, low self-esteem, and self-directed hostility are traits of anorexic nervosa and bulimia nervosa patients. Further, it has been demonstrated that these characteris-

Table 2. Summary of group means and statistical comparisons

Measure	Groups				Comparisons <sup>a</sup>			
	Anorexic	Bulimic	Obese Dieter	Nonobese Dieters	Control	F	df	Scheffe
Eat-40	66.3 (17.3)	52.4 (13.4)	18.2 (11.2)	11.6 (8.6)	7.7 (7.1)	149.6	4,152	1-2 1-3 1-4 1-5 2-3 2-4 2-5 3-5
Bulimia Test	81.3 (21.6)	126.2 (18.0)	64.7 (22.4)	52.7 (15.2)	51.4 (14.5)	88.0	4,152	1-2 1-3 1-4 1-5 2-3 2-4 2-5 3-5
I.P.C								
Internal	26.5 (5.7)	24.3 (6.7)	17.1 (4.9)	16.1 (4.1)	17.7 (3.8)	24.9	4,152	1-3 1-4 1-5 2-3 2-4 2-5
Powerful others	29.4 (5.6)	27.9 (5.9)	16.9 (4.2)	18.6 (5.9)	19.3 (4.7)	36.4	4,152	1-3 1-4 1-5 2-3 2-4 2-5
Chance	31.1 (5.6)	30.1 (7.0)	21.6 (5.8)	24.9 (5.1)	23.9 (5.9)	13.7	4,152	1-3 1-4 1-5 2-3 2-4 2-5
Assertiveness	68.1 (12.2)	70.6 (15.0)	111.7 (17.0)	116.5 (16.8)	120.3 (17.3)	54.3	4,152	1-3 1-4 1-5 2-3 2-4 2-5
Self-esteem	32.4 (5.7)	31.7 (5.9)	19.8 (5.1)	18.2 (7.5)	17.6 (4.9)	89.2	4,152	1-3 1-4 1-5 2-3 2-4 2-5
Self-directed hostility overall	13.7 (2.7)	13.0 (3.2)	6.4 (2.9)	4.9 (3.6)	4.6 (2.7)	63.2	4,152	1-3 1-4 1-5 2-3 2-4 2-5
Guilt	5.2 (1.4)	5.1 (1.6)	1.9 (1.6)	1.4 (1.6)	1.2 (1.2)	57.5	4,152	1-3 1-4 1-5 2-3 2-4 2-5
Self-criticism	8.5 (1.7)	7.9 (2.1)	4.5 (1.7)	3.5 (2.5)	3.4 (1.9)	44.4	4,152	1-3 1-4 1-5 2-3 2-4 2-5
GHQ	17.5 (2.6)	18.5 (3.1)	4.3 (3.5)	1.5 (4.0)	3.3 (3.0)	24.0	4,152	1-3 1-4 1-5 2-3 2-4 2-5

Note: SDs are printed in parentheses below the group mean score.

<sup>a</sup>Post-hoc Scheffe group comparisons: 1, anorexic; 2, bulimic; 3, obese dieters; 4, nonobese dieters; 5, normal controls. Groups separated by a hyphen differ significantly from each other  $p < .01$ . All *F* ratios are significant at the  $p < .001$  level.

tics serve to differentiate eating disorder patients from other groups that are characterized by dietary/weight features, and not only from groups which do not display dietary or weight features (normal controls). This differentiation between eating disorder patients and obese dieters/nonobese dieters are eating disorder traits, than would a simple comparison between eating disorder and normal controls.

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