

# Preoccupation with Weight and Disordered Eating Behaviors of Entering Students at a University in Lebanon

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**Abstract:** **Objectives:** This research explores the prevalence of preoccupation with weight indicators and disordered eating behaviors among entering university students, and identifies factors associated with these indicators and behaviors. **Method:** Data was collected by means of a self-administered questionnaire. Comparisons were made by gender, mother's education, and body mass index (BMI). **Results:** The final sample included 954 students. The indicators held most "often" included a desire to be thinner, and an awareness of caloric content. The behaviors engaged in "most" often included strenuous exercising, and avoiding particular foods. Both indicators and behaviors varied by gender and body mass index. **Discussion:** The prevalence of indicators and behaviors is high. Body mass index is a critical variable to consider in the development of interventions. Further research should explore the context surrounding these indicators and behaviors. © 2002 by Wiley Periodicals, Inc. *Int J Eat Disord* 32: 52–57, 2002.

**Key words:** weight; eating; university; Lebanon; BMI; gender

## INTRODUCTION

Until recently, eating disorders seemed to be almost absent in Arab countries due to cultural norms placing value on plumpness. However, the results of two research efforts (Nasser, 1986; Rasheed, 1999) indicate that the risk factors for eating disorders are beginning to surface in this population.

The term "disordered eating" is increasingly being used in the literature to reflect the expanded focus on abnormal eating indicators and behaviors spread along a wide spectrum from the mildest to the most severe (Ponton, 1996). Studies indicate that the

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percentage of people in the population who are trying to lose weight varies between 30% and 70%. Given that a large proportion of these people is objectively classified as being of normal weight, their weight loss indicators and behaviors become important constructs to explore, especially when these behaviors are often unhealthy (Nichter, Ritenbaugh, Nichter, Vuckovic, & Aickin, 1995; Rasheed, 1999).

Demographics including gender and socioeconomic status (SES) influence prevalence rates of disordered eating behaviors. Girls are more at risk than boys (Neumark-Sztainer, Story, Falkner, Beuhring, & Resnick, 1999). Socioeconomic status showed positive relations with dieting and bingeing in women and none in men (Drewnowski, Kurth, & Krahn, 1994).

The purpose of this study was to examine preoccupation with weight and disordered eating in students entering a university in Beirut, Lebanon, and the influencing roles of gender, mother's education, and body mass index (BMI).<sup>1</sup>

## METHODS

Selected items from a self-administered survey of behavioral risk factors were included in the analysis. Subjects were all students entering the American University of Beirut in Lebanon during Fall 1998. Measures included BMI, weight-directed behavior, preoccupation with weight indicators, disordered eating behaviors, gender, and mother's education (Table 1).

All analyses were conducted using SPSS 8.0. Frequencies of all variables were calculated for the overall sample, and separately by gender, and by mother's education. Crosstabulations were conducted for BMI by each of the items related to indicators and behaviors overall and by gender.

## RESULTS

The final sample for analysis included 954 students—a response rate of 90.1%. The mean age of respondents was 18 years and 53.5% were male. Seventy-six percent of the fathers of respondents and 61% of their mothers had a university education or above. Within our survey, 14.9% of respondents were classified as underweight, 69.7% as normal weight, 13.7% as overweight and 1.8% as obese. In addition, 37.7% of respondents were trying to lose weight, 12.8% were trying to gain weight, 22.3% were trying to maintain their weight, and 27.1% were not trying to do anything about their weight. The proportion of students stating "often" on indicators related to preoccupation with weight varied between 3% and 26.8% (Table 1). The proportion of students stating "often" on behaviors related to disordered eating varied between 0.8% and 10.7% (Table 1).

With respect to gender, women were less likely to be classified as overweight or obese; more likely to be trying to lose weight; and in general more likely to state "often" on the indicator- and behavior-related items (Table 1). Respondents whose mothers had a university education or above were significantly less likely to state that they "often" engaged in the more extreme disordered eating behaviors (Table 1).

Crosstabulations of BMI against the items related to preoccupation with weight and disordered eating indicated significant differences by BMI (Table 2). When analyzed by

<sup>1</sup>The survey and its methodology were approved by the Faculty of Health Sciences Research Committee, the University Research Board, and University administration.

Table 1. Percentage of entering university students reporting weight related conditions and a variety of preoccupation with weight indicators and disordered eating behaviors overall and by gender and mother's education

	Gender			Mother's Education	
	Overall	Male	Female	Up to University	University and Above
Body Mass index (weight in Kg)/ (height in m) <sup>a</sup>					
Overweight or obese (BMI $\geq 25$ ) <sup>a</sup>	15.5	23.8	6.1***	18.1	14.0
Weight directed behavior					
Trying to lose weight <sup>b</sup>	37.7	24.5	52.9***	38.4	37.8
Preoccupation with weight indicators (% stating often)					
I become anxious prior to eating	15.5	15.4	15.8*	16.9	14.3
I feel extremely guilty after eating	12.3	4.7	20.9***	15.0	10.5
I am aware of the caloric content of foods that I eat	26.8	20.8	33.7***	24.3	28.5
I am preoccupied with a desire to be thinner	21.4	10.5	34.0***	24.6	19.9
I give too much time and thought to food	12.5	7.6	17.9***	12.7	12.4
I am preoccupied with the thought of having too much fat on my body	19.3	10.3	29.7***	21.8	18.2
If I gain a kilogram, I worry that I will keep gaining	17.2	6.3	29.5***	21.6	14.6
I weigh myself several times per day	3.0	2.0	4.1***	4.5	2.2
Disordered eating behaviors (% stating often)					
I particularly avoid food with a high carbohydrate content	6.9	3.8	10.7***	6.8	6.8
I vomit after I eat	0.8	0.6	1.1	2.0	0.2*
I take diet pills	0.8	0.6	1.1***	1.4	0.5*
I take laxatives to control my weight	0.8	0.4	1.1**	1.7	0.2*
I fast to control my weight	2.5	1.4	3.7***	3.1	2.0
I skip meals to control my weight	4.9	2.8	7.4***	6.3	3.8
I exercise strenuously to burn off calories	10.7	12.2	8.8***	9.9	11.5
I have gone on eating binges where I felt that I could not stop	4.9	3.0	7.0***	8.1	2.9**
I often eat moderately in front of others and stuff myself (overeat) when I am alone	3.7	3.6	3.9	4.5	3.2

<sup>a</sup>Cataldo, DeBruyne, & Whitney, 1992.

<sup>b</sup>Options: lose weights = 1; gain weight = 2; stay the same = 3; not trying to do anything = 4.

\* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ .

gender—the more striking influencing variable, many of these significant results persisted (Table 2). For women, the results were magnified (data not shown). For men, results were generally in the same direction as for the overall sample although not as often statistically significant.

## DISCUSSION

Results of our study are comparable with previous research on preoccupation with weight indicators and disordered eating behaviors. The raw percentages—especially of the items related to preoccupation with weight, surprised us in their size. As sug-



Table 2. Percentage of entering university students reporting weight directed behavior and a variety of preoccupation with weight indicators and disordered eating behaviors overall and by body mass index

	Body Mass Index <sup>a</sup>		
	Underweight BMI < 19	Normal 19 ≤ BMI < 25	Overweight or Obese (BMI ≥ 25)
Weight directed behavior			
Trying to lose weight <sup>b****</sup>	13.2	36.4	68.6
Preoccupation with weight indicators (% stating often)			
I become anxious prior to eating <sup>***</sup>	13.6	14.5	19.6
I feel extremely guilty after eating <sup>****</sup>	10.3	11.5	16.3
I am aware of the caloric content of foods that I eat <sup>***</sup>	22.8	28.5	24.3
I am preoccupied with a desire to be thinner <sup>****</sup>	7.4	20.9	38.6
I give too much time and thought to food <sup>*</sup>	12.0	12.2	13.0
I am preoccupied with the thought of having too much fat on my body <sup>****</sup>	11.2	18.1	34.3
If I gain a kilogram, I worry that I will keep gaining <sup>****</sup>	10.4	17.9	20.7
I weigh myself several times per day <sup>**(**)</sup>	5.3	2.2	4.3
Disordered eating behaviors (% stating often)			
I particularly avoid food with a high carbohydrate content <sup>****</sup>	3.7	8.3	5.0
I vomit after I eat	1.5	0.5	1.4
I take diet pills	0.7	0.6	2.1
I take laxatives to control my weight <sup>(**)</sup>	1.5	0.3	1.4
I fast to control my weight	2.2	2.4	3.7
I skip meals to control my weight <sup>*** (***)</sup>	1.5	5.9	4.4
I exercise strenuously to bum off calories <sup>****</sup>	2.3	10.1	20.9
I have gone on eating binges where I felt that I could not stop <sup>***</sup>	3.0	4.9	5.8
I eat moderately in front of others and stuff myself when I am alone <sup>****</sup>	2.2	3.0	7.1

Note: parentheses indicate significance as stated above. However, more than 25% of cells in crosstabulation have expected count less than 5

<sup>a</sup>Categories of BMI are those traditionally found in the literature (Cataldo, DeBruyne, & Whitney, 1992).

<sup>b</sup>Options: lose weight = 1; gain weight = 2; stay the same = 3; not trying to do anything = 4.

\*\*\* $p < 0.001$  overall; \*\* $p < 0.01$  overall; \* $p < 0.05$  overall.

\*\*\* $p < 0.001$  females; \*\* $p < 0.01$  females; \* $p < 0.05$  females.

\*\*\* $p < 0.001$  males; \*\* $p < 0.01$  males; \* $p < 0.05$  males.

gested in the literature, this may be reflecting the trend in the Middle East towards westernization (Nasser, 1986). These percentages are especially alarming as they represent indicators and behaviors of students just beginning their college education, before the stress of university and its associated peer pressure exert their own influence on them.

Consistent with the literature, preoccupation with weight and disordered eating were greatly influenced by gender. All indicator-related items and all but two behavior-related items were significantly different by gender. This does not imply, however, that males should not be considered at risk. Up to 20% of males are preoccupied with their weight, and up to 12% are engaging in disordered eating behaviors.

Though mother's education does not influence indicators related to preoccupation with weight, it is associated with behaviors reflecting disordered eating. Female education is seen internationally as an indicator of the health of a country. Our research supports this

fact considering the protective effect of increased maternal education on engaging in disordered eating behaviors.

Our research supports studies that suggest that BMI should be included in the descriptive epidemiology of the problem and in interventions to solve it (Neumark-Sztainer et al., 1999). All the indicator- and behavior-related items differ significantly by BMI. In addition, a greater percentage of respondents who are overweight or obese are trying to lose weight. This suggests a possible focus for intervention on individuals with higher BMI scores. Intervention practitioners could seize the motivation of these individuals to lose weight, and channel their energy into healthy methods of weight loss. However, this does not imply lack of risk for individuals who are underweight or of normal weight. What is alarming is the finding that 13% and 36% of individuals who are underweight and of normal weight respectively, are trying to lose weight. Also, up to 20% of respondents in both categories claim to be "often" preoccupied with their weight, and up to 10% of individuals who are of normal weight are "often" engaging in disordered eating.

Comparison of our results with others from the Arab region suggest that our population may be more at risk than that of Saudi Arabia (Rasheed, 1999). This comparison must be made with caution given the differences in populations surveyed and methods used. The seeming higher risk for students in Lebanon supports the "westernization" hypothesis as Lebanon has a longer history of westernization than Saudi Arabia.

Our results add to the research on preoccupation with weight and disordered eating in the following ways. First, this problem has not yet been studied in our country. Second, we have focused equally on both indicators and behaviors in describing the problem in our population. Finally, we have included BMI as a central explanatory variable in the analysis.

Results of this study must be interpreted with caution. First, this study is cross-sectional in nature, and therefore any relationships suggested between variables are purely associations (not causation) for consideration in the generation of hypotheses to be tested with more rigorous studies. Second, BMI was calculated using values of self-reported height and weight. Third, the survey was conducted only on students in their first year of university and therefore cannot be generalized to university students in general. Fourth, this study was conducted in one university in the capital of Lebanon only.

In conclusion, this study sheds light on the patterns of preoccupation with weight and disordered eating of young people entering one university in Beirut, Lebanon. Results suggest that these indicators and behaviors are important foci of research and intervention in this population. Further research should explore knowledge and context surrounding these indicators and behaviors, as well as their covariation with other risky health behaviors.

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