Orthorexia Nervosa in College Students: Eating Disorder History, Gender, and Dieting Behaviors

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INTRODUCTION

Orthorexia nervosa (ON) is the term used to describe the persistent preoccupation with eating healthy, first coined in 1997.[1] College students are a high-risk group for the development of ON tendencies, with prevalence rates of ON in college students estimated at 25.2%.[2] This may be because young people starting university experience greater social pressure and thus develop unrealistic expectations for themselves, leading them to adopt compensatory behaviors such as disordered eating patterns and/or dieting for weight loss.[3] Female students may also feel greater pressure to conform to a gender-specific "thin ideal," and a fixation on healthy eating as seen in ON may be used by some as a socially acceptable method of expressing full-syndrome disordered eating behaviors as seen in anorexia nervosa and other eating disorders (ED).[4]

Currently, there is no substantial research on how eating disorder history and disordered dieting behaviors affect ON in this population. There have been mixed conclusions on whether ON is seen in higher rates in male or female college students.

OBJECTIVES

This study aimed to assess how the factors of eating disorder history, gender, and dieting behaviors affect ON in college students at the University of North Florida.

RESEARCH HYPOTHESES

- Students with a history of eating disorder(s) will demonstrate a higher prevalence of ON compared to students without a history of eating disorder(s).
- Female students will have a higher prevalence of ON compared to male students.
- College students who score higher disordered dieting behavior scores will demonstrate a higher prevalence of ON.

METHODS

Students 18 years or older at the University of North Florida enrolled in summer 2018 were invited to take an online survey distributed via Qualtrics' email system. Survey questions included those from the Bratman Orthorexia Test (BOT), the Eating Attitude Test-26 (EAT-26), and questions regarding participant characteristics.

- EAT-26: is a widely used screening tool used to assess eating disorder risk based on three subscales: dieting, food preoccupation, and oral control.[6]
- BOT: is a 10-item screening tool developed by Steven Bratman with yes/no answers to assess food attitudes and ON tendencies in US populations.[5]
- Participant characteristic questions included age, gender, history of eating disorder, race, height, and weight.

All data analysis were performed using SPSS.

RESULTS

Table 2: ON/ED Risk in College Students by History of Eating Disorder

	With ED history (n=59)	Without ED history (n=352)	Total	F	P-value
EAT Total Score	20.2±13.2	9.7±9.1	11.2±10.4	58.1	**<0.0001**
ON Total Score	5.6±2.3	4.3±2.4	4.4±2.4	15.1	**<0.0001**
ED Risk				44.1	**<0.0001**
EAT ≥20(%)	29(49.2)	46(13.1)	75(18.2)		
EAT <20 (%)	30(50.8)	306(86.9)	336(81.8)		
ON Risk				7.7	**0.006**
ON=5-10(%)	39(66.1)	164(46.6)	203(49.4)		
ON <5(%)	20(33.9)	188(53.4)	208(50.6)		
ED+ON Risk				35.4	**<0.0001**
EAT ≥20 & ON=5-10	25(42.4)	41(11.6)	66(16.1)		
All others	34(57.6)	311(88.4)	345(83.9)		

Comparing to students without ED history, students with ED history had higher ON total score (5.6 vs. 4.3, p<0.0001) and higher percentage being a health fanatic or orthorexic (66.1% vs. 46.6%, p=0.006).

Table 3: ON/ED Risk in College Students by Gender

	Female (n=307)	Male (n=101)	Total	F	P-value
EAT Total Score	12.1±11.0	8.7±7.7	11.2±10.4	7.97	**0.005**
ON Total Score	4.6±2.4	4.0±2.3	4.4±2.4	5.42	**0.02**
ED Risk				4.75	**0.03**
EAT ≥20(%)	63(20.5)	11(10.9)	74(18.1)		
EAT <20 (%)	244(79.5)	90(89.1)	334(81.9)		
ON Risk				3.37	0.07
ON=5-10(%)	160(52.1)	42(41.6)	202(49.5)		
ON <5(%)	147(47.9)	59(58.4)	206(50.5)		
ED+ON Risk					
EAT ≥20 & ON=5-10	57(18.6)	9(8.9)	16.2(66)	5.23	**0.02**
All others	250(81.4)	92(91.1)	83.8(342)		

Female students had higher ON total scores compared to male students(4.6 vs. 4.0, p=0.02) but statistically the same percentage of females had high ON risk as males (52.1% vs. 41.6%, p=0.07).

Table 4: Association between Bratman Orthorexia Test (BOT) and Subscales of the Eating Attitudes Test (EAT-26 in College Students

Subscales of the Eating Attitudes Test (EAT-26)	BOT Score	N	Mean	SD	F	P-value
Dieting	ON (5-10)	203	11.7	8.1	158.0	**<0.0001**
	ON (< 5)	208	3.7	4.3		
Bulimia/Food Preoccupation	ON (5-10)	203	2.4	3.2	63.6	**<0.0001**
	ON (< 5)	208	0.5	1.2		
Oral Control	ON (5-10)	203	2.3	2.7	1.5	0.23
	ON (< 5)	208	2.0	2.5		

Students who are characterized as health fanatic or orthorexic had higher dieting scores comparing to those who are not (11.7 vs. 3.7, p<0.0001).

Table 1: Demographic Profile of Participants

	Total (n=411)
Age	24.5±0.4
BMI	25.3±0.3
Gender	
Male	101(24.8)
Female	307(75.2)
BMI category	
Underweight (below 18.5)	21(5.1%)
Healthy weight (18.5-24.9)	212(51.6%)
Overweight (25.0-29.9)	108(26.3%)
Obese (30 or greater)	70(17.0%)
Race	
Caucasian	310(75.6)
African American	30(7.3)
Hispanic	39(9.5)
Asian or Pacific Islander	17(4.1)
Other	14(3.4)
History of Eating disorders	
Yes	59(14.4)
No	352(85.6)

CONCLUSIONS

- Eating disorder history, the female gender, and disordered dieting behaviors were significantly associated with ON in this population.
- Understanding the characteristics associated with ON among college students would be important for assessment, prevention and treatment of ON and ED in this population.
- A limitation of this study is that the data was taken from participants who enrolled in a study following the effect of adherence to weight loss diets on ON. Therefore, the data presented may not be representative of the entire population of college students as they are not all following weight loss diets.

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