

# Self-Efficacy and Psychosocial Determinants of Obesity Prevention Behaviors in Caucasian Americans

## ABSTRACT

## CONCLUSION

**Objective:** To identify the psychosocial determinants of obesity prevention behaviors in Caucasian Americans residing in New Jersey.

**Methods:** A cross-sectional survey design was used in which a convenience sample of 174 participants (18 to 40 years old) completed a validated online, self-administered questionnaire. Male and female participants were recruited from universities, religious organizations, and cultural institutions, representing a wide range of educational and socioeconomic backgrounds. Nineteen behaviors related to obesity risk reduction were measured along with self-efficacy and psychosocial constructs derived the Theory of Planned Behavior. Participants indicated their adoption of behaviors over the previous month reflecting food practices, portion size control, consumption of healthful foods, and engagement in physical activity. Descriptive statistics and regression analyses were conducted for the entire sample and t-tests were applied for individuals categorized as high versus low self-efficacy groups.

**Results:** Regression analysis showed that 37.5% of the variance in obesity risk reduction behaviors was accounted solely by self-efficacy. T-tests indicated that there was a higher frequency of adoption of 17 health behaviors within the high self-efficacy group as compared to their counterparts ( $p < 0.05$ ). Notable mean differences in behavior included eating home-cooked meals, engaging in physical activity, limiting portion sizes of food, eating fruits and vegetables, and monitoring stress and body weight.

**Conclusions:** Nutrition professionals who work with young American adults need to assess their self-efficacy in order to engage in health behaviors. In fostering behavioral confidence, executing skill building interventions is critical for obesity prevention.

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## RESULTS

Approximately 300 survey fliers were distributed to individuals in New Jersey, with a 58% response, resulting in 174 questionnaires completed and returned. The study participants' mean age was 26.4 years ( $SD=7.0$ ) with 70.4% females, and 64.5% single individuals. Forty-one percent of respondents completed some college, 43% were college graduates and 16% held post-graduate degrees. The average BMI of total participants was  $24.7 \pm 4.8$ , with a BMI range of 16.0 to 42.2. Taking into account BMI categories, 4.3% of the participants were underweight, 46.8% normal weight, 21% overweight and 10.2% were in the obese category. Within the self-reported stress levels, 19.4% of participants considered themselves very stressed, 45.7% indicated moderately stressed, 16.7% neutral, and approximately 7% were moderately to very calm.

**TABLE 1. Obesity Prevention Behaviors for Entire Sample with T-Test Comparisons between High vs. Low Self-Efficacy Groups**

Category (Score Range = 1 to 4)	Entire Sample Mean (SD) (n=174)	High Self-Efficacy Group Mean (SD) (n=118)	Low Self-Efficacy Group Mean (SD) (n=56)	Sig. (2-tailed)
<b>Psychological</b>				
Took time to decrease the amount of stress I feel	2.24 (0.87)	2.66 (0.96)	2.24 (0.87)	**p=0.007
Took time to relax and improve my emotional well-being	2.17 (0.88)	2.84 (0.90)	2.17 (0.88)	***p<0.001
<b>Physical Activity Context</b>				
Engaged in at least 1 physically active leisure activity	2.63 (1.00)	3.11 (1.01)	2.63 (1.00)	**p=0.005
Exercised at least 30 minutes, on 3-5 days/week	2.26 (0.97)	2.95 (1.15)	2.26 (0.97)	***p<0.001
<b>Eating Context</b>				
Ate home-cooked meals instead of restaurant-prepared meals	3.22 (1.00)	3.53 (0.73)	3.22 (1.00)	*p=0.044
Limited my portion sizes of foods	2.07 (0.75)	2.80 (0.83)	2.07 (0.75)	***p<0.001
Used portion size control methods to help decide how much to eat	1.92 (0.82)	2.63 (1.09)	1.92 (0.82)	***p<0.001
Followed healthful food patterns	2.52 (0.88)	3.42 (0.82)	2.52 (0.88)	***p<0.001
<b>Food Context</b>				
Ate steamed foods instead of fried foods	2.44 (0.90)	3.27 (0.85)	2.44 (0.90)	***p<0.001
Used small amounts of oils or fat when preparing or cooking foods	2.28 (1.00)	3.08 (0.95)	2.28 (1.00)	***p<0.001
Ate at least 3, 1-oz servings of whole grains per day	2.65 (0.41)	2.93 (0.86)	2.65 (0.91)	P=0.054
Ate at least 2 servings of fruit each day	2.44 (1.02)	3.22 (0.93)	2.44 (1.02)	***p<0.001
Ate at least 3 servings of vegetables per day	2.44 (0.96)	3.18 (0.92)	2.44 (0.96)	***p<0.001
Made healthier choices at fast food restaurants	1.93 (0.99)	2.41 (1.27)	1.93 (0.99)	**p=0.008
Ate healthful snacks	2.87 (0.87)	3.47 (0.72)	2.87 (0.87)	***p<0.001
Ate healthful pre-packaged foods	2.20 (0.86)	2.73 (1.02)	2.20 (0.86)	**p=0.001
Limited intake of high-calorie beverages	2.78 (1.02)	3.45 (0.91)	2.78 (1.02)	***p<0.001

The findings of this study demonstrate the role and impact of psychosocial determinants of obesity prevention behaviors in Caucasian Americans. The identification of psychosocial constructs, namely self-efficacy, needs to be considered when designing nutrition interventions.

Participants with high levels of self-efficacy had greater mean frequency of consumption of plant-based foods and healthy pre-packaged foods than the low self-efficacy group. In addition, individuals with higher behavioral confidence moderated their stress levels, limited their portion sizes of food, and engaged in more physical activity.

Nutrition professionals need to enhance their understanding of effective strategies to promote motivation for healthy eating among young adult Americans. Emphasis on self-efficacy and the factors that modify it should include a transdisciplinary approach with genetic, physiological and environmental considerations.

**TABLE 2. Demographic Data of Entire Sample**

Category	Sample (n=174)
Gender, %	Male 29.6%
	Female 70.4%
Age, years	Mean Age 26.4 + 7.0
	Range 18 to 40
Body Mass Index, %	Underweight 4.3%
	Normal weight 46.8%
	Overweight 21.0%
	Obese 10.2%
	Mean BMI 24.7 ± 4.8
Highest Education, %	Elementary school or less 0%
	Some high school 0%
	High school graduate 0%
	Some college 41.0%
	College graduate 43.0%
	Post graduate 16.0%
Stress Level, %	Very Stressed 19.4%
	Moderately Stressed 45.7%
	Neutral 16.7%
	Moderately to Very Calm 7.0%
Marital Status, %	Married 18.7%
	Widowed 3.1%
	Divorced 5.0%
	Never Married 72.0%
	Domestic Partner 3.4%
Physical activity level, %	Sedentary 15.6%
	Light activity 37.6%
	Moderate activity 36.6%
	Heavy activity 10.2%

## RESEARCH QUESTION

What are the psychosocial determinants of obesity risk reduction behaviors among a sample of Caucasian Americans living in New Jersey?

## METHODS

This cross-sectional survey was conducted with 174 free-living Caucasian Americans residing in New Jersey (18 and 40 years old). Data collection occurred for one year from June 2018 to May 2019 in several counties in central and northern New Jersey. Participants were solicited from a variety of associations including churches, educational institutions, and cultural centers, reflecting diverse educational backgrounds and socioeconomic status. A minimum sample size of 150 was pursued in order to guarantee outcomes that were statistically significant. As an incentive for participation, a raffle drawing was included for \$25 and \$50 gift cards. This research was reviewed and approved by Montclair State University institutional review board.

**Sample Obesity Risk Reduction Behaviors: (19 questions total)**

*In the past month, how often did you engage in the following behaviors?*

**Food context**

*“used some amounts of oils or fat when preparing or cooking foods?”*

**Eating context**

*“used portion size control methods to help decide how much to eat?”*

**Physical activity context**

*“engaged in at least 1 physically active leisure activity?”*

**Psychological context**

*“took time to relax to decrease the amount of stress I feel?”*

**Knowledge/awareness context**

*“monitored my body weight?”*

**Psychosocial Variables Evaluated:**

**Theory of Planned Behavior and Self-Efficacy**

- Behavioral intention
- Attitude toward behavior
- Normative beliefs
- Motivation to comply
- Perceived behavioral control
- Self-Efficacy



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