Selected Nutritional Practices by Actual and Perceived BMI Status Among 823 High School Students

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Background and Significance

• The United States has experienced a continuous increase in the prevalence of childhood obesity since the 60's[1,3]. The Surgeon General has alarmingly stated that "overweight children and adolescents are more likely to become overweight or obese adults"[8].

• In Kentucky, more than of 30% of high school students are above a healthy weight, ranking first as the state with the highest prevalence of overweight[1,3]. The prevalence of childhood overweight during 2004 and 2005 was higher in Kentucky than the national average in according to the National Health and Nutrition Examination Survey[2,3].

• Nutritional behaviors are related with weight, especially with perceptions of weight status[4, 5], and these perceptions of weight status are incorporated, along with attitudes, in the definition of body image[6].

• Body image can be "a key determinant of adolescent nutritional habits and weight management"[4]. Some studies have shown that perceptions of weight are a better predictor than actual weight to estimate practice of weight-control activities in adolescents [4,5,6,7].

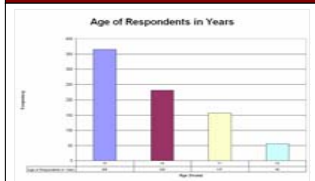
Purpose

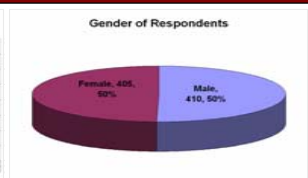
The purpose of this research was to determine if nutritional practices among adolescents vary based on actual weight status versus perceived weight status, and if this differs by gender.

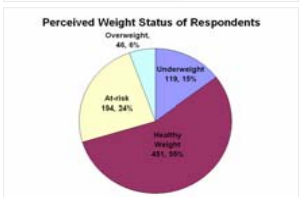
Methods

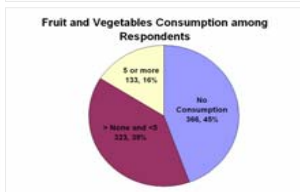
Recruitment: A modified version of the YRBSS was administered to the census of 1,011 High School students attending a South-Central Kentucky college preparatory institution; 823 of the surveys were returned and usable for a 81.4% Response Rate. 392 of the students had matched weight and height measures with survey completion.
IRB: Parental assent and approval from both IRB's, School District Board and Western Kentucky University was obtained.
Data Collection: Voluntarily self-administered survey; pre-tested for reliability and validity.
Measures: Demographics, Actual Weight Status, Perceived Weight Status, Accuracy of Weight Status, Nutritional Behaviors.
Data analysis procedures: Data entered and processed using SPSS statistical software. Descriptive statistics, location, shape, dispersion. Univariate analysis of variance and LSD Post-hoc's. Inferential analysis and Student's t-tests were used.

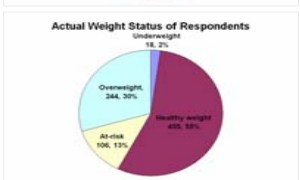
Results

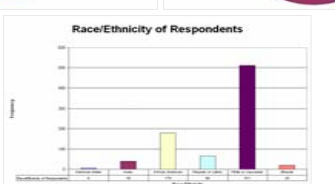












One-way ANOVAs of daily average consumption of fruit and vegetables by perceived weight status

Daily Average Servings	Underweight		Healthy Weight		At-risk		Overweight		dF	F	p-value	LSD p-value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD				
F & V Average	2.58	1.96	3.45	3.17	2.87	2.36	2.83	3.07	3;806	4.197**	0.006	0.001
Fruit	0.65	0.75	0.88	1	0.66	0.73	0.67	0.82	3;802	3.985**	0.008	0.005
Green salad	0.25	0.36	0.39	0.7	0.29	0.44	0.24	0.6	3;805	2.726*	0.043	0.024
Carrots	0.14	0.2	0.27	0.55	0.19	0.37	0.28	0.71	3;803	2.703*	0.044	0.014
Milk	1.27	1.23	1.31	1.31	1.06	1.11	0.88	1.2	3;805	2.894*	0.034	0.024
S. Beverages	1.79	1.52	1.46	1.39	1.32	1.31	2.1	1.56	3;802	5.643**	0.001	0.003

* p < .05, ** p < .01

One-way ANOVAs of daily average consumption of fruit and vegetables by perceived weight status in females

Daily Average Servings	Underweight		Healthy Weight		At-risk		Overweight		dF	F	p-value	LSD p-value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD				
F & V Average	2.47	1.8	3.57	3.53	2.76	2.46	2.86	3.62	3;392	2.757*	0.042	0.029
Other vegetables	0.52	0.64	0.8	0.97	0.53	0.69	0.67	0.93	3;391	3.226*	0.023	0.007
Sweet Beverages	1.65	1.57	1.39	1.42	1.14	1.29	2.13	1.57	3;391	4.206**	0.006	0.01

* p < .05, ** p < .01

Independent samples test for nutrition behaviors of individuals based on gender

Daily Average Servings	Male		Female		dF	t-test	p-value
	Mean	SD	Mean	SD			
Fruit juice	0.84	0.97	0.69	0.9	808; 804.86	2.172*	0.014
Green salad	0.28	0.5	0.39	0.7	811; 733.99	-2.414*	0.005
Milk	1.43	1.31	1.01	1.17	811; 803.54	4.709***	0.000
Sweet Beverages	1.61	1.39	1.39	1.43	809; 807.88	2.237*	0.026

* p < .05, ** p < .01, *** p< 0.001

One-way ANOVAs of daily average consumption of fruit and vegetables by actual weight status in males

Daily Average Servings	Underweight		Healthy Weight		At-risk		Overweight		dF	F	p-value	LSD p-value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD				
Other vegetables	0.75	0.81	0.61	0.72	0.96	1.03	0.64	0.77	3;405	3.264	0.021	0.002

* p < .05, ** p < .01

One-way ANOVAs of daily average consumption of fruit and vegetables by accuracy of weight status

Daily Average Servings	Correct		Real Higher		Real Lower		dF	F	p-value	LSD p-value
	Mean	SD	Mean	SD	Mean	SD				
S. Beverages	1.36	1.35	1.65	1.45	1.54	1.49	2;803	3.888*	0.021	0.005

One-way ANOVA of daily consumption of fruit and vegetables by accuracy of weight status in females

Daily Average Servings	Correct		Real Higher		Real Lower		dF	F	p-value	LSD p-value
	Mean	SD	Mean	SD	Mean	SD				
Carrots	0.3	0.57	0.18	0.41	0.17	0.45	2;392	3.026*	0.050	0.027
Sweet. Beverages	1.24	1.29	1.61	1.56	1.45	1.51	2;392	2.970*	0.052	0.005

Conclusions/Implications

• There were significant differences on nutrition practices among high school students by gender and perception of weight status and by gender.

•There were also significant difference in girls' nutrition habits even when they perceived correctly their weight status.

• Healthful dietary and physical activity behaviors need to begin at early childhood.

• Impact of nutrition education might be higher if early interventions are done and not so late when they are teens.

•Advocacy with food-related business so they may help to offer healthier foods is needed.

•In schools settings, target audiences for these programs might not be only the teachers but also school nurses, school staff, coaches, personnel working in the cafeteria, and parents.

• Interventions not considering these factors in their design might fail.

Limitations

- Cross sectional study
- Lack of generalizability
- Potential for social desirability and recall bias.

Key References:

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