

Adolescent Dieting and Weight Loss Practices

by

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Food selection reflects availability and prevailing social and cultural norms. Restricting food intake, or dieting, represents a conflicting set of social and cultural norms. The priority of restricting food intake is reflected in the 200 million dollars spent each year on over-the-counter appetite suppressants (Boskin, Graf, & Kreswerth, 1990) and the estimated 5 billion dollars spent annually on weight loss gimmicks and fad diets (Mullen, Gold, Belcastro & McDermott, 1990). Dieting and weight loss activities among young people, who are still maturing physically, presents a challenge to educators in informing youth to manage themselves nutritionally in light of their desires to reflect current social standards related to body shape, size and eating practices.

Review of Literature

A growing body of literature suggests that adolescents lack accurate nutrition knowledge and have poor eating habits (Mortality, Morbidity Weekly Reports, 1984; Schwartz, 1975; Skinner & Woodburn, 1984; Story & Resnich, 1986). Several studies have documented the dieting practices of adolescents, although most have focused on adolescent females with eating disorders such as anorexia nervosa and bulimia (Fowler, 1989; McNab, 1983). Relatively few studies have provided data concerning the extent adolescent dieters practice good nutrition and whether they differ significantly from adolescent non-dieters in terms of nutrition knowledge and eating practices. Additionally, little is known about the impact of health education and nutrition education on nutrition knowledge, eating

practices, or dieting practices of adolescents (Maloney, McQuire, Daniels & Specker, 1989).

This paper relates the dieting practices of Nebraskans in grades 8-10 (n = 786). The results presented here are based on the 1989 National Adolescent Student Health Survey.

Who Diets?

During the year prior to the survey 67.2% of the female sample and 28.0% of the male sample admitted to changing eating habits or having gone on a diet at least once for more than one week to control weight. Dieting usually implies an attempt to lose weight and we make this assumption in this paper; however, we do recognize that among males in particular, diets to control weight could represent conscious attempts to gain weight. Table 1 presents in detail the proportion of 8th and 10th grade males and females, who have attempted to change weight. Clearly weight control, which we shall refer to as dieting, is not restricted to only females and these data suggest that repeated efforts to control weight is relatively common, especially among females. This suggests that little success is achieved with

any single attempt at weight control, which many adults and the diet industry recognizes.

Dieting Methods

Examining the methods used by adolescents to control their weight suggests something of their knowledge about weight control and the proportion of adolescents exposed to possible risks associated with weight control. Table 2 ranks the methods of weight control used by this sample of adolescents from the most common to the least common. As a general rule the most accepted and common methods were the ones that are practiced by the majority of adolescents and the potentially dangerous methods were practiced by the smallest proportion of adolescents. In general, dieting practices were similar among females and males with a few interesting exceptions. These exceptions are most visible in the most times category. These exceptions tend to reflect socially established sex role options related to weight control and serve to remind us of the powerful socializing forces associated with food selection.

Females were markedly more likely than males to attempt to

TABLE 1
STUDENTS WHO DIETED FOR MORE THAN ONE WEEK TO CONTROL WEIGHT

	FEMALE		MALE	
	8th grade %	10th grade %	8th grade %	10th grade %
0 times	37.4	28.4	71.4	72.6
1 time	15.8	16.4	12.5	8.3
2 times	17.0	18.6	9.5	8.6
3 times	8.5	10.7	2.2	3.3
4 times	21.3	25.9	4.4	7.2
N	390	428	427	444

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control their weight by simply "eating less" (60.3% to 45.2%). Similarly, females were more likely to avoid sweets (43.5% to 30.4%), to choose low calorie foods (34.4% to 18.5%); and to eat only salads (9.1% to 4.1%). Males on the other hand were more likely to choose liquid diets (10% to 5.9%) eat high protein foods (8.4% to 3.8%), and use laxatives (4.5% to 2.3%). Potentially dangerous methods, such as using laxatives and throwing up after eating, were practiced by the fewest students. While these two methods were the least common weight control practices the finding that almost 17% of the females in grades 8-10 had practiced throwing up as a weight control method suggests a clear need to provide information about alternative methods of weight control.

DO DIETERS PRACTICE GOOD NUTRITION?

Low Risk Choices

Four items on the questionnaire allowed the comparison of dieters and non-dieters on the basis of nutritional behaviors designed to lower risks of nutrition related health problems: restricting salt use, avoiding butter, cutting fat from meat, and not eating chicken skin. Individually these items do not represent undue risks but were thought to possibly identify differences between dieters and non-dieters useful to those planning educational programs (see Table 3).

Dieters and non-dieters differed little in the use of salt or the likelihood of cutting fat from meats or removing chicken skins. Female dieters were more likely than non-dieters to avoid butter. A minority of Nebraska student dieters and non-dieters were likely to remove chicken skin before eating although this practice was more common among females than males.

Skipping Meals

Skipping meals is a common

TABLE 2
METHODS USED "MOST OF THE TIME" TO LOSE WEIGHT

	FEMALE		MALE	
	Sometimes %	Most of the Time %	Sometimes %	Most of the Time %
Eat less	34.1	60.3	38.6	45.2
Exercise	39.6	53.2	33.0	53.9
Avoid Sweets	43.2	43.5	43.3	30.4
Eat low calorie or diet foods	49.6	34.4	48.2	18.5
Skip meals	45.1	29.8	47.9	22.1
Fasting	38.9	17.5	37.7	11.4
Eat only salads	49.0	9.1	40.2	4.1
Eat only fruit	48.0	5.1	45.2	5.8
Drink only liquids	30.8	5.9	30.7	10.0
Eat high protein foods	30.1	3.8	32.5	8.4
Diet pills and candies	12.8	6.5	10.2	5.1
Throwing up after eating	11.1	5.6	6.5	4.0
Laxatives	5.3	2.3	7.0	4.5
N	551		245	

TABLE 3
DO DIETERS PRACTICE GOOD NUTRITION?

	FEMALE		MALE	
	Dieters %	Non dieters %	Dieters %	Non Dieters %
Use little/no salt	84.6	87.4	85.3	72.2
Avoid butter	62.3	53.3	56.6	57.9
Cut off some/most fat	89.6	93.8	86.2	85.7
Remove some/all skin from chicken	46.8	51.0	37.8	35.2

TABLE 4
SKIPPED MEALS IN THE PAST WEEK AS A DIETARY PRACTICE

	FEMALE		MALE	
	Dieters %	Non dieters %	Dieters %	Non Dieters %
5 or more breakfasts	49.7	40.8	41.0	28.4
5 or more lunches	23.2	13.7	12.8	10.5
5 or more dinners	11.8	5.6	8.0	5.9

practice among dieters and non-dieters but more common among dieters. Among females 49.7% of the dieters skipped breakfast 5 or more times in the last week compared to 40.8% of the non-dieting females. Forty-one percent of male dieters skipped breakfast five or more times in

the last week compared to only twenty-eight percent of the non-dieting males (see Table 4). A little less than twice as many female dieters skipped lunch but still 12.8% of the dieters did so five or more times compared to 10.5% of the non-dieters. Dinner was the least likely meal to be

TABLE 5
SNACKING PRACTICES ON THE PREVIOUS DAY

	FEMALE		MALE	
	Dieters %	Non dieters %	Dieters %	Non Dieters %
Fruit/vegetables	50.6	53.1	49.6	48.2
Juice	43.4	43.8	45.4	52.3
Milk	48.0	59.4	62.3	61.6
Chips/pretzels	32.4	39.3	34.1	42.9
Candy	45.1	58.4	51.2	63.5
Donuts/cookies	41.4	49.6	46.0	52.8

TABLE 6
NUTRITION KNOWLEDGE

	FEMALE		MALE	
	Dieters %	Non dieters %	Dieters %	Non Dieters %
Mean Scores	7.40	6.90	6.24	6.25

TABLE 7
KNOWLEDGE ITEMS CORRECT

	FEMALE	MALE
	%	%
Salt associated with high blood pressure	84.0	79.8
Cooking in fat increases the amount of fat in food	80.0	68.2
Saturated fat causes heart problems	77.9	71.2
Sugar related to dental caries	76.2	73.4
Frozen yogurt has less fat than ice cream	70.9	56.5
Ham sandwich has more salt than turkey sandwich	60.5	53.0
Cornflakes have less fiber than bran flakes	54.2	46.7
Canned vegetables have more salt than frozen vegetables	52.4	41.2
Boiling vegetables reduces vitamins	51.2	43.4
Lose weight at 1 to 2 lbs. per week	49.1	31.5
Peanut butter jelly sandwich has less fat than hot dog	31.7	29.9
Too little fiber associated with colon cancer	22.9	20.3
Baked beans have more fiber than potatoes	13.4	9.8

skipped. Dieters, however, were still more likely to skip dinner than non-dieters.

Snacking Practices

Thirteen items assessed specific snacking practices. To explore differences in snacking practices between dieters and non-dieters we selected three snacking practices judged to have

little or nor nutritional value (see Table 5).

Females are more likely than males to select nutritional snacks. Significantly fewer female dieters selected the non-nutritional snacks than did non-dieters. Among the males fewer dieters selected juice as a snack than non-dieters with little or no difference between dieters or non-

dieters on consumption of the other nutritional snacks.

Nutrition Knowledge

Thirteen items measured nutrition knowledge. Female dieters scored higher than female non-dieters. No difference was detected between male dieters and non-dieters. Females were also more knowledgeable than males (see Table 6).

Individual knowledge items indicate short falls in information for both males and females regardless of their dieting practices (see Table 7). Students knew that salt was associated with high blood pressure (82%), sugar with dental caries (75%), saturated fats with heart disease (75%), that cooking with fat increased fat in foods (74%), and that yogurt contained less fat than ice cream (63%). In each case, more females than males knew the correct answers to these questions. On the low end of the knowledge scale only 12% knew that baked beans had more fiber than potatoes, 21% knew about the fiber colon cancer relationship and only 30% could identify a hot dog as having more fat than a peanut butter and jelly sandwich. Perhaps the most striking finding about knowledge was the low scores achieved by the sample of students on this knowledge test. Average scores were frequently below 50% correct.

Effects of Education

Knowledge scores of students who had at least one health education course since the 7th grade were compared with students who had not had health education. Scores of students who had at least one nutrition education course since 7th grade were compared with students who had not had nutrition education. Females who had health education scored markedly higher than those without health education, and dieting females scored highest (Table 8). Having had health education had no

significant effect on the nutrition scores of males, whether dieters or non-dieters.

Nutrition education was reflected in significantly higher scores for females and males who had a nutrition education course compared to those who had not (see Table 9). Among the females, dieters who had nutrition education achieved the highest mean score. Dieting had no clear impact on the nutrition scores of boys.

The implications of these differences are evident when individual snacking practices on the previous day are examined. In each case more of those having had health or nutrition education tended to choose healthy snacks: milk, juice, and fruit/vegetables. Education did not appear to be related to the number of students eating less healthy snacks such as chips and pretzels (see Table 10). The results of health education and nutrition were compared with the education to knowledge scores using an analysis of variance (ANOVA). Among females, health education was significantly related to nutrition knowledge ($p < .001$). For males the effects were not as great ($p < .04$), but still deemed significant.

Implications

These findings raise some challenging questions for those who grapple with adolescent health problems and high risk behaviors. Research on adolescent eating practices consistently reports that a significant proportion of children and adolescents have unhealthy eating patterns and food preferences that are usually high in fat, salt and sugar. These dietary habits put youth at risk for cardiovascular diseases, cancer and other illnesses as they grow and develop into adults. There is clearly a need for school-based interventions that focus on dietary behavior change. Schools represent the most efficient educational vehicle to children and adolescents. The following

TABLE 8
HEALTH EDUCATION AND NUTRITION KNOWLEDGE

	FEMALE		MALE	
	Dieters %	Non dieters %	Dieters %	Non Dieters %
Mean Scores of students who had at least one health education course since 7th grade	7.6	7.1	6.3	6.4
Mean Scores of students who did not have at least one health education course since 7th grade	6.3	6.5	6.6	5.6

TABLE 9
NUTRITION EDUCATION AND NUTRITION KNOWLEDGE

	FEMALE		MALE	
	Dieters %	Non dieters %	Dieters %	Non Dieters %
Mean Scores of students who had at least one nutrition education course since 7th grade	7.6	7.1	6.7	6.8
Mean Scores of students who did not have at least one nutrition education course since 7th grade	6.5	6.3	5.2	5.3

TABLE 10
RELATIONSHIP OF HEALTH EDUCATION TO SNACKING PRACTICES

Snack Selection:	Health Education %	No Health Education %
Chips/pretzels	33.4	30.9
Nuts	10.2	10.5
Fruit/Vegetables	51.9	40.1
Juice	45.4	36.2
Milk	53.5	46.6

discussion presents the basic components of Perry's (1985) conceptual framework for school-based health promotion and suggests ways to apply this model to nutrition education. The model in part, proposes that school

health promotion interventions occur on three levels: environment, personality, and behavior.

Level I: School Environment
Intervention strategies at this

FIGURE 1
A SCHOOL-BASED HEALTH PROMOTION APPROACH TO NUTRITION

SCHOOL ENVIRONMENT	PERSONALITY	BEHAVIOR
Availability of healthy alternatives in vending machines, school stores, lunch programs	Predisposing factors: enhancing knowledge, attitudes and beliefs	Skill development: - decision making - resistance to peer pressure - assertiveness - self-management
Educate influential role models: coaches, teachers, family	Enhancing values of students	Skill practice: - guided practice - independent practice - incrementally
Parental involvement	Developing self-efficacy	
Availability of counseling & referral	Strengthen locus of control	Feedback/reinforcement
Media: school newspapers, posters	Cultural diversity	
Support groups for eating disorders		

level are designed to develop new norms and expectations for health enhancing behavior. Exposure to influential models, social support and the opportunity to practice alternative behavior are included. Figure 1 illustrates how nutrition interventions may be applied to these attributes. Providing health alternatives in vending machines, school stores and school lunch programs may barriers to healthy foods and snacks as well as weaken the existing norms and expectations for health-compromising behavior. As humans grow and develop, it is natural that they expand their range of models, which may include friends, coaches, teachers, and even media figures. To the extent that these exist, efforts could be made to educate these potential role models on weight loss, eating practices and other issues salient to adolescents. Families provide the most powerful influence for children and adolescents. Strategies should therefore involve family members in community and school-based nutrition education programs.

Level 2: Personality

Attributes at this level may

include the predisposing factors and enduring dispositions of an individual that can affect health-enhancing behavior. To intervene at the level of personality may require that we as educators focus on developing students' values toward health and good nutrition. Particular to adolescents, concern with body image and appearance often lead to a preoccupation with dieting, especially among adolescent females. Instructional strategies could focus on enhancing positive body image in adolescents. Strengthening youths' sense of control or mastery over their health and their ability to make informed food choice is critical if they are to maintain positive health behavior.

Level 3: Behavior

To intervene at the behavioral level would require the development of skills, the practice of new skills, positive reinforcement and self-management of the new behavior. Adolescents appear to lack skills in interpreting food labels when making food choices, evaluating their own diets for low density nutrients, cooking and eating

practices in ways that reduce or control saturated fat, and selecting substitutes for high fat, sodium and sugar ingredients. Clearly, skill training such as decision-making and resistance to peer pressure (e.g., fending off pressure to eat junk food or to practice unsafe dieting) need to be taught. It is also important that adolescents have the opportunity to practice newly learned skills and to have these new behaviors reinforced.

Summary

The potential for promoting health-enhancing behavior change through nutrition education, can be explored from three levels and are summarized by the following questions:

1. How can your school environment be changed in a way that supports good nutrition?
2. How can the personality characteristics of your students be enhanced or modified to support health enhancing behavior?
3. How can behaviors exhibited within the school be modified and become more health enhancing? □

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