

Exercise Your Options

Formative evaluation results of middle school students participating in a nutrition education program.

Program Development

The *Exercise Your Options* nutrition education curriculum is designed to be meaningful to students and result in improved food choices and achievement of 60 minutes of physical activity each day. *Exercise Your Options* maximizes its contribution to schools by encouraging behavior change versus simply providing information. “Small starts”; that is, focus on improvement versus perfection is a strategy employed throughout the lessons.

Study Design

A formative evaluation was conducted in 2007 after *Exercise Your Options* was released with an external research firm, Harder+Company. It included a student pre- and post-survey with questions on knowledge, attitude and behavior; classroom observations and teacher feedback through a questionnaire and extensive individual telephone interviews to identify areas for program improvement and to confirm student changes. The project included: 16 teacher interviews, 21 classroom observations by trained observers, 14 teacher post-surveys and 566 student pre-post surveys. The four program outcomes are:

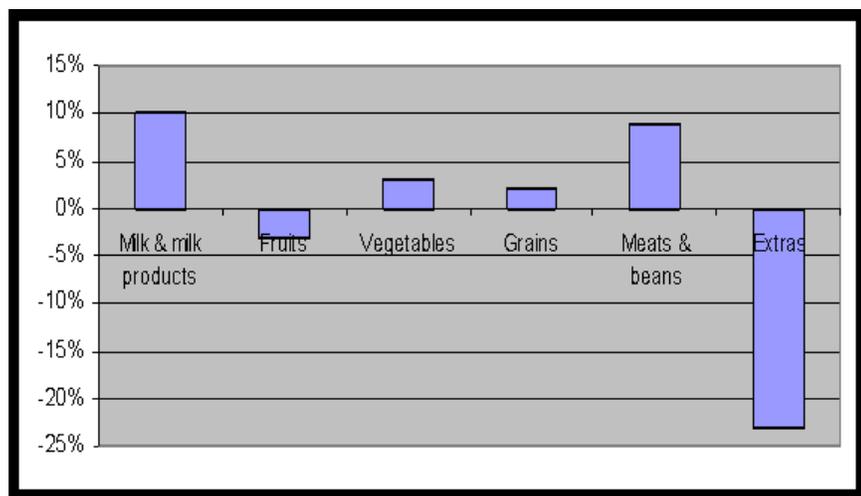
- * Students will recognize that they are unique and will apply their individual perspectives to the decisions they make every day that influence their health, specifically their food and activity choices.
- * Students will organize and analyze their food choices and make a personal plan for improvement utilizing USDA’s MyPyramid food guidance system.
- * Students will identify the connections among physical activity, food choices and good health and then make a plan to include activity in their choices each day.
- * Students will acquire skills to make better choices when presented with a range of real-world issues frequently encountered in middle school.

Results of the Program on Nutrition Behaviors

A previous-day recall instrument was used to measure daily consumption of food-group foods and extras. Specifically, participants were asked to, “Think about all the meals and snacks you had from the time you got up until you went to bed yesterday. Be sure to include food you ate at home, at school, at restaurants or anywhere else.” Response options spanned from “0 times” to “3 or more times.”

Students reported increasing consumption of foods in the Milk and Dairy Products; Meat, Beans & Nuts; and Breads, Grains & Cereals food groups at statistically significant levels. Vegetable food-group intake increased and fruit intake decreased based on self-reports, although neither was statistically significant. Student report of the number of times they consumed extras, or discretionary calories, decreased significantly. See Figure 1.

Figure 1: Change in pre-,post-survey student reports of times foods were consumed per day



Students were asked to indicate behavior changes they had made regarding breakfast consumption and using food labels to make more informed food choices. There was a significant increase in the proportion of students eating breakfast, from approximately 70 percent reporting eating breakfast on the pre-survey to 73 percent of students reporting eating breakfast on the post-survey. Students also reported the frequency by which they read nutrition labels on food. Results found that there was a statistically significant increase in the proportion of students who reported that they almost always or always read nutrition labels ($p = .008$).

Results of the Program on Physical Activity and Sedentary Behaviors

In addition to assessing changes in food-group foods, student physical-activity behavior was assessed by asking the number of days in the past week that students participated in at least 60 minutes of physical activity. Overall, there was a significant mean increase of about half a day per week of at least 60 minutes of physical activity between the pre- and post-surveys ($p = .002$). Correspondingly, there was a significant decrease in TV, video and DVD viewing. Overall, video game playing decreased from the pre-survey to the post-survey.

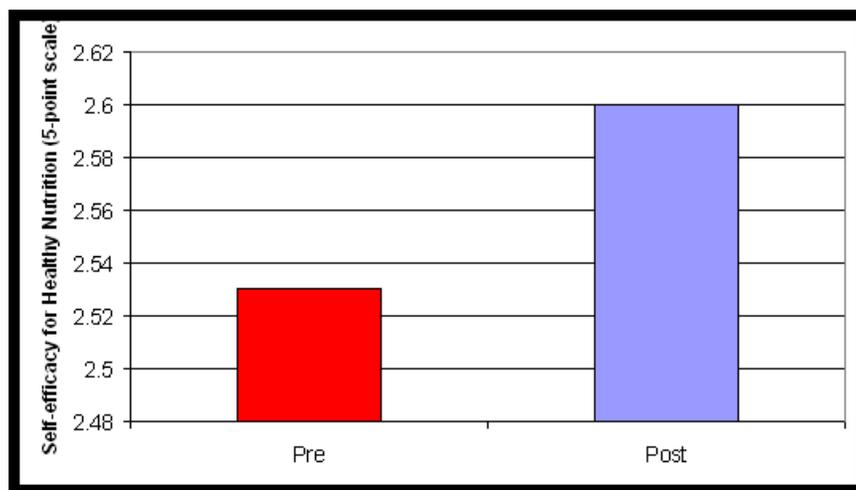
Effect of EYO on Student Knowledge

Students' knowledge of recommended daily servings for each food group, general nutrition knowledge and general physical-activity knowledge significantly increased between the pre- and post-survey ($p < .001$).

Effect of Program on Self-Efficacy

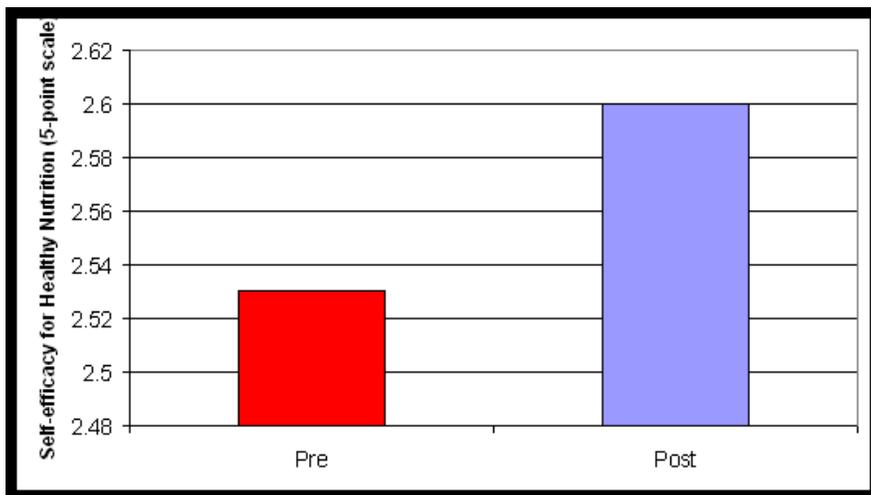
Self-efficacy is a person's belief that he or she can successfully perform an action. *Exercise Your Options'* personalized approach encourages identifying problems, considering options and developing plans to address the problem to increase students' confidence and value for making healthy lifestyle choices. Self-efficacy for participating in healthy nutrition and physical-activity behaviors was assessed through a 10-item instrument. Nutrition self-efficacy was measured through the following seven items that began with "I can eat at least (portions of each food group) every day." A three-point response scale (i.e., 1 = disagree, 2 = not sure, 3 = agree) was used. Data analyses found that there was a small but significant difference between self-efficacy scores on the pre- and post-surveys ($p = .001$). As shown in Figure 2, self-efficacy for healthy nutrition increased between the two time points.

Figure 2: Self-Efficacy for Healthy Nutrition: Mean Scores on Pre- and Post- Surveys



Physical activity self-efficacy was measured through the following three items: (1) "I can choose to do something physically active instead of watching TV," (2) "I can ask my friends to do physically active things with me," and (3) "I can find time to be physically active no matter how busy my day is." A three-point response scale (i.e., 1 = disagree, 2 = not sure, 3 = agree) was used. Data analyses found that there was a significant difference between self-efficacy scores on the pre- and post-surveys ($p = .036$). As shown in Figure 3, self-efficacy for healthy nutrition increased between the two time points.

Figure 3: Self-Efficacy for Physical Activity: Mean Scores on Pre- and Post- Surveys



Summary of Student Survey Results

Overall, students participating in *Exercise Your Options* experienced significant changes in nutrition and physical-activity behaviors, knowledge and self-efficacy. In particular, daily consumption of Milk & Dairy Products; Grains, Breads & Cereals; and Meat, Beans & Nuts food groups increased, whereas consumption of extras (e.g., sweets, sodas, sugars) decreased over the course of the program intervention. Also, a larger proportion of students reported eating breakfast on the post-survey than the pre-survey.

With regards to physical activity and sedentary behaviors, the mean number of days per week of at least 60 minutes of physical activity increased, whereas the TV/DVD watching and video game playing decreased between the pre- and post-surveys.

In addition, knowledge of recommended daily servings, portion sizes, general nutrition and physical activity significantly improved over the course of the program. Lastly, students participating in *Exercise Your Options* reported higher levels of nutrition and physical activity self-efficacy on the post-survey as compared to the pre-survey.

Program changes are slated to further enhance the program implementation and student outcomes. A summative outcomes evaluation of this nutrition and physical activity middle school program will be implemented once the development phase is complete.

Fridlund Dunton G, Lagloire R, Robertson T. Using the RE-AIM Framework to Evaluate the Statewide Dissemination of a School-based Physical Activity and Nutrition Curriculum: *Exercise Your Options*. *American Journal of Health Promotion*. March/April 2009. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2657926/>

