SNE Annual Conference
FNEE Poster Session - July 19, 2008
Westin-Peachtree Plaza Hotel - Atlanta, GA

Title: *WalkFit*: A theory-driven intervention for adolescents to increase mean daily steps to improve physical activity levels while reinforcing CA content standards

Authors: Marilyn S. Townsend, PhD, RD; Christine Davidson; Larissa Leavens; Lynn-Kai Chao; Margaret Johns, MA; Lucrecia Farfan-Ramirez, MPH.

Abstract:
Background: The first representative survey of physical activity habits of California's two million adolescents, ages 12 to 17, was conducted by CALTEENS in 1999. The results confirm the high prevalence of sedentary behaviors that may lead to acute and chronic disease. The statewide survey paints a bleak picture of health of California adolescents - a third of whom are at risk of being or are already overweight or obese. School-based nutrition education is particularly important because large numbers of children can be reached. The purpose of this report is to describe the development of a school-based physical activity intervention for adolescents (Grade 6).

Methods: Extensive cognitive testing procedures with adolescents (n=60?) were used with each stage of development and component of *WalkFit*. Four questions were asked of individual students to elicit their opinions about the program title, logo, selection of adolescent models used throughout, format and use of lifestyle quizzes, location of activities (classroom, playground, cafeteria, library, and after school daycare), enjoyment of activities, and value of step counters. For example, an important question after reviewing the activity 'Every Friend Counts' was, "Now thinking about your friends at school, how could we make this activity more interesting and understandable for them. Are there any words you think we should change?"

Description of intervention: *WalkFit* was designed to promote physical activity in adolescents using social cognitive theory. All students receive an interactive magazine style workbook and a step counter to track daily steps. In tandem with a focus on increasing physical activity, each lesson addresses California's education standards for mathematics and physical education. Step counters (sometimes called pedometers) are used to encourage an increase in the mean daily step count. The 6 lesson program is aligned with CA content standards for mathematics and physical education for grade six.

Theory: Three major Social Cognitive Theory constructs are incorporated into the development of *WalkFit*: self-efficacy, outcome expectancies (motivators) and self-regulation. Curriculum strategies used to achieve self-efficacy and behavior change include modeling, contracting, goal setting, skills mastery, rewarding. *WalkFit* has a goal setting component throughout. Guided goal setting, a refinement of goal setting theory, was developed at UC Davis [An Innovative Approach to Goal Setting for Adolescents: Guided Goal Setting. *J Nutrition Education & Behav*ior. 2004; 36:155-156] and is used in *WalkFit*. This specialized goal setting for adolescents recognizes the adolescent's need for autonomy and accomplishes this by offering carefully selected choices. Each week the student sets a goal to increase his steps by 8, 10 or 12%. The decision is the student's. The student will also set a goal based on the lesson topic; for example, after learning about changing sedentary thoughts, he will name one sedentary activity he usually does and what kind of active activity he will choose instead. The lesson topics and

strategies include rewards for being active, overcoming barriers, cognitive restructuring, social support, changing sedentary thoughts and goal setting.
Increasing physical activity is very difficult, but with the help of goal setting, it is made easier. There are four categories of goal setting: self–set, participatory, assigned, and the fourth, developed especially for adolescents and used in *WalkFit*, guided goal setting. Using personal motivators, *WalkFit* aims to increase confidence in taking more steps and enjoying it at the same time. *Guided goal setting* provides young people with choice from a list of practitioner-determined goals. It retains the adolescent's autonomy while assuring that goals are specific, proximal, and difficult, yet attainable – keys to goal achievement.

Each lesson provides students the opportunity to practice skills, receive encouragement, and establish social support that, in turn, increases self efficacy. The motivational construct, outcome expectancies (OE), refers to an adolescent's perception of the outcomes of a particular behavior and the value placed upon these outcomes. We conducted focus group interviews with adolescents during the formative stages of intervention development for *EatFit* and found that "improved appearance," "increased energy," and "increased independence" were the outcome expectancies or motivators identified by these youths. For the *WalkFit* intervention, the 3 motivators were coupled with physical activity behaviors and integrated throughout the step goal setting process each week.

The third SCT construct, self-regulation, has multiple components: self-monitoring, goal setting, barrier counseling, and reinforcement. *WalkFit* promotes self-monitoring through personal physical activity assessments to determine a mean baseline step count. Based on the weekly assessment, students set goals and then monitor their goal progress. They have the opportunity to set progressively more complicated goals. Rewards or positive reinforcements in the form of raffle tickets are provided for goal attainment. Throughout the intervention, students engage in problem-solving activities such as a discussion of hypothetical and personal barriers to increasing mean daily steps.

Evaluation: Qualitative data was used in an interactive process until students responded favorably to all *WalkFit* components, title, logo, visuals and activities.

Funding: University of California Cooperative Extension, EFNEP, University of California at Davis.