

**Providing Nutrition Information at the Point of Sale in a Dining Service Environment**Jane Kolodinsky, Ph.D.<sup>1</sup>Rachel K. Johnson, Ph.D., R.D.<sup>2</sup>Jean Harvey-Berino, Ph.D., R.D.<sup>2</sup>Linda Berlin, Ph.D.<sup>2</sup>

There are many reasons why consumers should have access to nutrition information at away from home dining establishments. Food away from home (FAFH) consumption accounts for nearly one half of all food dollars spent (Stewart et al., 2004). For children ages 12-17, FAFH comprises one-third of their caloric intake, with fast food preferred. Almost 40% of their calories are from FAFH. And, overall energy density of FAFH is 1.4 times or higher compared to food at home, and depends on an individual's overall diet quality (Variyam, 2005). Yet, the industry has resisted supplying nutrition information for a variety of reasons. Public policy makers, as a result, have introduced or implanted legislation to require labeling in away from home venues in 29 states. The United States Department of Agriculture (USDA) Keystone Forum on away from home foods suggests that labeling restaurant foods can help combat weight gain and obesity (Keystone Center, 2006).

Using a randomized control trial, this study examined whether nutrition labeling alone and nutrition labeling combined with education altered food choices of first year college students enrolled in a dining plan. We hypothesized that students in the intervention group would improve their dietary choices following a labeling intervention. Further, we hypothesized that food choices would again improve following a second intervention of a nutrition workshop along with the nutrition labels, compared to the control group. Subjects for this study included 97 first time/first year college students enrolled in one of two colleges at a single northeastern university who completed all baseline data collection and participated in three interventions. We obtained multivariate results of the analysis of variance model, with repeated measures, controlling for gender and baseline purchases. There was a significant interaction effect between time period and group membership for percent calories from total fat ( $F=3.21$ ;  $p<=.042$ ) purchased over the three time periods. There was a trend for the interaction effect for time period and group membership for percent of calories from saturated fat purchased ( $F=2.66$ ;  $p<=.10$ ). There was a trend toward a decrease in the percentage of calories from total fat of 3.5 percentage points (3.5%) for the experimental group after the labels plus education time period ( $p<=.09$ ). There was a significant decrease in the percentage of calories from total fat purchased at short term follow-up with labels of 4.7 percentage points (4.7%) ( $P<=.01$ ). Baseline purchases of percent calories from total fat was significantly associated with higher percentage of total calories from fat at each time period ( $p<=.01$ ). For percent calories from saturated fat, higher baseline purchases were significantly associated with higher percentage of total calories from saturated fat purchased at each time period ( $P<=.03$  or less). There was a decrease in percent calories from saturated fat purchased of 2.1 percentage points (2.1%) at short term follow-up with labels ( $P<=.01$ ). Labeling ONLY didn't make a difference. Labeling plus education is associated with a decrease in the percentage of calories from fat purchased, with the largest changes occurring after short-term follow-up with labeling.

Because dining hall food tended, in general to be high in fat, the issue of health promotion vs. health protection rises to the forefront. Perhaps there should be a movement towards offering higher "quality" food in food away from home venues. Overall, both labeling and education are both needed to make a change. And, it appears that healthy eating patterns have to start early. In this study, baseline eating habits were the MOST influential throughout the study. Eating patterns are already established at college entrance.

**References**

The Keystone Center. *The Keystone Forum on Away-From-Home Foods: Opportunities for Preventing Weight Gain and Obesity*. Washington, D.C.: The Keystone Center. 2006.

Stewart H, Blissard N, Bhuyan S, Nayga R. The demand for food away from home: Full service or fast-food? *ERS Research Brief*. 2004.

Variyam JN, Blaylock J, & Smallwood D. Diet-Health Information and Nutrition: The Intake of Dietary Fats and Cholesterol. In D. o. Agriculture (Ed.): *Economic Research Service*. 1997.

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