

College Students Must Overcome Barriers to Use Calorie Labels in Fast-Food Restaurants

Kimberly A. Stran, PhD, RD¹; Linda L. Knol, PhD, RD¹; Lori W. Turner, PhD, RD²; Kimberly Severt, PhD¹; Debra M. McCallum, PhD³; Jeannine C. Lawrence, PhD, RD¹

ABSTRACT

Objective: To explore predictors of intention of college students to use calorie labels on fast-food menus and differences in calories ordered after viewing calorie information.

Design: Quasi-experimental design. Participants selected a meal from a menu without calorie labels, selected a meal from the same menu with calorie labels, and completed a survey that assessed demographics, dietary habits, Theory of Planned Behavior constructs, and potential barriers to use of calorie labeling.

Setting: A southern university.

Participants: Undergraduate university students ($n = 97$).

Main Outcome Measures: Predictors of intention to use calorie labels and whether calories selected from the nonlabeled menu differed from the labeled menu.

Analysis: Confirmatory factor analysis, exploratory factor analysis, multiple regression, and paired t tests.

Results: Participants ordered significantly fewer calories ($P = .02$) when selecting from the labeled menu vs the menu without labels. Attitudes ($P = .006$), subjective norms ($P < .001$), and perceived behavioral control ($P = .01$) predicted intention to use calorie information but did not predict a difference in the calories ordered. Hunger ($P = .03$) and cost ($P = .04$) were barriers to using the calorie information.

Conclusions and Implications: If students can overcome barriers, calorie labeling could provide information that college students need to select lower-calorie items at fast-food restaurants.

Key Words: nutrition labeling, consumer health information, restaurants, health policy (*J Nutr Educ Behav.* 2015; ■:1-9.)

Accepted September 22, 2015.

INTRODUCTION

The National Restaurant Association reports that Americans will spend \$709.2 billion in restaurants in 2015, an 87% increase from 2000.¹ Foods served in restaurants and fast-food establishments are typically high in total fat and calories and lacking important nutrients such as fiber and calcium.^{2,3} Therefore, consumption of frequent fast-food meals may lead to weight

gain and obesity.⁴ This issue is compounded by the fact that portion sizes at many fast-food restaurants continue to increase.⁵ The Restaurant Nutrition Menu Labeling Requirement within the Affordable Care Act requires chain restaurants with ≥ 20 locations to provide calorie information on their menus, menu boards, and drive-through menus.⁶ In addition, restaurants are required to post a statement about the suggested daily

caloric intake for the majority of American adults, thereby giving consumers a point of reference.⁶

The college environment can create changes in the dietary habits of students, especially for those who are living on their own for the first time. Many college students eat often in fast-food restaurants, which can lead to weight gain over time.⁷ Although the effects of calorie labeling in fast-food restaurants among adults have been widely studied,⁸⁻¹⁵ to date, only 2 studies have explored college students' use of posted calorie information in fast-food restaurants.^{16,17} Both studies found that women were more likely than men to use the calorie information to make a meal decision. The posting of calorie information did not have a significant effect on the calories ordered by men. In contrast, women who made meal selections from menus with calorie information ordered fewer calories than women with a standard fast-food menu.¹⁷

Reports in the existing literature lacked a theoretical framework to

¹Department of Human Nutrition and Hospitality Management, University of Alabama, Tuscaloosa, AL

²Department of Health Science, University of Alabama, Tuscaloosa, AL

³Institute for Social Science Research, University of Alabama, Tuscaloosa, AL

Conflict of Interest Disclosure: The authors' conflict of interest disclosures can be found online with this article on www.jneb.org.

Address for correspondence: Kimberly A. Stran, PhD, RD, Department of Human Nutrition and Hospitality Management, 403 Russell Hall, Box 870311, University of Alabama, Tuscaloosa, AL 35487; Phone: (205) 737-5935; Fax: (205) 348-2982; E-mail: kstran@ches.ua.edu

©2015 Society for Nutrition Education and Behavior. Published by Elsevier, Inc. All rights reserved.

<http://dx.doi.org/10.1016/j.jneb.2015.09.009>

guide the choice of potential determinants of college students' use of calorie information in a fast-food restaurant. The researchers used the Theory of Planned Behavior (TPB)¹⁸ as a framework in this study to help explain the relationship between the constructs of the model (attitudes, subjective norms, and perceived behavioral control) and intention to use calorie labels. The theory posits that people are more likely to engage in the target behavior if they have an intention to participate in the behavior. Attitudes toward the behavior, subjective norms, and perceived behavioral control of the behavior each predict intention to perform the behavior. Therefore, the objectives of this study were to (1) confirm the factor structure of the TPB model through confirmatory factor analysis; (2) further investigate which sociodemographic information, current health status indicators, and TPB constructs were associated with intention of college students to use calorie labels in fast-food restaurants; and (3) determine whether college students changed their meal choice after viewing calorie information and describe the groups of college students who were more likely to change.

METHODS

Participant Recruitment

The authors completed recruitment for this study in conjunction with a similar study examining college students' use of calorie information in full-service restaurants. A convenience sample of 65 professors at a southeastern US university was contacted and 22 professors (33.8%) agreed to allow class time for participant recruitment. Among the 1,595 students present during classroom recruitment, 525 students (32.9%) asked for further information and 200 students (12.5%) participated in the overall study, with 100 students randomly assigned to this portion of the study. Power calculations were completed to determine adequate sample size. Based on the study of Pawlak et al¹⁹ of 53 students showing a change of 263 cal after provision of nutrition information, 90% power could be achieved with 87 students. Therefore, 100 students were randomly assigned to participate in the fast-food portion of this study.

Students were offered a \$5 cash incentive for participation. Students were excluded from the study if they majored in nutrition, were aged < 19 years, or followed a restricted diet owing to food allergy or intolerance. This study was approved by the University of Alabama's Institutional Review Board.

Data Collection

Data collection took place over 5 weeks in March and April, 2013. Participants were seated in a mock dining room, asked to rate their current hunger status on a scale of 1 (ravenous) to 9 (stuffed), and then make a meal and beverage selection from a menu without calorie labels. Next, participants completed 10 math problems as a distractor, and then selected from a menu with calorie labels. After making the second meal choice, participants completed a 41-item survey. Finally, participants' height and weight were measured and recorded by trained research assistants. A stadiometer (SECA model 240, SECA Corp, Hamburg, Germany) was used to measure each participant's height to the nearest centimeter and a digital scale (Tanita model BF 350, Tanita Corporation of America, Arlington Heights, IL) was used to measure each participant's weight to the nearest 0.1 kg.

Instrument

The researchers developed a survey to address sociodemographic information, general health status, potential barriers to healthful eating, and constructs in the TPB. The demographic section of the survey inquired about gender, age, rank in school, race/ethnicity, and housing location during the school year. Previously validated questions addressed the participant's current health status, including weight perceptions, diet quality, current weight control practices, and concerns about weight.^{20,21} Finally, participants were asked to indicate the frequency with which they dine in fast-food restaurants. Previous research identified barriers to healthful eating among college students²²⁻²⁶; therefore, questions regarding 4 barriers (time, hunger, cost, and ease of use) were included in the survey as potential modifiers.

Questions used to assess attitudes, subjective norms, perceived behavioral control, and intention constructs of the TPB were developed in accordance with a manual for health researchers (Table 1).²⁷ A set of standardized questions was used to assess attitudes (7 items), subjective norms (3 items), perceived behavioral control (1 item), and intention (4 items) to use calorie information to make a meal choice. To use these questions, a researcher inserts the behavior of interest into each question. Three surveys were excluded from the final analysis (n = 97) owing to incomplete answers to questions that addressed the TPB constructs.

Two fast-food menus were developed for this study to mimic menus of the top 3 fast-food chain restaurants in sales in the US. A menu from a nationally recognized restaurant was not used to broaden the scope of the study, so that results are applicable to more > 1 specific fast-food restaurant. The menus were designed to be generic to reduce selection of preferred items at a specific restaurant. The menus contained 32 typical items found in a fast-food restaurant, including hamburgers, chicken and fish sandwiches, salads, side items such as french fries and fruit cups, and beverages. The second fast-food menu was identical to the first menu, but contained calorie information next to the name of each food or beverage item. The second menu also had a different restaurant name, order of items, and color scheme to make it appear to be a different restaurant, because the time between each menu presentation was short. Calorie information was obtained from the Web sites of the top 3 fast-food restaurants and mean calorie level for each menu item was computed so that the information was realistic and similar to what would be posted on a restaurant menu board. Cost was not included on the menus so as to understand the direct result of caloric information on meal selections.

Data Analyses

According to Schumacker and Lomax,²⁸ confirmatory factor analysis (CFA) allows the researcher to specify

Download English Version:

<https://daneshyari.com/en/article/10314753>

Download Persian Version:

<https://daneshyari.com/article/10314753>

[Daneshyari.com](https://daneshyari.com)