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1. Accession 0217078	Agency Identification No. 2. CSREES 3. LA.B	5. Work Unit/Project No. LAB03958	6. Status Final Report	
7. Title Building Preferences for Fruits and Vegetables by Low-Income Elementary School Students				
12. Investigator Name(s) (Last Name and Initials) Tuuri, G.; Pierce, S.				
20. Termination Date 02/14/2012			40. Period Covered (mo/da/year): 02/15/2009 TO 02/14/2012	
Outputs: Project activities included a pilot study, a quasi-experimental school-based intervention, parent focus group interviews and the development and dissemination of a parent newsletter. Study findings were provided to local, national and international audiences. Following analysis of the student questionnaires and the parent focus group findings, a newsletter was distributed to parents of first, third and fifth grade students attending four elementary schools. Study findings were shared with the West Baton Rouge schools Superintendent and Child Nutrition Staff. Two scientific posters were presented at the Annual Experimental Biology conference in Anaheim, CA, April 24-28 and were subsequently published as abstracts in a peer-reviewed journal. Information was disseminated as follows: one oral presentation and one poster presented at the Annual Experimental Biology conference in Washington, DC, which were subsequently published as abstracts in a peer-reviewed journal; one manuscript was published in a peer-reviewed journal; another manuscript was accepted for publication; and research findings were presented at the Oxford Roundtable "Children's Health and Rights" Conference, Oxford, UK.				
Outcomes/Impacts: The results suggest that participation in a school-based fruit and vegetable tasting program positively impacted lower, middle and upper elementary school children's liking for fruits and vegetables, preferences for less commonly served fruits, and self-efficacy to consume fruits and vegetables. In this group of low-income first, third, and fifth graders, who were offered small portions of four fruits or four vegetables, no differences were noted between grades in willingness to taste two or more of the four fruits served at the first tasting session, but first graders were 4.6 times more willing to taste two or more vegetables when compared to fifth graders, and third graders were 8.2 times more willing to taste two or more vegetables when compared to fifth graders. A significant number of children who began the tasting program disliking fruit or vegetable items reported liking all items by the end of the 8-week intervention. Their change in preference was maintained at four-month and one-year post-intervention assessments. At least two tastes were required to observe a significant change in preference for canned apricots, peaches, and pears, whereas fresh cantaloupe required a minimum of four tastes. At least five tastes were required to observe a significant change of preference for fresh bell peppers, carrots, and tomatoes while canned peas required at least six tastes. Differences in preference were observed between lower, middle, and upper elementary school students, but these differences were not consistent at 8-week, four month, and 1-year assessments. Girls reported high preference for peaches, pears, bell peppers, and while boys reported higher preference for apricots and carrots. No gender differences were noted for cantaloupe, peas, or tomatoes. Children who began the program and liked the foods did not report a decrease in preference for these items as a result of participating in the tasting program. The fourth and fifth graders who participated in the tasting program increased their preferences for fruits less commonly served by the National Child Nutrition Program from baseline to post-8-week intervention and greater self-efficacy to consume fruits and vegetables from baseline to follow-up when compared to control-group children. Preferences for vegetables and other psychosocial variables associated with fruit and vegetable consumption including social norms and outcome expectations did not change as a result of participating in the school cafeteria-based tasting program.				
Publications: Lakkakula, A., Geaghan, J. P., Wong, W., Zhanovec, M., Pierce, S., Tuuri, G. (2011). A cafeteria-based tasting program increased liking of fruits and vegetables by lower, middle, and upper elementary school-aged children. <i>Appetite</i> , 57: 299-302. Lakkakula, A., Wong, W., Zhanovec, M., Pierce, S. Tuuri, G. (2010) Association of age, gender and weight status with				

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willingness to taste fruits and vegetables among elementary school children (abstract), FASEB Journal, 24:322.2.

Lakkakula, A. Zanovec, M., Pierce, S., Murphy, E., Tuuri, G. (2010) A school wellness program combined with repeated taste exposures increased preferences for fruits and vegetables in fourth and fifth grade children, (abstract) FASEB Journal, 24:732.3.

Wong, W., Lakkakula, A., Zanovec, M., Tuuri, G. (2010) Examination of fruit and vegetable preferences of low-income public elementary school children (abstract), FASEB Journal, 24:732.8.

Lakkakula, A., Wong, W., Zanovec, M., Geaghan, J., Pierce, S., Tuuri, G. (2011) A cafeteria-based tasting program increased liking of fruits and vegetables by lower, middle and upper elementary school-age children (abstract), FASEB Journal, 25:30.6.

Wong, W., Lakkakula, A., Zanovec, M., Geaghan, J., Pierce, S., Tuuri, G. (2011) A cafeteria-based tasting program improved elementary school childrens preferences for fruit and self-efficacy to consume fruits and vegetables (abstract), FASEB Journal, 25:781.9.

Wong, W., Lakkakula, A., Geaghan, J., Zanovec, M., Pierce, S., Tuuri, G. (2012). A cafeteria-based tasting program improved elementary school childrens fruit preferences and self-efficacy to consume fruits and vegetables, Journal of Food Research (in press).

Participants:

G. Tuuri (PI), S. Pierce, A. Lakkakula and Wei-Ping Wong, LSU AgCenter.

Target Audiences:

The target audience for this project included low-income first, third, and fifth grade children attending one of four public elementary schools in West Baton Rouge Parish, LA and their parents. Small groups of parents for first, third and fifth graders also participated in focus group interviews.

Project Modifications:

There were no major changes in the approach to this scientific investigation.

Approved (Signature)	Title	Date
		