

Development and Application of a Framework to Assess Community Nutritionists' Use of Environmental Strategies to Prevent Obesity

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ABSTRACT

Objective: To develop and apply a framework exploring the extent of involvement in promoting environmental changes to prevent obesity by a group of nutrition educators (NE).

Design: Cross-sectional, mixed methods: qualitative interviews informed framework development; survey applied framework to describe NE's involvement in environmental changes.

Setting: Cooperative Extension in New York State. Participants: Interviewees (n = 7) selected to vary in environmental change activities and rural/urban location. Survey response rate was 100% (n = 58).

Phenomenon of Interest/Variables Measured: Dimensions and degree of NE's involvement in promoting environmental change.

Analysis: Thematic analysis of qualitative data, triangulated with descriptive analyses of NE's performance of tasks in various settings.

Results: NE's promotion of environmental changes was characterized using framework based on *settings* and *tasks*, dimensions that emerged from qualitative analysis. NE's actions varied across these dimensions and ranged from low to high intensity of collaboration and leadership for environmental change. Most NE surveyed reported actions limited to providing information and recommendations on healthy eating and physical activity. Few reported intensive engagement in developing, implementing, and evaluating plans to change environments for obesity prevention.

Conclusions and Implications: Framework identifies the levels of engagement in promoting environmental changes and supports future research and practice of community nutrition professionals by providing a roadmap for assessing their involvement on multiple levels to prevent obesity.

Key Words: socioecological model, nutrition, environment, obesity prevention, community nutrition (*J Nutr Educ Behav.* 2014;46:475-483.)

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INTRODUCTION

To combat the rise of obesity, researchers and practitioners have increasingly applied a socioecological perspective that emphasizes the impact of the *environment* (ie, context external to the individual) at multiple levels—interpersonal, organizational, community, and society—on individuals' behaviors and well-being.¹⁻⁴ Community-based strategies that target multiple environments through collaboration have the potential to prevent weight gain in the targeted

population.^{5,6} This includes a spectrum of strategies such as making school menus healthier, establishing wellness policies in organizations, and increasing access to healthful foods and physical activity in communities.^{5,6} While staff of public health and service agencies are familiar with working on the individual and interpersonal levels involving families,^{7,8} they are being urged to mobilize their resources to promote changes on the organizational and community levels that can support healthy eating and

physical activity to prevent obesity.⁹⁻¹² This study focused on actions to effect environmental changes, meaning changes that modify any contexts external to the individual, in *organizations*, for example, schools, workplaces, and foodservice/retail establishments² and in the *community*, meaning the system of organizations within a geographic region.⁴

However, the application of the socioecological perspective to obesity prevention was not widespread until the early 2000s,¹³ and this is still a new concept for many in public health⁷ and community service work. For example, staff of the California public health system reported a lack of knowledge and skills to participate in environmental change work.⁷ Gantner and Olson⁸ identified a need for public health staff to have skills and knowledge to work beyond their traditional role of providing

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direct service and education, and to collaborate with partners with dissimilar goals, for example, local businesses and government officials, who are in a position to effect environmental changes. Researchers have found that even when nutrition professionals believed that environment was heavily responsible for the rise in obesity, they still suggested direct nutrition education or methods aimed at changing individual-level behaviors as solutions.¹⁴

The shift toward more comprehensive obesity prevention approaches that encompass environmental changes and direct education is clear in recent research and programmatic guidance, for example, Expanded Food and Nutrition Education Program (EFNEP),¹⁵ Supplemental Nutrition Assistance Program–Education (SNAP-Ed),¹⁶ and Dietary Guidelines for Americans,² and has affected the work of nutrition educators (NE) in Cooperative Extension nationwide. Traditionally, EFNEP and SNAP-Ed provided direct nutrition education to low-income individuals and families. However, because these individuals are disproportionately affected by the obesity epidemic^{17,18} and tend to live in neighborhoods with limited availability of healthful affordable foods¹⁹ and resources for physical activity,^{20,21} NE have found ways to work with collaborators within their communities, promoting environmental changes on all levels of the socioecological continuum²² to address these disparities.

Federal agencies are urging nutrition educators to expand their practice to include environmental approaches to enhance effectiveness of obesity prevention.

Publications from federal^{2,9-11,16} and state governments¹² emphasize the importance of community collaborations and outline numerous environmental strategies for professionals in diverse organizations to use for obesity prevention. Although comprehensive, the suggested strategies are often

written as simple directives without regard for the inherent complexity of implementing the multiple components and sequential activities. The socioecological approach represents an expansion of perspectives and activities for many community health professionals,^{7,8} and there is currently no framework to assess the extent practitioners are engaged in actions promoting environmental change for obesity prevention. A systematic method to understand the nature of environmental change-related tasks, monitor and assess their performance, and ultimately provide tools and support that facilitate professionals' transition to performing the tasks, is needed. For example, Swinburn and colleagues²³ devised the ANGELO (ANalysis Grid for Environments Linked to Obesity) framework for systematically understanding the multiple dimensions of environments, including *types* and *settings* such as schools, workplaces, and community organizations. This paper reports formative research to develop a framework and tool to assess professionals' performance of environmental tasks. The work illustrates how a general socioecological model can be translated into a context-specific framework describing the range of environmental tasks performed by nutrition professionals in a community program. The resultant framework provides a basis assessing progress toward implementing a socioecological approach to change environments for obesity prevention.

METHODS

In this cross-sectional, mixed-methods study, in-depth interviews were used to identify actions NE performed to promote environmental changes in organizations and communities to support healthy eating and physical activity to prevent obesity. A quantitative survey was developed, based on qualitative results, to assess the extent of NE's involvement in making environmental changes in various settings. Informed consent was obtained from NE prior to the interviews conducted between June 2008 and January 2009, and the survey distributed in November 2009. This study was approved by the Cornell University Institutional Review Board.

Qualitative Sample Selection and Interviews

Seven NE were selected purposefully from 58 NE in Cornell Cooperative Extension to maximize variation²⁴ in their performance of tasks to promote environmental changes and in their geographic work location. Four NE were more involved in environmental change on the organizational and community levels to prevent obesity; 2 each were from urban and rural areas. Three were more involved in direct nutrition education programming, 1 in urban and 2 in rural settings. Two in-depth, semi-structured interviews (developed from programmatic work and pilot data) were conducted in person with each NE. Each interview lasted about 1.5 h and was recorded and transcribed verbatim. The first interview was exploratory. Respondents were asked to describe their work in general, including open-ended questions such as, "What do you think about the obesity issue?" and "What are you currently doing to address obesity?" and the facilitating factors and challenges associated with their work. Second interviews probed for more details about NE's specific involvement on the environmental level. Additional job-related information (eg, tenure in current position, programs managed) was gathered.

Credibility of data was verified through peer-debriefing²⁵ with the authors' research group and through member checks²⁶ with interviewees. Findings were triangulated by gathering data from brief interviews with NE's immediate supervisors regarding NE's work content, reviewing relevant documents (eg, NE's position descriptions), and observing selected staff meetings and committee/coalition meetings (n = 7) in which respondents were involved.

Qualitative Data Analysis

Transcript data were managed using ATLAS.ti (version 5.2, Scientific Software Development, Berlin, Germany, 2006) and analyzed by the first author throughout data collection. Informed by programmatic experiences and literature,^{9-12,23} open coding²⁷ was used to code segments of text focusing on emergent themes, such as perceptions

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