

# Food Pantries Integrating Eating Competence, Interest/Enjoyment in Physical Activity and Self-Efficacy for Pantry Participants

Josephine Umoren, PhD<sup>1</sup>; Kelly Brasseur, MS, RD, LDN<sup>2</sup>; Ping Yao, PhD<sup>1</sup>; Amy D. Ozier, PhD, RD, LDN<sup>1</sup>; Cristal Medina, BS<sup>1</sup>; Brianna Sommer, BS<sup>1</sup>; Jessica Maturrano, BS<sup>1</sup>

## INTRODUCTION

Those with low socioeconomic status who visit food pantries are also at increased risk for nutrition-related health issues, so food pantry participation represents an entry point for nutrition education.<sup>1,2</sup> Messages need to be feasible and include sustainable suggestions sensitive to the needs of food pantry participants. The *Whole Body Approach (WBA)*, a health promotion, nondiet program for adults who are low income, was developed by the Northern Illinois Food Bank and Northern Illinois University to address this need.

The *WBA* targeted behavioral rather than weight outcomes. It aligned with Health at Every Size (HAES), a weight-neutral approach centered on respecting body, shape, and size diversity, promoting a holistic approach toward wellness, ending weight discrimination and stigma, and promoting eating and exercise based on individualized hunger, satiety, nutritional needs, and pleasure. The HAES paradigm targets health regardless of income level.<sup>3</sup> The goal of the *WBA* program was to help clients develop a healthy relationship with food and fitness through a nondiet curriculum. This GEM focuses on the *WBA* curriculum created for a target audience that was low

socioeconomic status, used food pantries, and was largely Hispanic and white.

## CURRICULUM DEVELOPMENT

The *WBA* was developed in close collaboration with Northern Illinois University. The foundation of the *WBA* curriculum is derived from the HAES curriculum and adapted to a low-income audience through field testing since 2015.<sup>4</sup> The curriculum was used in tandem with the Social Cognitive Theory concept of self-efficacy<sup>5</sup> and the Satter Eating Competence Model that emphasizes being positive, comfortable, and flexible with eating and realistic, along with being able to access enough enjoyable and nourishing food to eat.<sup>6</sup> The Satter Eating Competence Model has been validated in low-income audiences.<sup>7</sup> Behavior change involves not only gaining knowledge, skills, and resources but also developing self-efficacy as defined by the Social Cognitive Theory.<sup>8</sup>

The *WBA* used learner-centered discussions and hands-on activities, including experiential learning activities, to engage participants and direct behavioral objectives. The *WBA* targeted 3 main objectives: (1) improve

eating competence, (2) increase interest/enjoyment in physical activity, and (3) increase confidence related to consuming, accessing, and providing fruits and vegetables in the household. The behavioral objectives were chosen based on literature that suggested the nondiet paradigm, targeted behavioral outcomes rather than weight itself, and showed improvement in behavior change specific to the low-income audience.<sup>9</sup>

Participants were encouraged to take 1 step or goal at a time through discussions and experiential learning and were provided with workbook handouts. To reinforce increasing self-efficacy, pantry-fresh produce and a recipe were provided weekly, and a hands-on cooking demonstration was implemented in week 9 (Table). Reflections of the previous week's goals were discussed at the beginning of each session, and participants set new goals at the end of each session. The message that "small changes make big differences" was incorporated around the targeted outcomes.

The *WBA* included a lesson manual and a PowerPoint (Microsoft Office 365, Microsoft Corporation, Redmond, WA) slide show for the educator along with weekly "Helpful Hints" for implementation of the *WBA* sent through e-mail. Each week, educators followed a lesson plan that included the topic of the week (Table).

All materials were back-translated from Spanish to English by graduate research assistants fluent in Spanish. This *WBA* curriculum was reviewed by experts in HAES and field-tested several times before its use in this report. Furthermore, the *WBA* program was created using the best practices in nutrition

<sup>1</sup>School of Health Studies, College of Health and Human Sciences, Northern Illinois University, DeKalb, IL

<sup>2</sup>Northern Illinois Food Bank, Geneva, IL

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Address for correspondence: Amy D. Ozier, PhD, RD, LDN, 2008 Redlands Dr, Springfield, IL 62711; Phone: (815) 761-8711; Fax: (815) 753-5406; E-mail: [aozier@niu.edu](mailto:aozier@niu.edu)

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**Table.** The *Whole Body Approach* 10-Week Program Schedule of Topics With Learner Objectives and Behavioral Outcomes Targeted

Weekly Session Topics	Learner Objectives	Outcomes Targeted <sup>a</sup>
1. Welcome to the program	Identify the overall goal of the program. Explain why they were invited to this program.	
2. Developing a healthy relationship with food	Explain the importance of group sharing and confidentiality. Name 3 key components of the HAES nondiet approach. State how the current HAES approach is different from dieting experiences in the past.	Eating attitude Internal regulation Contextual skills
3. Enjoyable movement	Build confidence in using a tool for hunger and fullness cues. Identify 2 motivators to personal movement. Name 2 intrinsic and 2 extrinsic motivators to exercise. Name 2 benefits of enjoyable movement.	Interest/Enjoyment in physical activity
4. Practicing mindfulness	Identify at least 2 personal triggers for emotional eating. List at least 2 healthy coping tools for negative emotions. Identify comfort level with honoring cravings. Practice mindful eating techniques.	Internal regulation Eating attitude
5. Problem solving	Identify a chain of events that supports a healthy and unhealthy relationship with food or fitness. Identify an action plan that supports a healthy relationship with food and/or fitness. Strengthen skills related to meal planning.	Contextual skills
6. Every Body is a good body	Define the thin-ideal. Identify the costs of pursuing this ideal. List ways to resist pressures to be thin. Develop new ways to talk about bodies in positive ways.	Eating attitude and interest/enjoyment for physical activity
7. Talk back to negative thoughts	Identify how negative thoughts affect behavior. Define body image. Reflect on their body image. Practice talking back to negative thoughts (related to food & eating) and the thin-ideal.	Eating attitude
8. You can manage stress	Reflect on their causes of stress. Identify signs of stress. Identify the relationship between stress and chronic disease. Practice managing stress.	Internal regulation Contextual skills eating attitude
9. Make social cues work for you and cooking demo with Chef Jen	Identify problem social cues. Identify helpful social cues. Identify ways of dealing with social cues. Practice using the “Intuitive Eater’s Holiday Bill of Rights.”	Food acceptance food regulation contextual skills Self-efficacy
10. Ways to stay motivated	Reflect on experiences with the <i>Whole Body Approach</i> to disease prevention. Identify goals achieved during the program. Identify future goals. State “small changes make big differences” 2 more times.	

HAES indicates Health at Every Size program.

<sup>a</sup>Self-efficacy was targeted weekly through access to fresh produce and a new recipe. Session 9, however, incorporated a cooking demonstration.

education for low-income audiences, which included trainings for the educators.<sup>10</sup>

## IMPLEMENTATION AND RESULTS

This intervention measuring pre- and postoutcomes included participants

(n = 73) aged 27–89 years, mostly female 93% (n = 67), and 53% (n = 38) completed surveys in Spanish. Certified diabetes educators, registered dietitians, and nutrition and dietetic graduate research assistants who had been trained on the *WBA* program facilitated the 10 weekly, 90-minute education sessions to adult food pantry patrons. All materials were

available in Spanish and English. Translators were available when needed. Approval for this study was obtained through the Northern Illinois University Review Board. Recruitment sessions took place at each site, 2 weeks before the start of the class by program directors and nutrition and dietetic graduate research assistants. Recruiters encouraged attending 80%



**Figure.** The *Whole Body Approach* program in action with Chef Jen doing a cooking demonstration with class participants.

of the classes. Regular attendance was necessary to test the impact of the entire program because different topics each week addressed program objectives. These sessions were delivered in partnership with surrounding food pantries in the Northern Illinois region. Participants were able to choose fresh produce following each session. The cooking demonstration sessions used pantry produce and provided the recipe to participants.

Behavior change outcomes were evaluated pre- and posteducation with the Eating Competence Satter Inventory 2.0, which included subscales that measure eating attitude, contextual skills, food acceptance, and internal regulation,<sup>6,7,11</sup> along with the interest/enjoyment subscale of the Motives for Physical Activities Measure – Revised,<sup>12</sup> and a self-efficacy survey on fruit and vegetable consumption, access, and ability of the individual to provide these items to their family.<sup>5</sup> The pretests were given at the beginning of the first class session and the posttest was given at the end of class session 10.

Analyses were conducted using aggregate data from all locations via Statistical Analysis Systems (version 9.3, SAS Institute, Inc, Cary, NC, 2016) and Statistical Package for the Social Sciences (version 24.0, SPSS, Inc, Chicago, IL, 2016) Paired t tests were used to compare pre- and postintervention results of the variables of interest including: eating

competence with the components of eating attitudes, contextual skills, food acceptance, interest/enjoyment in physical activity, and self-efficacy related to consuming, accessing, and providing fruits and vegetables to their household. In addition, a Bonferroni adjustment to decrease type I error was done. All scores tested in the *WBA* survey increased from pre- to postintervention. Results revealed that behavioral outcomes significantly improved ( $P < .05$ ) for eating competence ( $P = .003$ ), eating attitudes ( $P = .04$ ), contextual skills ( $P = .001$ ), food acceptance ( $P = .008$ ), interest/enjoyment in physical activity ( $P = .003$ ), and self-efficacy ( $P = .003$ ) after *WBA* program completion. After the Bonferroni adjustment was applied ( $P < .007$ ), overall eating competence, contextual skills, self-efficacy, and interest/enjoyment in physical activity were statistically significant. Feedback from both participants and educators indicated that they would like to see the program continue. The program length did not appear to be a barrier to participation. Program instructors consistently recommended the need to increase the class time by 30 minutes in previous pilot tests to accommodate planning and class discussion. Educators have praised the training program on how the nondiet approach focuses on changing the way health care professionals convey messages about weight and health to the public.

## DISCUSSION AND IMPLICATIONS

The *WBA* is an evidence-based, theoretically grounded, nondiet curriculum that targets eating competence, interest/enjoyment in physical activity, and self-efficacy related to consuming, accessing, and providing fruits and vegetables. This program is unique in that it removes weight as a primary outcome and focuses on behavioral change. The food pantry appeared to be an ideal setting for those participants who attend the pantry setting regularly to receive education and fresh produce. Food pantry education is feasible and appears to lead to improved outcomes in a nutritionally vulnerable population group.

## NOTES

The study was reviewed and approved by the Northern Illinois University Institutional Review Board. This research was funded by the Northern Illinois Food Bank.

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