

Jennifer Leeman, DrPH, MDiv¹ • Jacqueline Shannon, PhD² • Paige Farris, MSW² • Catherine Rohweder, DrPH¹ • Kerri Winters, PhD²
¹School of Nursing, The University of North Carolina at Chapel Hill and ²Oregon Health Sciences University

BACKGROUND

- Evidence-based policy, systems, and environmental (PSE) changes are essential to supporting healthy behaviors.
- Public health and other community-based practitioners often lack the knowledge and skills required to do adopt and implement PSE interventions.
- Measures of practitioners' capacity are essential to targeting, testing, and strengthening initiatives to build practitioners' capacity.

PURPOSE

We report on the continued development and testing of a theory-derived measure of practitioners' capacity to lead PSE change.

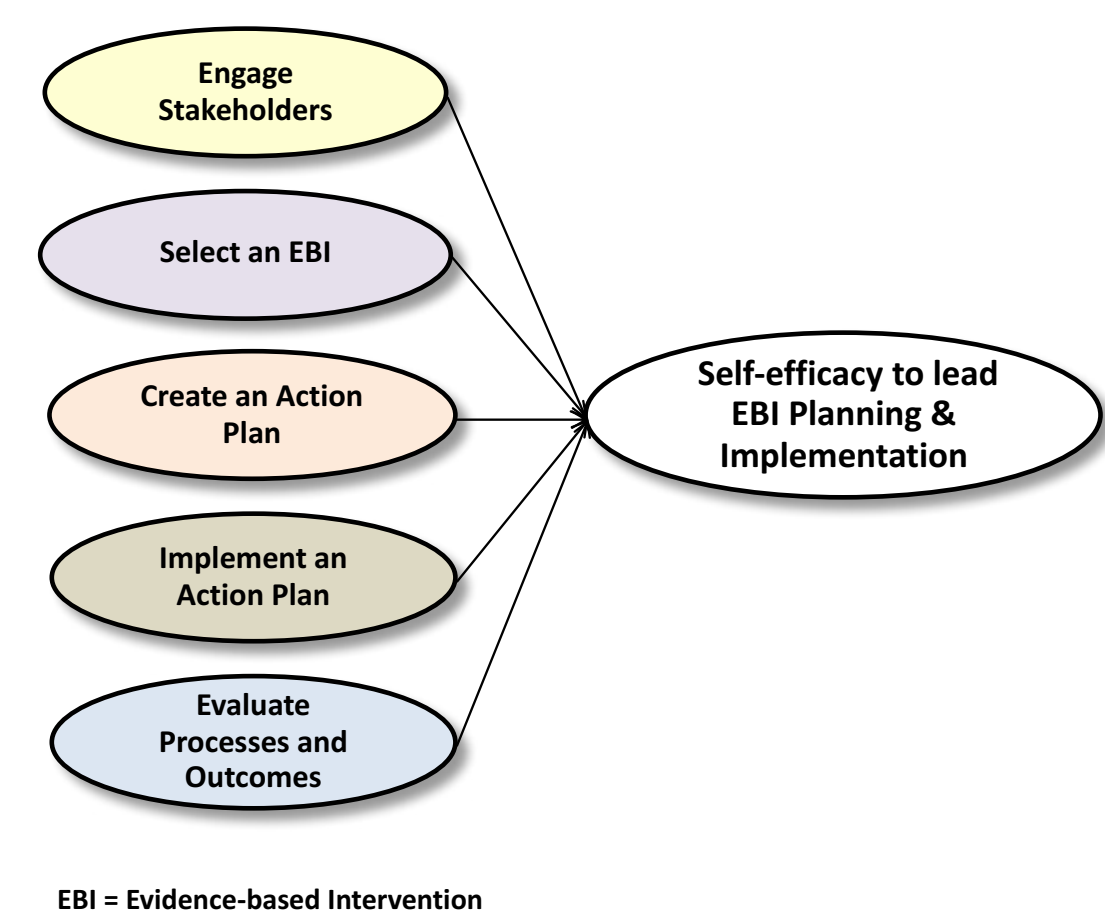
Initial Measure Development

- Developed based on literature review, expert consultations, and in-depth interviews.
- Guided by the Theory of Planned Behavior, the initial measure assessed attitudes/beliefs, social norms, external resources/supports, and self-efficacy.
- Field tested with 185 practitioners leading nutrition and physical activity PSE change in after-school settings nationwide.
- Analyses yielded a four-factor model that explained 44.7% of variance and included three factors related to self-efficacy (engage stakeholders, create action plan, and implement action plan) and one related to social norms, with Cronbach's alphas ranging between .86 and .91 (Leeman et al., 2016).

Revised Measure

- Focuses on self-efficacy, the constructs best supported in initial field test.
- Added items related to "selecting and adapting evidence-based strategies" and retained items related to "evaluate processes and outcomes"

Figure 1. Conceptual Framework: Practitioner Self-Efficacy to Lead EBI Planning & Implementation



METHODS

Design. Cross sectional survey to field test measure items and conduct an exploratory factor analysis.

Setting and sample. The survey was administered to those attending trainings in evidence-based decision making. In Oregon, the survey was administered to 65 grantees of two separate community funding mechanisms. In North Carolina, the survey was administered to 189 public health and other community-based practitioners. A total of 116 individuals completed the survey (45.7% response rate).

Measure. The measure included 27-items assessing five constructs central to leading team efforts to plan and implement PSE interventions (Table 1). Team leaders rated their confidence to perform specific behaviors related to each construct on a five-point Likert Scale.

Procedures. In North Carolina, the survey was administered electronically between four and six months following training. In Oregon, the survey was administered in person, immediately after the training.

Analysis. Exploratory factor analysis (EFA) models were fit allowing as many factors as possible with an eigenvalue greater than equal to 1.0 and a scree plot examined, resulting in a three factor solution. A second EFA model was conducted; using principal components method with prior communality estimates set to 1.0 and allowing 3 factors and orthogonal rotation.

RESULTS

Three factors were extracted. We removed items with an alpha of .70 or less in relation to each of the identified factors. Final alpha coefficients were 0.92, 0.95, .47. We then ran the EFA constrained to a three factor solution with orthogonal rotation. Together the three factors explained 95% of the variance in the model.

Table 1. Final Three Factors with Questions

	Item Alpha	Factor Alpha
Engage Partners		
Talk to coworkers about the benefits of an EBS ^a	0.97	
Persuade your org's leadership of the benefits of an EBS ^a	0.96	
Work with community partners to strengthen your org's work on an EBS	0.97	
Involve team members in making decisions about planning & implementing an EBS ^a	0.98	
Delegate tasks for planning & implementing the EBS to team members ^a	0.98	0.92
Work with team members to solve problems that occur while implementing the action plan ^b	0.98	
Assess progress towards attaining the goals & objectives identified in your action plan	0.97	
Use Evidence		
Identify existing EBS that fit my goals and objectives	0.996	
Apply appropriate criteria for selecting an EBS	0.993	
Determine if an EBS is applicable my community or setting	0.996	
Adapt an EBSs approach & materials to meet the needs of community	0.715	0.95
Specify measurable outcomes for an EBS ^c	0.995	
Specify realistic & achievable outcomes for an EBS ^c	0.995	
Evaluate success in achieving an EBS intended outcome ^c	0.998	
Create Action Plan		
Work with my team members to develop goals & objectives for an EBS action plan	0.83	
Create a timeline for completing the steps in our action plan ^d	0.83	
Describe the resources required to complete the steps in our action plan ^d	0.84	0.47
Access local resources to support implementation of our action plan ^d	0.81	
Get help from experts to advise developing & implementing the action plan ^d	0.93	

EBS= Evidence-based strategy

- ^a Item from previous measure's "engage stakeholders" construct
- ^b Item from previous measure's "implement action plan" construct
- ^c Item from previous measure's "evaluate processes and outcomes" construct
- ^d Item from previous measure's "create action plan" construct

DISCUSSION

The final measure includes three scales and 23 items. Two of the scales had strong alphas and the third did not. The "engage partners" scale (α .92) integrates items from two of the constructs in the conceptual model and previously developed measure ("engage stakeholders" and "implement action plan"). The "using evidence" (α .95) includes items related to the conceptual model's new construct - "select/adapt evidence" - and also items related to the model's "evaluate processes and outcomes" construct that, in the previous measure, failed to load into a scale. The "create action plan" scale (α .47) includes items from the conceptual model and previous measure's construct "create action plan." Further testing is needed to confirm the factor structure and assess the measure's predictive validity.

Reference

Leeman, J., Blitstein, J., Goetz, J., Moore, A., Tessman, N., & Wiecha, J. (2016). Developing a tool to assess out-of-school time providers' capacity to implement policy, systems, and environmental change. *Preventing Chronic Disease, 13*, E105.

Funding

This study was supported by Cooperative Agreement Number 1U48DP005017 from the Centers for Disease Control and Prevention and the National Cancer Institute. The findings and conclusions in this presentation are those of the author(s) and do not necessarily represent the official position of the funders.

