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Assessing Participants' Experiences in a Service-Learning Program: A Psychometric Evaluation

Laura T. Colman,

Centers for Disease Control and Prevention, Atlanta, Georgia

Robyn K. Sobelson,

Centers for Disease Control and Prevention, Atlanta, Georgia

Corinne J. Wigington,

Cherokee Nation Businesses supporting, Centers for Disease Control and Prevention, Atlanta, Georgia

Andrea C. Young

Centers for Disease Control and Prevention, Atlanta, Georgia

Abstract

There is currently a gap in the literature regarding the creation of psychometrically sound measurement tools assessing service-learning programs in health-related fields. Without comprehension of a survey's psychometric properties, evaluators cannot ensure that survey instruments are reliable or valid. This study describes the psychometric evaluation of the Public Health Associate Program (PHAP) Service-Learning Scale (PSLS). PSLS assesses participant experience in PHAP, a Centers for Disease Control and Prevention program. This paper explains survey development, scale validity and reliability, and the internal factor structure of the PSLS. The final scale consisted of 22 items with a high internal consistency (Cronbach's $\alpha=.90$). Exploratory Factor Analysis (EFA) was used to determine the scale's factor structure; five factors comprising of all 22 items were retained. The factors, or subscales, were Learning Outcomes, Mentoring, Experiential Assignment, Self-Efficacy in Program Competency Domains, and Program Satisfaction. All were also found to have adequate internal consistency (Cronbach's $\alpha >.70$). Service-learning is vital in developing the next generation of the workforce. These study findings suggest the PSLS fills a critical gap in the literature by providing a valid and reliable instrument to evaluate experiences and satisfaction in service-learning programs and other fellowships.

Keywords

survey development; scale development; exploratory factor analysis; evaluation

Service learning is a pedagogic approach that uses a combination of instructional coursework, hands-on learning experiences in community settings, and professional mentorship (Cashman & Seifer, 2008; Furco, 1996; Rosing, Reed, Ferrari, & Bothne, 2010; Sobelson, Young, Wigington, & Duncan, 2016; Wigington, Sobelson, Duncan, & Young, 2017). The reciprocal relationship between participants and the organizations hosting them

distinguishes service learning from other types of training programs (Furco, 1996; Rosing et al., 2010). Service-learning programs have become common in public health because they can recruit and develop the next generation of public health workers while simultaneously building the capacity and capabilities of hosting organizations and communities (Cashman & Seifer, 2008; Dick et al., 2014; Johansson et al., 2014; Seifer, 1998; Thacker, Koo, & Delany, 2008; Wigington et al., 2017).

Given the utility and growing popularity of service-learning programs, it has become important to systematically evaluate them. These types of programs benefit from evaluation because findings can guide program improvement efforts, demonstrate effectiveness, and aid in decision-making (Holland, 2001; Kirkpatrick & Kirkpatrick, 2006; Potter, Barron, & Cioffi, 2003; Sobelson et al., 2016; Wigington et al., 2017). However, evaluation of these types of programs is challenging because of their complex design; by nature, service-learning programs include diverse, on-the-job learning components, including professional development and mentorship. In addition, trainees may be dispersed among various communities, and programs may last months or years (Cashman & Seifer, 2008; Cashman, Seifer, & Unversagt, 2003; Dick et al., 2014; Duncan & Auerbach, In Press; Furco, 1996; Goldberg & Coufal, 2009; Johansson et al., 2014; Kenworthy-U'Ren, Petri, & Taylor, 2006; Rosing et al., 2010; Wigington et al., 2017). Despite these challenges, evaluation remains essential (Johansson et al., 2014; Medina et al., 2015; Potter et al., 2003; Sobelson et al., 2016).

The most widely used evaluation measure for any type of training is assessment of trainees' reactions through satisfaction surveys (Brown, 2005; Kirkpatrick & Kirkpatrick, 2006). This is due to the evaluations' low burden and cost. But some researchers have criticized the use of such surveys, citing that satisfaction with training does not predict learning or behavior change (Colquitte, LePine, & Noe, 2000). Other researchers point out that although reaction data are valuable to organizations, there is limited research on how to measure and interpret them (Brown, 2005).

Given these concerns, the authors wanted to understand participants' service-learning experience and program satisfaction, while examining the psychometric properties of a new assessment scale created specifically for a service-learning program. Although examining psychometric properties of service-learning participant surveys is not new in educational research (Eyler, Giles, & Braxton, 1997; Moely, Mercer, Ilustre, Miron, & McFarland, 2002; Shiarella, McCarthy, & Tucker, 2000), there is a gap in the literature regarding the creation and implementation of reliable and valid measurement tools assessing service-learning programs in health-related fields. Without comprehension of a survey's psychometric properties, evaluators cannot ensure that participants appropriately interpret measures (reliability) or that the scores of survey items accurately reflect a certain variable of interest (validity) (Furr, 2011).

The present study describes the development and psychometric properties of the PHAP Service-Learning Scale (PSLS). The scale assesses participant satisfaction and program experience for the Public Health Associate Program (PHAP), which is managed by the Centers for Disease Control and Prevention (CDC). This paper explains survey and scale

creation, validity and reliability of the scale and subscales, and the internal factor structure of the PSLS, as well as its use in future service-learning evaluations.

The Public Health Associate Program

CDC established PHAP to provide service-learning opportunities to early-career public health professionals. Participants, referred to as *associates*, adhere to the CDC-established PHAP curriculum by participating in trainings about public health concepts, such as program planning and evaluation. Associates work alongside public health professionals in state, tribal, local, territorial, and nongovernmental health agencies to receive on-the-job training and enhance professional skills; these agencies are referred to as *host sites* (Sobelson et al., 2016). Additionally, associates are assigned a CDC mentor to help guide them during their time in PHAP. The primary purpose of the program is to prepare associates for careers in public health, arming them with training and relevant job experience that will enhance their skills and capabilities as they enter the workforce. The PSLS assesses different components of PHAP as experienced by the associates.

Method

The PHAP Service-Learning Survey Development

In summer 2016, the PHAP Evaluation Team piloted the PHAP Service-Learning Survey to assess participant satisfaction and gauge associates' reactions to PHAP after their second year in the program. The pilot survey gave associates a forum to provide program feedback in a formal, systematic way. Survey items were generated to represent the components important in service-learning programs and PHAP, specifically. These components were 1) host site assignment and daily work, including supervision; 2) mentoring provided by CDC; 3) supervision provided by CDC; 4) trainings provided by CDC; 5) self-efficacy in program competency domains; 6) knowledge and skill attainment; and 7) satisfaction with program quality, including to what extent PHAP prepared associates for future position and opportunities to provide suggestions for improvement.

Five service-learning subject matter experts (SMEs) leading the above areas for PHAP (e.g., training lead, mentoring lead) were consulted to recommend content for survey items. SMEs were asked for input for items in their respective areas, as well as the other items in the full survey. Two additional SMEs in research, measurement, and evaluation provided recommendations regarding item construct and response choices. Based on the SMEs' guidance, 32 quantitative items and nine qualitative items were selected for the pilot survey.

Participants

Participants included in the pilot survey were graduates from the PHAP 2014 cohort, which lasted from October 2014 to October 2016. The average age of graduates was 26 (range: 21–49 years); 81% identified as female. Forty-four percent had an advanced degree (Master's degree or higher). Only individuals who completed the program (i.e., graduates) were invited to participate; those who resigned or were terminated were not included. This helped mitigate bias in responses. Of the 110 individuals invited to participate in this survey, 98 participated (response rate=89%).

Data Collection

The survey was administered in August 2016, approximately two months before the official conclusion of the cohort's program. This minimized recall bias, as associates were still working at their host sites. The survey was accessed through a web-enabled link embedded in an email invitation and was administered over a two-week period; three reminders were sent. The survey was voluntary and anonymous.

PSLS Scale Development

Step 1.—Following survey administration, the 32 quantitative items were analyzed for face and content validity. The evaluation team did a surface-level inspection of each survey item to determine whether the questions measured what was intended (Nunnally & Bernstein, 1994). The team also examined items to make sure they related to the survey objectives (Allen & Yen, 1979; Anastasi, 1988; Carmines & Zeller, 1979). Seven items were removed following this analysis.

Step 2.—Next, the 25-item draft scale was analyzed for clarity of instructions, item organization, item comprehension, and amount of time required to complete. During the review of this survey draft, three additional items were deleted from the scale— one because of ambiguity of the question, the second because it was deemed irrelevant to the main purpose of the PSLs, and the third because it did not add new information to the scale.

Final Scale.—The final PSLs consisted of 22 items (see Appendix). The scale measured associates' experiences in PHAP and their satisfaction with different program components. The scale also measured perceived outcomes from participating in PHAP, including increase in self-efficacy, impact on career paths, and recommendation of the program to others potentially interested in participating in the program. All of the different parts of a service-learning program were combined into one scale to capture participants' perceptions of their entire service-learning experience. Note, the scale is not intended to measure job satisfaction; items are specific to participants in a service-learning program.

All items used a five-point Likert-type response format. Eleven items presented a statement and asked respondents to report their level of agreement using the response anchors *strongly disagree*, *disagree*, *neither agree nor disagree*, *agree*, *strongly agree*. Five items asked participants to rate their confidence regarding different service-learning competencies with the response anchors *not at all confident*, *slightly confident*, *somewhat confident*, *confident*, *very confident*. Three items were used to determine satisfaction with different program components using response anchors of *very dissatisfied*, *dissatisfied*, *neither satisfied nor dissatisfied*, *satisfied*, *very satisfied*. One item asked if participants would recommend host sites, with the response options of *would not recommend*, *would recommend with major changes*, *would recommend with minor changes*, *would highly recommend*, *unsure*. One item asking the participants to rate the overall quality of PHAP had the response options of *poor*, *fair*, *good*, *very good*, *excellent*. One item asked the degree to which PHAP met expectations with the response anchors *did not meet expectations*, *somewhat met expectations*, *met expectations*, *exceeded expectations*, *significantly exceeded expectations*.

Results

Descriptive Statistics.

Table 1 displays the mean and standard deviation for each of the 22 items included in the final PSLS. Item scores ranged between one and five for each question; higher scores indicated more positive responses to the item. The overall mean score for the scale was relatively high, indicating that associates had positive experiences in PHAP ($M=3.98$, $SD=0.54$). Individual mean scores for survey items ranged from 3.16 ($SD=1.01$) to 4.60 ($SD=0.62$). The lowest mean scores were for the following items: the degree to which an associate was challenged at his/her host site ($M=3.26$, $SD=0.97$); mentor connected associate with other professionals ($M=3.26$, $SD=1.35$); and associate recommendation of his/her host site ($M=3.16$, $SD=1.01$). The highest means scores were for the following items: associate developed new knowledge and skills at his/her host site ($M=4.48$, $SD=0.94$); associate developed new skills while in PHAP ($M=4.58$, $SD=0.82$); and associate's existing skills were enhanced during PHAP ($M=4.60$, $SD=0.72$).

Item Relationships, Validity, and Factorability.

As a method for examining survey validity, the relationships between items in the PSLS were reviewed. To determine these relationships, bivariate association between the scale items was conducted using Pearson's correlation. The correlation matrix of the items also was inspected for factorability of the scale items; correlation coefficients were required to be greater than 0.30 to continue the factor analysis of the scale (Tabachnick & Fidell, 2007). Table 2 displays the correlation findings from the scale. Every item in the scale correlated at least 0.30 with no fewer than two other items, providing evidence that the items were appropriately included in the same scale and suggesting reasonable factorability among these scale items.

Exploratory Factor Analysis.

To analyze the internal structure of the PSLS based on participant responses and to examine the presence of potential subscales, Exploratory Factor Analysis (EFA) was computed (Suhr, 2006). Because this study was the first attempt to explore participant experience and satisfaction with public health service learning, EFA was deemed appropriate to discover underlying latent factors and relationships among scale items (Henson & Roberts, 2006).

The 22-item scale was analyzed using EFA with maximum likelihood extraction, followed by orthogonal varimax rotation with Kaiser Normalization (Kaiser, 1958), Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy (Kaiser, 1970, 1974), and Bartlett's Test of Sphericity (Bartlett, 1950). An orthogonal rotation was chosen because the subscales were theoretically designed to measure independent factors. The KMO Measure of Sampling Adequacy equated to .795 and Bartlett's Test of Sphericity was significant ($\chi^2(231) = 1207.402$, $p < .01$), indicating EFA to be suitable for this set of items (Hair, Anderson, Tatham, & Black, 1995; Tabachnick & Fidell, 2007). The final communalities were all above 0.30, further confirming that each item shared common variance with other items in the scale (Table 3).

Five factors comprising all 22 items were retained (eigenvalues >1). The first factor, *Learning Outcomes*, had five items and accounted for 34.67% of total variance (eigenvalue=7.97). The second factor, *Mentoring*, had four items and accounted for 14.10% of the total variance (eigenvalue=3.34). The third factor, *Experiential Assignment*, had five items and accounted for 9.75% of total variance (eigenvalue=2.24). The fourth factor, *Self-Efficacy in Program Competency Domains*, had five items and accounted for 8.13% of total variance (eigenvalue=1.87). The fifth and final factor, *Program Satisfaction*, had three items and accounted for 4.43% of total variance (eigenvalue=1.02). All items had strong primary factor loadings above 0.40 for their associated factors (Table 3).

Internal Consistency.

The five factors identified in EFA were determined to be subscales of the PSLS and the internal consistency was estimated with Cronbach's alpha (Cronbach, 1951). Cronbach's alpha coefficients equal to or above .70 are deemed satisfactory (DeVellis, 2012; George & Mallery, 2003; Kline, 2000). The Cronbach's alpha coefficient for the entire scale was high ($\alpha=.90$), signifying that this scale was appropriate for measuring service-learning experience. For the subscales, Cronbach's alpha coefficients ranged from .76 through .94. *Self-Efficacy in Program Competency Domains* was the only subscale to have an alpha below .80 ($\alpha=.76$), which is considered acceptable internal consistency (DeVellis, 2012; George & Mallery, 2003; Kline, 2000). Three subscales had alphas between .80 and .90, which is considered good internal consistency (DeVellis, 2012; George & Mallery, 2003; Kline, 2000) ($\alpha=.84$ for *Experiential Assessment*; $\alpha=.89$ for *Learning Outcomes*; and $\alpha=.87$ for *Program Satisfaction*). Lastly, the *Mentoring* subscale had an excellent alpha above .90 (DeVellis, 2012; George & Mallery, 2003; Kline, 2000) ($\alpha=.94$).

Discussion

The purpose of this paper was to examine the psychometric properties of the PHAP Service-Learning Scale. Developed and finalized through a systematic process, the 22-item scale collected information about associates' experiences and satisfaction with the PHAP service-learning program. There was significant correlation between scale items, indicating that the items were fittingly combined and measured the same paradigm of service-learning experience. Correlation scores also confirmed that this scale is appropriate for factor analysis (Tabachnick & Fidell, 2007). Five subscales were developed based on EFA and factor loading scores. In each of these subscales, all items had factor loading scores between .40 and .94, signifying they are appropriate indicators for their respective factors. The overall scale had excellent internal consistency ($\alpha=.90$). Additionally, all of the subscales had acceptable internal consistency; Cronbach α 's were all greater than .70.

The PSLS is an important step forward in developing a valid and psychometrically sound tool that can be used with a variety of public health and related service-learning programs. This study provides evidence of the validity and reliability of a service-learning program evaluation scale with five latent factor subscales. The subscales assess the three primary components of a service-learning program (*Learning Outcomes*, *Mentoring*, and *Experiential Assignment*), as well as two program results (*Self-Efficacy in Program*

Competency Domains and Program Satisfaction). This study provides a foundation for more rigorous evaluation of participant experience and satisfaction with service learning. It exhibits the use of an empirical evaluation method adapted for public health service learning and is a source of quantifiable evidence greatly needed in service-learning research (Beck & Boulton, 2012; Koo & Miner, 2010).

Study Limitations

There were limitations to the present study. The sample size was small, although suitable for an exploratory pilot study. Although the sample population was representative of PHAP associates, it is unknown whether the psychometric properties found in the pilot study are generalizable to participants in other service-learning fellowships. Future studies are needed to investigate use of this scale with other service-learning programs. As this survey was being piloted, test-retest scores were not collected. Consequently, stability and reliability of the instrument over time were not evaluated. As this scale is administered to future service-learning participants, test-retest scores are necessary to show whether the survey offers repeatable results. Finally, Confirmatory Factor Analysis (CFA) was not performed to validate the factor structure identified in the EFA. As this scale is disseminated to future PHAP cohorts, the increased sample size will allow for conducting CFA.

Conclusions

Service-learning programs are vital to developing the next generation of professionals in a variety of fields (Cashman & Seifer, 2008; Furco, 1996; Thacker et al., 2008). The PHAP Service-Learning Scale fills a critical gap in the literature by providing a valid and reliable instrument to assess participants' experiences and satisfaction in public health service-learning programs. The factor structure and establishment of latent variables provide a conceptual framework for developing future evaluation plans investigating how different components of service-learning programs improve participants' experiences. The survey may be an important tool for program evaluators and other practitioners looking for a valid and reliable method to assess participant experience and overall satisfaction with service learning.

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Corresponding author: Laura T. Colman, Center for State, Tribal, Local and Territorial Support, Centers for Disease Control and Prevention, 1825 Century Center, Room 4052, MS-E-70, Atlanta, GA 30345; Phone: 404.498.1542; email: MWU4@cdc.gov. The authors thank all of the Public Health Associate Program (PHAP) associates who participated in the evaluation activities. In addition, the authors thank CDC staff members working within PHAP, especially Division Director Russell Cantrell and PHAP Director Gustavo Aquino, for their guidance, feedback, and insights. The study and PHAP were supported by the Centers for Disease Control and Prevention. The study sponsor and the PHAP program leadership did not have any role in the study design, collection, analysis, and interpretation of data, writing the report, or the decision to submit the report for publication. The findings and conclusions in this article are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Appendix: PHAP Service-Learning Scale: Survey Items

1. I was appropriately challenged in my host site assignment.
 - a. Strongly Disagree

- b.** Disagree
- c.** Neither Agree nor Disagree
- d.** Agree
- e.** Strongly Agree
- 2.** I developed new knowledge or skills in the program focus area where I was assigned.
- a.** Strongly Disagree
- b.** Disagree
- c.** Neither Agree nor Disagree
- d.** Agree
- e.** Strongly Agree
- 3.** How satisfied have you been with the supervision provided by your host site?
- a.** Very Dissatisfied
- b.** Dissatisfied
- c.** Neither Satisfied nor Dissatisfied
- d.** Satisfied
- e.** Very Satisfied
- 4.** Based on your experience, which statement best reflects your opinions of your host site?
- a.** I am not sure if I would recommend my host site.
- b.** I would not recommend that my host site receive a future associate.
- c.** I would recommend that my host site receive a future associate, but only with major changes.
- d.** I would recommend that my host site receive a future associate, but only with minor changes.
- e.** I would highly recommend that my host site receive a future associate.
- 5.** Considering everything, how satisfied have you been with your host site experience?
- a.** Very Dissatisfied
- b.** Dissatisfied
- c.** Neither Satisfied nor Dissatisfied
- d.** Satisfied
- e.** Very Satisfied

6. My official CDC mentor has been a confidential source of support for me.
 - a. Strongly Disagree
 - b. Disagree
 - c. Neither Agree nor Disagree
 - d. Agree
 - e. Strongly Agree
7. My official CDC mentor connected me with public health professionals who could assist me with meeting my goals.
 - a. Strongly Disagree
 - b. Disagree
 - c. Neither Agree nor Disagree
 - d. Agree
 - e. Strongly Agree
8. I am satisfied with the career guidance provided by my official CDC mentor.
 - a. Strongly Disagree
 - b. Disagree
 - c. Neither Agree nor Disagree
 - d. Agree
 - e. Strongly Agree
9. Considering everything, how satisfied have you been with the mentorship provided by your official CDC mentor?
 - a. Very Dissatisfied
 - b. Dissatisfied
 - c. Neither Satisfied nor Dissatisfied
 - d. Satisfied
 - e. Very Satisfied
10. I acquired new skills during PHAP.
 - a. Strongly Disagree
 - b. Disagree
 - c. Neither Agree nor Disagree
 - d. Agree
 - e. Strongly Agree

11. I enhanced existing skills during PHAP.
- Strongly Disagree
 - Disagree
 - Neither Agree nor Disagree
 - Agree
 - Strongly Agree
12. My public health skills have increased as a result of participating in PHAP.
- Strongly Disagree
 - Disagree
 - Neither Agree nor Disagree
 - Agree
 - Strongly Agree
13. How confident are you in your ability to perform skills related to public health program and practice? (includes knowledge of CDC's public health program approach to address and improve the population-based health and the development and application of program skills to improve health outcome)
- Not at all Confident
 - Slightly Confident
 - Somewhat Confident
 - Confident
 - Very Confident
14. How confident are you in your ability to perform skills related to partnership and collaboration? (includes developing relationships to improve the community's health and implementing programmatic interventions)
- Not at all Confident
 - Slightly Confident
 - Somewhat Confident
 - Confident
 - Very Confident
15. How confident are you in your ability to perform skills related to cultural competency? (includes operating in different cultural contexts and integrating knowledge about individuals and groups of people into public health practice to produce better public health outcomes)
- Not at all Confident

- b.** Slightly Confident
- c.** Somewhat Confident
- d.** Confident
- e.** Very Confident
- 16.** How confident are you in your ability to perform skills related to communications? (includes the ability to deliver clear and effective communication that satisfied internal and external customers)
- a.** Not at all Confident
- b.** Slightly Confident
- c.** Somewhat Confident
- d.** Confident
- e.** Very Confident
- 17.** How confident are you in your ability to perform skills related to critical systems thinking? (includes the ability to assess problems and effectively arrive at appropriate solutions, as well as the ability to self-identify the need for profession improvement)
- a.** Not at all Confident
- b.** Slightly Confident
- c.** Somewhat Confident
- d.** Confident
- e.** Very Confident
- 18.** My experience in PHAP helped clarify my career goals.
- a.** Strongly Disagree
- b.** Disagree
- c.** Neither Agree nor Disagree
- d.** Agree
- e.** Strongly Agree
- 19.** PHAP has prepared me for my next position. (Note: think about what's next for you [i.e. job, academic program, other endeavor]. If you don't know exactly what's next, please consider how PHAP has prepared you, in general, for your next position following PHAP.)
- a.** Strongly Disagree
- b.** Disagree
- c.** Neither Agree nor Disagree

- d. Agree
 - e. Strongly Agree
20. I would recommend PHAP to others considering a career in public health.
- a. Strongly Disagree
 - b. Disagree
 - c. Neither Agree nor Disagree
 - d. Agree
 - e. Strongly Agree
21. Overall, the quality of the PHAP program was:
- a. a. Poor
 - b. Fair
 - c. Good
 - d. Very Good
 - e. Excellent
22. Overall, the PHAP program:
- a. Did Not Meet My Expectations At All
 - b. Somewhat Met My Expectations
 - c. Met My Expectations
 - d. Exceeded My Expectations
 - e. Significantly Exceeded My Expectations

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Table 1

Descriptive Statistics for the PHAP Scale Items

Item	<i>M</i>	<i>SD</i>
Associate's existing skills were enhanced during PHAP	4.60	0.72
Associate developed new skills while in PHAP	4.58	0.82
Associate developed new knowledge and skills at host site	4.48	0.94
Associate confidence in Communications	4.48	0.71
Associate confidence in Partnership and Collaboration	4.47	0.72
Associate confidence in Cultural Competency	4.46	0.66
PHAP prepared associate for next position	4.38	0.81
Associate confidence in Critical Systems Thinking	4.37	0.77
Associate would recommend PHAP to others	4.24	0.89
PHAP influenced associate's career goals	4.19	0.89
Associate confidence in Public Health Program and Practice	4.16	0.85
Associate satisfaction with overall host site experience	4.02	1.07
Associate satisfaction with host site supervisor	3.96	1.18
Associate satisfaction with PHAP mentoring program	3.74	1.26
Mentor was a confidential source of support	3.73	1.27
Overall quality of PHAP	3.73	0.88
Mentor provided career guidance	3.68	1.30
Associate experienced a change in skills during PHAP	3.63	0.68
PHAP met associate's expectations	3.33	1.08
Degree of challenge in host site assignment	3.26	0.97
Mentor connected associate with other professionals	3.26	1.35
Associate recommendation of host site	3.16	1.01

Table 2

PHAP Service-Learning Scale Item Correlations

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1. Enhanced skills	-																						
2. Developed skills	.73	-																					
3. Developed new skills at host site	.40	.40	-																				
4. Confidence in Communications	.47	.37	.06	-																			
5. Confidence in Partnership and Collaboration	.23	.12	.20	.37	-																		
6. Confidence in Cultural Competency	.29	.20	-.09	.42	.28	-																	
7. Position preparation	.69	.56	.31	.40	.11	.19	-																
8. Confidence in Critical Systems Thinking	.35	.23	.08	.58	.34	.51	.34	-															
9. Recommend PHAP	.61	.64	.22	.35	.03	.23	.61	.26	-														
10. Influenced career	.53	.53	.35	.45	.27	.28	.60	.36	.42	-													
11. Confidence in Public Health Program and Practice	.21	.01	.07	.34	.43	.22	.22	.46	.13	.23	-												
12. Host site satisfaction	.51	.50	.52	.21	.28	.08	.54	.17	.48	.34	.24	-											
13. Supervisor Satisfaction	.45	.43	.54	.12	.23	.50	.41	.16	.25	.25	.17	.72	-										
14. Satisfaction with mentoring program	.12	.16	.14	.14	.29	.26	.15	.09	.27	-.04	.16	.36	.20	-									
15. Mentor was a confidential support	.08	.12	.05	.07	.17	.24	.10	-.04	.23	-.06	.08	.31	.14	.87	-								
16. Quality of PHAP	.50	.55	.19	.24	.07	.19	.54	.16	.70	.32	.07	.45	.30	.19	.10	-							
17. Mentor provided career guidance	.23	.23	.15	.11	.26	.31	.29	.12	.40	.13	.16	.43	.29	.89	.82	.27	-						
18. Experienced skill change	.63	.71	.40	.41	.13	.22	.66	.30	.63	.58	.19	.36	.29	.03	.02	.49	.14	-					
19. PHAP met expectations	.49	.45	.29	.23	.23	.21	.54	.23	.63	.40	.27	.51	.34	.28	.18	.76	.33	.42	-				
20. Challenge in host site assignment	.35	.35	.31	.22	.43	.10	.36	.12	.28	.45	.22	.61	.34	.33	.25	.35	.32	.33	.51	-			
21. Mentor connected associate with other professionals	.24	.23	.22	.16	.19	.31	.26	.19	.38	.11	.20	.37	.23	.77	.68	.27	.79	.12	.34	.33	-		
22. Host site recommendation	.30	.34	.42	.26	.18	.11	.25	.20	.19	.18	.22	.63	.64	.23	.15	.13	.21	.18	.21	.40	.31	-	

Note: r greater than .20 is significant at .05; r greater than .25 is significant at .01

Table 3

Rotated factor solution for the PHAP Service-Learning Scale

Items Grouped by Factors	Factor Loadings					<i>h</i> ²
	1	2	3	4	5	
<i>Factor One: Learning and Development</i>						
Associate developed new skills while in PHAP	.81					.74
Associate experienced a change in skills during PHAP	.81					.71
Associate's existing skills were enhanced during PHAP	.73					.71
PHAP prepared associate for next position	.63					.60
PHAP influenced associate's career goals	.63					.52
<i>Factor Two: Mentoring</i>						
Associate satisfaction with PHAP mentoring program		.94				.91
Mentor was a confidential source of support		.92				.71
Mentor provided career guidance		.89				.86
Mentor connected associate with other professionals		.77				.84
<i>Factor Three: Experiential Assignment</i>						
Associate satisfaction with host site supervisor			.84			.72
Associate satisfaction with overall host site experience			.72			.76
Associate recommendation of host site			.68			.51
Associate developed new knowledge and skills at host site			.55			.62
Associate was appropriately challenged at host site			.40			.33
<i>Factor Four: Self-Efficacy in Program Competencies</i>						
Associate confidence in Critical Systems Thinking				.75		.62
Associate confidence in Public Health Program and Practice				.65		.47
Associate confidence in Communications				.63		.57
Associate confidence in Partnership and Collaboration				.57		.42
Associate confidence in Cultural Competency				.52		.40
<i>Factor Five: Program Satisfaction</i>						
Overall quality of PHAP				.76		.77
PHAP met associate's expectations				.75		.79
Associate would recommend PHAP to others				.52		.73