

## Nursing Education Research Conference 2018 (NERC18)

### Evidence-Based Practice Knowledge and Beliefs Among Associate Degree Nursing Students: A National, Multisite Study

**Amy Hagedorn Wonder, PhD, RN**

*Indiana University School of Nursing, Bloomington, IN, USA*

Darrell Spurlock Jr., PhD, RN, NEA-BC, ANEF

*School of Nursing, Widener University, Chester, PA, USA*

The importance of evidence-based practice (EBP) to reduce undesirable variability in healthcare and afford optimal outcomes for patients and organizations has long been acknowledged (Institute of Medicine, 2001); yet, full implementation at the point of care is still lacking (Melnyk, Gallagher-Ford, Long, & Fineout-Overholt, 2014). While a strong emphasis is placed on preparing baccalaureate nursing (BSN) students for EBP, associate degree (ADN) nurses often work in similar, generalist roles – and little is known about the extent to which they are prepared to deliver evidence-based care. A further complication is the routine reliance by educators and researchers on self-reports of knowledge or competence which have been found to correlate poorly with more objective measures of the construct of interest (e.g., knowledge), both within and outside nursing (Wonder et al., 2017; Zell & Krizan, 2014). To prepare pre-licensure students to implement EBP at the point of care it is essential to: a) accurately evaluate students' EBP knowledge with measures with solid validity and reliability evidence; b) develop and test educational strategies to facilitate development of EBP knowledge across levels of education; c) identify what supports are needed as graduates transition into practice; and d) study the durability of EBP knowledge to determine what supports are needed over the course of nurses' careers.

Here we report results from a descriptive, correlational study of 149 ADN students from 5 programs located in the Midwest and Northeast United States conducted in 2016-2017. The purpose of the study was to describe the levels of EBP knowledge among the sample of ADN students, describe relationships between demographic factors and EBP knowledge, describe the relationships between objective and subjective measures of EBP knowledge, and lastly, to gather validity and reliability evidence for the EKAN in a sample of ADN students from programs in the United States.

In proctored computerized data collection sessions, study subjects from all study sites first completed a demographic and personal characteristics questionnaire. Next, subjects completed the Evidence-Based Practice Questionnaire (EBPQ), a self-report questionnaire by Upton and Upton (2006) that contains three subscales focusing on EBP practice/use, attitude, and knowledge/skills. Subjects then completed the Evidence-based Practice Knowledge Assessment in Nursing (EKAN; Spurlock & Wonder, 2015), a 20-item multiple-choice exam with items addressing EBP-related domains described by the American Association of Colleges of Nursing (AACN, 2008) Essentials of Baccalaureate Education for Professional Nursing Practice (*Essentials*) and the Quality and Safety Education for Nurses (QSEN; Cronenwett et al., 2007) prelicensure competencies.

Subjects were predominantly female (81.9%, n=122), White/Caucasian (83.2%, n=124) and reported English as their primary language (95.3%, n=142). A mean age of 30.3 years (range=19-58 years) was noted for the sample.

Results showed the mean EKAN sum score was 8.77 ( $SD=2.09$ ) out of a possible 20 (range=3-13). In a prior study by Spurlock and Wonder (2015), BSN students showed a mean EKAN sum score of 10.4 (range 5-16), a mean difference of about 1.6 points and a lower range of scores. The current study showed no significant relationships between EKAN sum scores and any demographic variable.

In the current study, the EKAN demonstrated a strong item reliability (0.96) under the single parameter Rasch model (1-PL), but low person reliability (0.16), indicating extreme trait restriction (homogeneity in

scores/ability). All EKAN infit and outfit parameters were between 0.8 and 1.2, indicating strong item-model fit. The EBPQ demonstrated a Cronbach's alpha internal consistency reliability of 0.95 for the total scale, with the following subscale results: 0.92 for practice/use subscale, 0.75 for the attitude subscale, and 0.95 for the knowledge/skills subscale. Strong, statistically significant correlations were noted among each of the EBPQ subscales. However, there were no statistically significant correlations between any of the subjective (EBPQ subscales) and objective (EKAN) measures. The correlation between the EKAN and the EBPQ subscale for knowledge was -0.20, indicating that subjects with higher self-rated knowledge levels had fewer correct answers on the EKAN. Subjects were asked to rate their agreement with the statement, "I am sure I can deliver evidence-based care" on a 5-point Likert type scale where 1=Strongly Disagree and 5=Strongly Agree. A total of 126 subjects (84.6%) responded as either Agree or Strongly Agree ( $M = 4.05$ ). Subjects' responses to this statement correlated strongly with the EBPQ subscales for practice ( $r = 0.347$ ) and knowledge ( $r = 0.359$ ), showing positive relationships that were significant at the  $< 0.01$  level. There was no significant correlation between subjects' responses to this statement and the EKAN ( $r = .037$ ,  $p = .650$ ), providing additional evidence on the lack of correlation between subjective and objective measures of knowledge.

This presentation will provide insight into what areas of EBP knowledge were more familiar to ADN students and how to use rigorous evaluation to develop and test educational strategies across levels of education. Through the use of consistent evaluation, faculty can work collaboratively to prepare all prelicensure students to be providers of evidence-based care.

---

**Title:**

Evidence-Based Practice Knowledge and Beliefs Among Associate Degree Nursing Students: A National, Multisite Study

**Keywords:**

EBP, Instrument Development and Nursing Education

**References:**

American Association of Colleges of Nursing [AACN]. (2008). The essentials of baccalaureate education for professional nursing practice. Retrieved from <http://www.aacn.nche.edu/education-resources/BaccEssentials08.pdf>.

Cronenwett, L., Sherwood, G., Barnsteiner, J. Disch, J., Johnson, J., Mitchell, P., Warren, J. (2007). Quality and safety education for nurses. *Nursing Outlook*, 55(3), 122-131.

Institute of Medicine [IOM]. (2001). Crossing the quality chasm: A new health system for the 21st century. Washington, DC: National Academies Press.

Melnyk, B. M., Gallagher-Ford, L., Long, L. E., & Fineout-Overholt, E. (2014). The establishment of evidence-based practice competencies for practicing registered nurses and advanced practice nurses in real-world clinical settings: Proficiencies to improve healthcare quality, reliability, patient outcomes, and costs. *Worldviews on Evidence-Based Nursing*, 11(1), 5-15.

Spurlock, D., & Wonder, A. H. (2015). Validity and reliability evidence for a new measure: The evidence-based practice knowledge assessment in nursing. *Journal of Nursing Education*, 54(11), 605-613.

Upton, D., & Upton, P. (2006). Development of an evidence-based practice questionnaire for nurses. *Journal of Advanced Nursing*, 53(4), 454-458.

Wonder, A. H., McNelis, A. M., Spurlock., D., Ironside, P. M., Lancaster, S., Davis, C. R.,...Verwers, N. (2017). Comparison of nurses' self-reported and objectively measured evidence-based practice knowledge. *The Journal of Continuing Education in Nursing, 48*(2), 65-70.

Zell, E., & Krizan, Z. (2014). Do people have insight in their abilities? A metasynthesis. *Perspectives on Psychological Science, 9*, 111-125.

### **Abstract Summary:**

Although emphasis is placed on preparing baccalaureate nursing students for EBP, associate degree nurses often work in similar, generalist roles. This presentation, reporting on a multi-site study of associate degree nursing students, describes the differences in EBP knowledge between levels of education and shows the importance of objective knowledge measures.

### **Content Outline:**

I. Introductions

II. Background

- a. Importance of multi-site study of ADN students' EBP knowledge
- b. Importance of valid and reliable instrumentation to directly measure the construct of interest.

III. Describe Study Sample

IV. Present Results

- a. Objective EBP knowledge
- b. Subjective EBP knowledge
- c. Relationships between objective EBP knowledge and demographic factors
- d. Relationships between and within objective and subjectives measures of EBP knowledge
- e. Validity and reliability of EKAN

IV. Discussion of results in context with studies of other levels of education in academe and practice.

V. Discussion of results in relation to the inaccuracies of using subjective measures to evaluate objective constructs (knowledge)

VI. Implications for Nursing Education

VII. Questions

First Primary Presenting Author

### **Primary Presenting Author**

Amy Hagedorn Wonder, PhD, RN  
Indiana University School of Nursing

Assistant Professor  
Bloomington IN  
USA

**Professional Experience:** Dr. Amy H. Wonder completed her doctorate in 2011 from Indiana University. She is currently an Assistant Professor at Indiana University School of Nursing. She also serves as a research consultant for evidence-based practice, quality improvement, and the associated educational needs of direct-care nurses and clinical leaders. Her research and scholarship, which is primarily focused on instrument development and rigorous evaluation of EBP knowledge across levels of education in academe and practice, is growing in use nationally and internationally. Additionally, she conducts and mentors research based on observed opportunities for improvements in academe and practice. Dr. Wonder has expertise in curriculum and course design, as well as active learning and other innovative teaching strategies that simultaneously enhance nursing education and impact nursing practice.

**Author Summary:** Dr. Amy Hagedorn Wonder is an Assistant Professor at Indiana University School of Nursing, teaching undergraduate and graduate nursing courses. Her teaching connects academe and practice to facilitate the knowledge and skills needed to enact and lead EBP in practice. Dr. Wonder's scholarship is focused on instrument development and rigorous evaluation of EBP knowledge across levels of education in academe and practice.

Second Secondary Presenting Author

***Corresponding Secondary Presenting Author***

Darrell Spurlock, PhD, RN, NEA-BC, ANEF Jr.  
Widener University  
School of Nursing  
Associate Professor, Scholarship Director, & Director, Leadership Center for Nursing Education Research  
Chester PA  
USA

**Professional Experience:** 15+ years of academic nursing education experience, author or presenter on over 75 peer-reviewed scholarly publications and presentations; research/methods consultant on over 50 research, QI, and EBP projects; extensive experience with quantitative data collection & analysis.

**Author Summary:** Darrell Spurlock, Jr. PhD, RN, NEA-BC, ANEF is Associate Professor of Nursing, Scholarship Director, and Director of the Leadership Center for Nursing Education Research at Widener University in Chester, PA. Dr. Spurlock is a nurse-academic psychologist and has over 75 peer-reviewed publications and presentations. Dr. Spurlock is a frequent workshop presenter on EBP, measurement, and research methods.