Oral Defense Announcement
University of Missouri – St. Louis Graduate School

An oral examination in defense of the dissertation for the degree
Doctor of Philosophy in Nursing

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Factor Structure and the Construct Validity of a Hospital Survey on Patient Safety Culture Survey Using Exploratory Factor Analysis

Date: April 21, 2022
Time: 1:00-3:00pm
Place: Remote

Abstract

Objective: The purpose is to explore the underlying factor structure of the Hospital Survey on Patient Safety Culture Survey (HSOPS®), to evaluate correlations between the factors, and to extend past work by further estimating its construct validity in a large sample.

Methods: A secondary data analysis using EFA and the AHRQ HSOPS® database (December 2017 to October 2020), from nurses who shared their perceptions about hospital cultures of safety in the reporting of adverse events. Data were collected from 191,977 hospital nurse respondents in 320 U.S. hospitals.

Results: EFA obtained six factors with an eigenvalue >1 from the items loading analysis. These six factors explained 51% of the total variance, and the Kaiser-Meyer-Oklin measure of sampling adequacy was 0.97. Of the 42 primary loadings, 32 were ≥0.50, 7 were ≥0.40 and 3 were ≥0.30. Factor 1, communication-lead/advice/speak out, had the most loadings with 12 items (r = 0.354 to 0.806). Factor 2, organizational culture and culture of safety-environment, as well as Factor 5, patient safety, tied for the second most loadings (r = 0.605 to 0.849 and 0.349 to 0.662 respectively). Factor 6, communication-resilience, rebound, improvement, had the least number of loadings and the strongest correlations (r = 0.751 to 0.924). Factor 3, psychological safety-security, protection had a moderate to moderately strong positive correlation (r=0.468 to 0.551). Factor 4, psychological safety-support/trust, had a strong positive correlation with HSOPS® items (r = 0.500 to 0.849). All factors had moderate to very strong associations with each other (range 0.354-0.924). Construct validity, estimated through pattern matching, determined the extent to which survey items corresponded to the theoretical framework offered in this study, was moderately high.

Discussion: EFA conducted identified six factors and associations between the factors from items in the HSOPS®. All factors were all at least moderately to moderately strongly correlated. Three factors were very strongly correlated with each other (factors 1, 2, and 4). Construct validity was moderately high. Two theoretical framework concepts, degree of deference to expertise, and extent of resilience, were missing from most of the factors. Implications for practice, theory, and future research are offered.

Defense of Dissertation Committee
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