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Development of the Job/Work Environment Nursing Satisfaction Survey

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Abstract. The primary purpose of this study is to test validity and reliability of the Job/Work Environment Nursing Satisfaction Survey (JWENS) for new graduate nurses in South Korea. JWENS-Kor(V) was analyzed using data of 333 new graduate nurses working in 7 regions in South Korea. Cronbach's alpha coefficient and subfactor to total correlation were used for the reliability test. Cronabach's alpha of JWENS was .85, and item to total correlation coefficient ranged from .32 to .72. The results of factor analysis showed JWENS consisted of 17 items in total and five factors (becoming part of a team, competence, work schedule, professional development, and practice support) which explained 60.7% of total variance.

Keywords: Environment, South Korea, Nurse, Reliability and Validity, Work.

1 Introduction

Nurses form the greatest professional manpower group among hospital workers and have become essential in improving efficiency and competitiveness of hosp itals. However, new graduate nurses may have trouble due to job-related knowl edge and skills required for nursing work, three-shift work, increased responsibi lities, and the gap between the high expectation of work and the realities after their graduation and face various problems, including complicated and subtle in terpersonal relationships [1,2]. In such a situation, they may have more difficul ties in performing their role or leave the hospital for a workplace with relative ly less trouble [3]. Nursing Work Environment Satisfaction in this study is dev eloped by Halfer-Graf [4] to understand and assist the transition process for ne w graduate nurses. On the basis of the fact that it might take new graduate n urses 18 months to adapt themselves [5], Halfer and Graf [4] conducted the re search on work environment and job satisfaction among those in that period an d reported that their job satisfaction pattern as well as satisfaction, dissatisfacti on, and relevant variables varied over time. Therefore, this study is different fr om the previous research, which measured nursing work environment, in that it intended to measure satisfaction with nursing work environment in the populati on of new graduate nurses with less than 18 months of career in the first wor kplace. Application of a foreign nursing work environment satisfaction scale to the

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South Korean nursing practice requires repetitive validity test and the translation of the scale based on the characteristics of foreign nursing work environment can result in poor validity and sensitivity. So this study intends to translate the Job/ Work Environment Nursing Satisfaction Survey (JWENS), which is applicable to new graduate nurses, can be sensitive to their characteristics, and includes diverse a reas of nursing work environment, into Korean, test its validity and reliability, and provide basic data useful in assessing nursing work environment satisfactio n among new graduate nurses in South Korea. This study aims to test validity and reliability of the Job/Work Environment Nursing Satisfaction Survey developed and revised by Halfer and Graf [4] among new graduate nurses in South Korea.

2 Methods

2.1. Study design and Participants

This study is methodological research to test validity and reliability of the Job/Work Environment Nursing Satisfaction Survey (JWENS) among new graduate nurses in South Korea. The target group in this study consisted of all the new graduate nurses who were registered at one of seven branches of the Hospital Nurses Association (HNA).

2.2. Instrument

1) Work Environment Satisfaction Scale

The Job/Work Environment Nursing Satisfaction Survey developed and revised by Halfer and Graf [4] was used to measure work environment satisfaction among new graduate nurses. The original instrument was a four-point scale.

2) Criterion-related validity scale

Concurrent validity or predictive validity can be tested to determine criterion-related validity. The intent to leave scale is composed of 4 self-administered items, with scores ranging from 5 to 20; the higher score, the higher intent to leave. Cronbach's alpha was .88 in this study.

3 Data collection and analysis

Before data collection, the researcher personally explained the purport of the research and received written consent at education sites in 7 regions where the ‘Workshop for Encouraging New Graduate Nurses’ was held under the sponsorship of HNA from

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July 11 to September 19, 2012. Cronbach's alpha and item to total correlation coefficient were used to determine internal consistency for reliability of the scale; factor analysis was made to determine construct validity of the scale; principal component analysis was used to involve Varimax rotation; and the number of factors was based on the eigen value of 1.0.

4 Results

4.1. Validity analysis

1) Construct validity

As for goodness-of-fit of the general data for this instrument, the KMO (Kaiser-Meyer-Olkin) value was estimated to be .84, which was close to 1, and was found to fit for the factor analysis model; in identifying any common factor and reflecting goodness-of-fit for the factor analysis model, Bartlett's test of sphericity found significant differences (p<.001, Chi-Square: 1638.87).

• Factor extraction: Factor analysis involved Varimax rotation to minimize the number of variables with high loading for a single factor. Consequently, a total of 17 items were selected, excepting one item with less than 0.4 of communality, Five factors had eigen value of 1.0 or higher; explanation power was estimated to be 15.04% for Factor 1, 14.40% for Factor 2, 11.20% for Factor 3, 10.48% for Factor 4, and 9.62% for Factor 5, with cumulative explanation power of 60.73% (table1).

• Factor naming: Factor 1 was named 'Becoming Part of a Team,' included four items in total, and had factor loading r= .56-.79. Factor 2 was named 'Competence' as in the original scale, included four items in total, and had factor loading r= .59-.79. Factor 3 was named 'Work Schedule' as in original scale, included two items in total, and had factor loading r= .88-.89. Factor 4 was named 'Career Development' as in the original scale. It included three items in total and had factor loading r= .59-.75. Factor 5 was named 'Practice Support,' included four items in total, and had factor loading r= .51-.78. It included new items

4.2. Reliability analysis

Internal consistency: All of the 18 items were selected since inter-item correlation coefficient was estimated to be .30 or higher, making significant contributions to the scale, on the basis of the item analysis. As for reliability of the scale, Cronbach's alpha was estimated to be .85 for the items in general and .72 for Factor 1, .74 for Factor 2, .83 for Factor 3, .62 for Factor 4, and .65 for Factor 5.

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5 Discussion

The Korean version of the Job/Work Environment Nursing Satisfaction Survey (JWENS) in this study is applicable to new graduate nurses with less than 18 months of career in their first hospital in South Korea and can be sensitive to their characteristics. Reliability and validity of JWENS were tested; finally, 17 items were selected and five factors were extracted and named through factor analysis. To determine concurrent or predictive validity in testing criterion-related validity, correlation between the results of JWENS and the intent to leave scale as an external reference was assessed on the basis of the finding that nursing work environment satisfaction is strongly correlated with the intent to leave [6,7]. Each of the five factors extracted and named was found to have statistically significant negative correlation, confirming criterion-related validity. Therefore, the Korean version of JWENS, which has high reliability and good construct validity, is a good scale to measure the work environment for nurses in South Korea [4].

Table 1. Factor Analysis of the JWENS

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Eigen value	5.18	1.72	1.31	1.08	1.02
Varian explained	15.04	14.40	11.20	10.48	9.62
Cumulative variance explained	15.04	29.44	40.04	51.12	60.73

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