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Psychometric evaluation of the Environmental Reality Shock-Related Issues and Concerns instrument for newly graduated nurses

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ABSTRACT

Background: Reality shock is a critical representation of the gap between nursing education and clinical practice and it is important to explore the level of reality shock among nurses. However, there is no relevant instrument to assess the level of reality shock in South Korea.
Objectives: The purpose of this is to determine the validity and reliability of the Korean version of the Environmental Reality Shock-Related Issues and Concerns instrument.
Design: A cross-sectional study design was used in this study.
Settings: The data collection was conducted in selected 15 hospitals in South Korea.
Participants: A convenience sample of 216 newly graduated nurses participated in the study.
Methods: The Korean version of the Environmental Reality Shock-Related Issues and Concerns instrument was developed through the forward-backward translation technique, and revision based on feedback from expert groups. The internal consistency reliability was assessed using Cronbach's alpha, and the construct validity was determined via exploratory and confirmatory factor analysis.
Results: The Korean version of the Environmental Reality Shock-Related Issues and Concerns has reliable internal consistency (Cronbach's alpha = 0.91). Exploratory factor analysis revealed five factors including job, relationships, expectations, private life, and performance, which explained 61.92% of variance. The factor loadings ranged from 0.451 to 0.832. The five-factor structure was validated by confirmatory factor analysis (RMR < 0.05, CFI > 0.9).
Conclusion: It was concluded that the Korean version of the Environmental Reality Shock-Related Issues and Concerns instrument has satisfactory construct validity and reliability to measure the reality shock of newly graduated nurses in South Korea.

1. Introduction

Nursing education has evolved to provide excellent education for newly graduated nurses and support them to have better transition from protected academic environment to unfamiliar clinical practice. However, the initial experience of newly graduated nurses in clinical practice has not been positive and apparently, they confront a complex and stressful transition into nursing practice due to the theory and practice gap (Al Awaisi et al., 2015), which lead to the situations that around 13% of newly graduate nurses changed their primary jobs within a year (Kovner et al., 2007), and 26% of new nurses quit their first employer within 2 years (Brewer et al., 2012). With the current health care system, hospitals cannot attract and keep newly graduated nurses for long, and nurses are more likely to leave the workforce early on in their careers (Kovner et al., 2014).

Recent studies continue to produce results similar to Kramer's (1974) study, wherein reality shock was first described. Reality shock is the difficulty that newly graduated nurses experience during the transition from student to nurse when their expectations of nursing practice differ from the realities they experience upon entering practice (Kramer, 1974). Since Kramer described reality shock in 1974, the phenomenon has been acknowledged as part of newly graduated nurses' transition for decades. Studies have shown that the problems resulting from reality shock are more serious today compared to the past, owing to a rapid change in technology, accelerating patient turnover rates, rising acuity of patients, increasing complexity of patient care needs,

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and reimbursement constraints (Al Awaisi et al., 2015; Wolff et al., 2010). In addition, studies have particularly indicated that most newly graduated nurses experience workplace inequality and a mismatch between their ideals for work and their actual work during this transition period when they enter practice that is unfamiliar and difficult to understand (Martin and Wilson, 2011; Mooney, 2007; Newton and McKenna, 2007; O'Shea and Kelly, 2007; Roziers et al., 2014). These changes are especially challenging to newly graduated nurses as they transition from students to staff nurses and may culminate in their leaving the workplace.

Newly graduated South Korean nurses similarly experience reality-shock-related difficulties during this transition process (Park and Chun, 2008; Suh and Lee, 2013) and the turnover rate of newly graduated nurses is approximately 29% on average, which is twice that of experienced nurses in Korea (13.9%; Korean Hospital Nurses Association, 2015). Additionally, inadequate nurse staffing and poor nurse work environments are serious issues in Korea. A recent study revealed that Korean nurses provide care for about twice as many patients as nurses in the United States and European countries (Cho et al., 2015). Furthermore, Korean hospitals are believed to have the highest rates of nurse burnout due to poor work environments for nurses (Aiken et al., 2011). In this situation, newly graduated Korean nurses might experience more difficulties in adapting to new roles than newly graduated nurses in other countries.

The reality shock of newly graduated nurses has been evaluated primarily through qualitative research (Martin and Wilson, 2011; O'Shea and Kelly, 2007; Roziers et al., 2014) and quantitative studies frequently use a single item, “Are you shocked at work?” (Suzuki et al., 2006). Both types of studies have shown that reality shock was associated with nurse burnout and turnover intention (Martin and Wilson, 2011; Suzuki et al., 2006). Thus, it is critical to investigate how to address reality shock among newly graduated nurses as a way to retain newly graduated nurses in hospitals. The first step should be to have a well validated instrument to evaluate the degree of reality shock among newly graduated nurses, which could be a cornerstone for further exploration of reality shock.

Kramer et al. (2013) developed the Environmental Reality Shock-Related Issues and Concerns (ERS-RIC) instrument to measure the number of issues of newly graduated nurses and the depth of their concern. It was suggested to use the term “environmental reality shock” instead of “reality shock,” pointing to how recent findings indicate that work environment can worsen reality shock. The use of this term also emphasizes the importance of newly graduated nurses' work environment, particularly its association with their transition, and suggests the need for strategies aimed at improving nurses' work environments (Kramer et al., 2013). The ERS-RIC is comprised of 22 items measuring reality-shock-related issues and concerns, and its reliability has been reported as “acceptable” (Kramer et al., 2013). However, the validity of the ERS-RIC was not evaluated at the time of its development nor was it validated in Korean. Thus, confirming the validity of the ERS-RIC is an important first step in its use. The purpose of this study was to translate the ERS-RIC into Korean, to verify its reliability and validity, and to confirm its appropriateness for newly graduated Korean nurses. After conducting an extensive search for a relevant instrument, the ERS-RIC was determined to be the only instrument available to measure reality shock during the transition period from student to nurse.

2. Methods

2.1. Validation Procedure

2.1.1. Step 1: Translation and Back-translation

With approval from Kramer, the original developer of the ERS-RIC, one of the researchers translated the original English version into Korean in accordance with the methods and procedure specified by the World Health Organization (WHO n.d.). Then, two other researchers and professors working in the nursing department in a Korean hospital, reviewed and revised the Korean questionnaire for clarity and cultural differences. The modified questionnaire was then back-translated into English by a Korean–English bilingual nurse. Each item was compared between English and Korean versions to identify any inconsistencies, and the items were revised to ensure that they were culturally relevant and to maintain the concept of original items.

2.1.2. Step 2: Psychometric Testing

The translated ERS-RIC was tested for content validity using both the content validity index (CVI) and item analysis. First, the translated scale was assessed by an expert panel of three nursing professors, a nurse with 3 years of experience, and a nurse administrator with 15 years of experience. All experts were informed that the instrument would measure reality shock of newly graduated nurses with less than one year of experience. They were asked to assess each item on a 4-point Likert scale, where 4 was “*very appropriate*,” 3 was “*appropriate*,” 2 was “*inappropriate*,” and 1 was “*very inappropriate*.” The CVI represents the percentage of items given a rating of 3 or a 4 by the experts out of the total number of items. Any value that is > 0.8 indicates good content validity.

The internal consistency reliability, construct validity, and criterion validity of the Korean ERS-RIC were also evaluated. First, the Cronbach's alpha was used to determine whether the ERS-RIC was internally consistent, to determine how accurately the scale items measured the same construct (DeVellis, 2011). Second, an exploratory factor analysis (EFA) was performed to determine the factor structure of the ERS-RIC, which was confirmed in a subsequent confirmatory factor analysis (CFA). The CFA was based on a theoretical and empirical foundation, which allowed the investigator to specify a hypothesized factor structure in advance and to test its fit to the data (Nunnally and Bernstein, 1994). Finally, criterion validity was examined by investigating the relationships of the ERS-RIC with burnout and turnover intention. Since, burnout and turnover intention are the most widely used outcomes in assessment of the nursing workforce (Aiken et al., 2008), and as both have been proven to be linked with reality shock, they could be useful criteria to validate a reality shock scale.

2.2. Design and Sample

This study used a descriptive cross-sectional design. The study subject was comprised of newly graduated nurses (i.e., those with less than one year of work experience) who were working at 15 general hospitals located in three cities of South Korea: Busan, Ulsan, and Yangsan. Survey questionnaires were distributed to 250 nurses, and 236 (94.4%) were returned. After excluding 20 incomplete questionnaires, data from 216 participants were included in the analyses. According to Tabachnick and Fidell's (2012) metric for a minimum sample size, which was to have five times the number of questions, the sample size of 216 was considered a sufficient number for psychometric evaluation.

2.3. Measures

Three measures were used to carry out the reliability and validity testing: the ERS-RIC, burnout and turnover intention.

2.3.1. ERS-RIC

The ERS-RIC was originally developed by Kramer et al. (2013) to measure newly graduated nurses' reality shock. This scale includes 22 items, and each item is measured on a 4-point Likert scale ranging from 4 (*very high concern*) to 1 (*of no concern*). Higher score indicates higher level of reality shock.

2.3.2. Burnout

Burnout is a psychological syndrome involving emotional exhaustion, depersonalization, and a diminished sense of personal