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PSYCHOMETRIC ANALYSIS OF STUDENT PERFORMANCE ON THE
NATIONAL LEAGUE FOR NURSING-DIAGNOSTIC READINESS EXAM[®]
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Nursing faculty are mandated to develop and implement a curriculum that will prepare entry level nursing graduates who can be successful on the National Council for Licensure Examination for Registered Nurses (NCLEX-RN[®]). Testing companies have developed standardized end of program assessments designed to assess a student's readiness for the NCLEX-RN[®].

The purpose of this study was to apply the IRT analysis concepts to categories within Nursing Process and Client Needs in a commonly used end of program assessment. The research questions focused on the following four areas: (a) psychometric characteristics of the categories in NP and CN at both a sample and population level; (b) comparison of the category characteristic curves in NP and CN; (c) the performance patterns on the categories in NP and CN; and (d) the dependability of mastery decisions on the categories based on the NCLEX-RN[®] cut score.

Population and sample level estimates of true score measures were calculated and compared. In each case, the population level estimates were essentially the same as the sample level for all the categories in NP and CN as well as the total test.

Category parameters were estimated using the two parameter model with categories being treated as items. The results indicated that the categories with the highest difficulty parameter (b) were Assess (NP) and Psychological Integrity (CN) while the lowest was Analyze (NP) and Physiological Integrity (CN). Evaluate (NP) and Physiological Integrity (CN) had the highest discrimination parameter (a) while Implement (NP) and Psychological Integrity (CN), the lowest.

In terms of performance patterns, the results were consistent with the difficulty estimates. The dependability index for the NCLEX-RN[®] cut scores varied among the categories of NP and CN from average to moderately high.

This study proposes a framework that would permit a more in-depth understanding of performance on categories within a standardized exam. The use of this framework will enable test developers to produce exams that can provide more precise information regarding performance. Nursing faculty can use this information to evaluate the effectiveness of their curriculum.