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## Research Article

### Comparison of NCLEX-RN Pass Rates between Accelerated and Traditional Prelicensure BSN Programs

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#### Abstract

**Background:** Different nursing programs provide students with educational options, but may not provide similar quality of education. This may leave some students unable to pass certification exams, such as the National Council Licensure Exam for Registered Nurses [NCLEX-RN] in the United States.

**Objectives:** This study compares NCLEX-RN pass rates between accelerated prelicensure Baccalaureate of Science in Nursing [BSN] students and traditional prelicensure BSN nursing students.

**Design:** Quantitative. Setting: Multiple US colleges. Participants: Programs surveyed accounted for 1,906 former students in either accelerated or traditional programs who had taken the NCLEX-RN between 2011 and 2014.

**Methods:** Chi-squared analysis was applied to pass rates to compare groups.

**Results:** Accelerated nursing students were more successful in passing the NCLEX-RN than traditional nursing students.

**Conclusions:** Additional accelerated prelicensure BSN programs may help increase the number of nurses in the workforce.

**Keywords:** Accelerated nursing students; BSN programs; NCLEX-RN pass rates; Nursing education; Prelicensure; Quantitative; Traditional nursing students

#### Introduction

The enduring nursing shortage around the globe, including in the United States, pressures nursing programs to increase the number of bachelor's degree students in nursing programs [1] (In this study, BSN (Bachelor of Science in Nursing) will cover all such programs). Colleges and universities compete against one another for students, and accelerated nursing programs are one approach colleges are using to increase student enrollment. The accelerated BSN program also increases the number of BSN nurses in the workforce [2], helping to alleviate the nursing shortage.

Research comparing traditional and accelerated prelicensure nursing students' success rates on the National Council Licensing Exam-Registered Nurse (NCLEX-RN) exam has

not yielded definitive results. However, previous research has only studied individual nursing programs. The current study is unique in that it examines NCLEX-RN pass rates of traditional and accelerated nursing students across nursing programs and across US states. Findings from the study may be applicable to other countries, such as Canada, which (since 2015) requires most nursing students to pass the NCLEX-RN exam before working [3]. This quantitative study compares NCLEX-RN pass rates between first-time test-takers in accelerated and traditional prelicensure programs across several programs. The results may validate the success of accelerated programs as an avenue for increasing nurses in the workforce.

#### Literature Review

##### Accelerated Programs

Accelerated nursing programs have existed since 1971 and are recognized as a successful method of educating nurses [4].

Accelerated BSN students are those who have a previous degree in a non-nursing major [2]. Accelerated nursing programs are intense, but provide an alternative, faster process for obtaining a BSN and an RN license in the US [2]. Some previous research in single nursing programs has shown that accelerated nursing students perform better on the NCLEX-RN [5] compared to traditional students; however, other studies demonstrated no significant difference [4,6].

Although systematic review of the literature on accelerated student's success on the NCLEX-RN turned up only a few studies, it was determined that accelerated international students (from Australia and Canada) studying in the US did as well or better than the US students on the NCLEX-RN [7].

### **RN Predictor Exams**

The ability of students to pass the NCLEX-RN on the first attempt is a major component of program quality [8], perceived by accreditors as a measure of program success. To assist nursing programs to achieve or maintain excellent NCLEX-RN outcomes, many nursing schools have implemented standardized testing for NCLEX-RN exam preparation within their respective curriculums [9,10]. Two commonly cited commercial standardized programs are Assessment Technologies Institute (ATI) and HESI; both use a predictor or exit exam to assess students' readiness to sit for the NCLEX-RN exam.

A study by Korvick, et al. [11] found that accelerated BSN students performed better on standardized exams than traditional BSN students, implying that students with existing knowledge and skills from a previous college degree have more ability to succeed in nursing school and on the NCLEX-RN. Homard [12] found exit exam testing to be a strong predictor of success on the NCLEX-RN. Obtaining a cutoff score of greater than 800 [13] or of 850 or higher [14] on the HESI Exit Exam was a significant predictor of NCLEX-RN success. Many studies recommend standardized tests like HESI or ATI to promote better NCLEX-RN results [15,16]. Variables affecting NCLEX-RN pass rates include science grades [17] and nursing course grades [18], thus, standardized testing has promoted success in nursing graduates on the NCLEX-RN.

Nursing programs that use standardized testing have shown improved NCLEX-RN scores. In contrast, Odom-Maryon, et al. [9] found that nursing programs requiring standardized testing for admission or progression through a nursing program did not have higher graduate pass rates on the NCLEX-RN. Other studies noted similar NCLEX-RN outcomes for accelerated and traditional nursing students who took a HESI standardized exam. In addition, Payne, et al. [4] compared three cohorts of nursing students and found that only one cohort showed a significant difference in NCLEX-RN pass rate and HESI scores; when all three cohorts were analyzed together, there was no significant difference between traditional and accelerated BSN students' scores and pass

rates. It is important to note that findings are still mixed.

### **Research Questions**

The following research questions were considered:

Q1. Is there a difference in NCLEX-RN pass rates between accelerated and traditional prelicensure BSN nursing students across multiple US nursing programs?

Q2. Is there a difference in NCLEX-RN pass rates between students who have completed a standardized RN predictor (exit) exam and those who have not?

The unifying principle underlying these questions is that both variables may affect NCLEX-RN pass rates, as demonstrated by conflicting evidence in the literature on pass rates among nursing programs and between use or nonuse of standardized RN predictor exams.

### **Methods**

#### **Instrument**

The survey used in this study was adapted with permission from a survey created by Crow, et al. [16]. Some questions utilized a Likert scale based on a 5-point scale (strongly disagree to strongly agree), while another question asked for student pass rates on the NCLEX-RN exam. After receiving IRB approval, the survey instrument was tested for content validity by five people with related content expertise in the fields of education and nursing. The measured content validity of the survey indicated good reliability (Cronbach's alpha value of .74). Nursing programs that had both an accelerated and traditional BSN track were contacted via email to participate in the survey. Data were collected through SurveyMonkey from December 2014 through February 2015. Data were analyzed using SPSS 19 statistical software using chi-squared test with 5% alpha level (.05 level).

#### **Sample**

Deans or department chairpersons/directors completed a survey about students' pass rates in their traditional or accelerated nursing programs. The completed surveys provided self-reported aggregated data from one nursing program in each of New Jersey, Ohio, Arizona, Florida, Illinois, Pennsylvania, North Carolina, and Maryland, and two different programs in Massachusetts. Power analysis using chi-squared with an effect size of 0.3, 80% power, and df of 5 indicated the need for 143 students. One hundred and seven email requests were sent out, with a response rate of 10%. A total of 10 deans/directors of 10 nursing programs answered on behalf of 1,906 students in either an accelerated or traditional program who had taken the NCLEX-RN between the years 2011 and 2014. The sample population was considered heterogeneous since the students had completed differing nursing programs. The NCLEX-RN exam has been previously validated for content

validity, construct validity, and scoring validity by the NCSBN [19] and, therefore, is considered to provide a consistent outcome evaluation of student preparation for licensure and employment (Table 1).

Colleges	NCLEX Pass	NCLEX Fail	Total
Traditional Students			
College A	234	124	358
College B	149	1	150
College C	334	38	372
College D	182	9	191
College E	221	19	240
College F	0	0	0
Total Students	1,130	188	1,318
Accelerated Stud.			
College A	87	0	87
College B	83	0	83
College C	233	13	246
College D	22	0	22
College E	0	0	0
College F	128	22	150
Total	553	35	588

**Table 1:** Sample Population-Students and NCLEX-RN results.

As a follow-up to this study, I reached out to the programs that originally supplied data to obtain more current NCLEX-RN findings in hopes of corroborating my original results. Unfortunately, I was only able to obtain additional data from one program that was able to provide differential NCLEX-RN pass rates between accelerated and traditional nursing students. In that program, of a total of 437 students for the years 2016-2018 inclusive, 89 were accelerated students and 348 were traditional students. Another nursing program contacted me and told me that the program does not separate out NCLEX-RN exam results between accelerated and traditional students any longer, one other nursing program did not get back to me with the information requested.

## Findings

Q1. Is There a Difference in NCLEX-RN Pass Rates Between Accelerated and Traditional Prelicensure BSN Nursing Students Across Multiple US Nursing Programs?

NCLEX-RN first-time test-taker pass/fail rates were categorized into two groups (traditional and accelerated prelicensure students) and analyzed to determine if there was a difference in pass rates between these two groups. From the surveys, a total of 1,906 students took the NCLEX-RN exam between 2011 and 2014. The accelerated programs had a total of 588 students, while the traditional programs had a total of 1318 students; 553 of the accelerated students passed the exam, along with 1,130 students from traditional programs. The traditional prelicensure student group thus had a pass rate of 85.7% (fail rate of 14.3%), while the accelerated group had a pass rate of

94.0% (fail rate of 6.1%). The NCLEX-RN pass rates indicated a statistically significant difference in both the pass rates ( $p=.0001$ ) between the accelerated and traditional students (Table 2).

Category	N	Chi-square	df	Asymp. Sig. (2-sided)
Trad BSN students-Pass NCLEX	1,130	**435.281	5	0
Acc BSN students-Pass NCLEX	553			
Notes. * $p < .05$ ; ** $p < .01$				

**Table 2:** Chi-Square for Traditional and Accelerated Prelicensure Student and NCLEX-Pass Rates for all Colleges.

The statistics for the follow-up study, provided a total of 89 accelerated students who took the NCLEX-RN exam between 2016 and 2018, with 81 students (93.03%) passing the exam; among 348 traditional students, 311 passed the NCLEX-RN (89.7%). This demonstrates a statistically significant difference in pass rates between groups ( $p=.022$ ). However, this is only one college's nursing program, and it could not be compared to other programs in other states, so the data may be nonrepresentative.

Q2. Is There a Difference in NCLEX-RN Pass Rates Between Students Who Have Completed a Standardized RN Predictor (Exit) Exam and Those Who Have Not?

All deans/directors completing the survey said their schools used a standardized testing program to help prepare their students to take the NCLEX-RN exam. One nursing program mandated that the students obtain a minimal score on the RN predictor (exit) test to complete the nursing program. A 5 point Likert-scale from Strongly Agree to Strongly Disagree was used with the following question: Most students who achieve a certain RN predictor competency level on the RN predictor test are able to pass the NCLEX-RN on the first attempt. Results yielded nine deans/directors (90%) who agreed that this was the case within their respective student populations; this was statistically significant based upon Chi-square with 1 degree of freedom ( $p=.0001$ ). Respondents surveyed also agreed that RN predictor tests have a positive impact on NCLEX-RN results. This validates some of the previous research results.

## Discussion

This study's findings showed a statistically significant difference in NCLEX-RN pass rates between accelerated and traditional prelicensure nursing students, corroborating previous research demonstrating higher NCLEX-RN pass rates among students in accelerated nursing programs [5]. Furthermore, most surveyed nursing programs' deans/directors who used a predictor

exam also agreed that the exam had a positive effect on NCLEX-RN exam success. This validates previous research indicating higher NCLEX-RN pass rates in colleges that use predictor exams, an approach that these studies found increases readiness to take the NCLEX-RN [11,12,15,16].

This study was sufficiently powered to provide us with assurance that the results are valid. The use of several different programs from several states provides broad generalizability of results within the US. However, several contacted schools that declined to participate in this study commented that they did not track student pass rates on the NCLEX-RN. One reason was the large numbers of students in the programs; also, where some programs were required to collect these data, others were not, and potentially did not see any reason to track these trends, especially if the overall program NCLEX-RN outcomes were meeting program and accreditation expectations.

### Implications

The current findings substantiate the assertion that accelerated BSN students have a higher probability of passing the NCLEX-RN exam compared to traditional students. Thus, accelerated BSN programs demonstrate superior NCLEX-RN success of graduates compared to traditional programs [2]. The data also validate the use of RN predictor (exit) exams to predict students' NCLEX-RN success.

Recommendations for future study include obtaining data from additional colleges to validate this study's findings and using a more effective research methodology to provide stronger results such as correlational or quasi-experimental studies. This study did provide new knowledge by assessing NCLEX-RN pass rates across several nursing programs and US states, thus providing broader understanding of high-stakes testing pass rates in nursing programs. In addition, the study confirmed that accelerated nursing students continue to perform especially well on NCLEX-RN exams, supporting the broader assertion that this program format allows nurses to enter the workforce more expediently. This can encourage other institutions to consider implementing or expanding accelerated nursing programs to provide more nurses to the workforce. Furthermore, international students who take the NCLEX-RN exam and pass it, whether in the US or Canada, may provide an increased number of nurses internationally.

### Limitations

This study had some potential limitations. First, this comparative research design does not provide a high level of evidence compared to more stringent testing parameters, for instance, a correlational design. The self-reported nature of the responses is also a potential problem because of possible bias or inaccurate recall. Moreover, the extremely small number of respondents completing the survey limits the generalizability of the research findings. Furthermore,

many larger nursing programs do not track NCLEX-RN results, and this may prevent other researchers from expanding the validation of the study results.

### Conclusions

This quantitative study determined that accelerated prelicensure BSN students performed better than traditional prelicensure students on the NCLEX-RN exam in nursing programs in several different states. The use of predictor-type exams also promoted improved pass rates on the NCLEX-RN ( $p=.011$ ). Accelerated nursing programs continue to provide an expedient and successful way to increase the numbers of nurses in the workforce.

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### Conflict of Interest

There are no conflicts of interests to declare.

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