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Rebecca Montz
Lamar University

Brett Welch
Lamar University

Neil Faulk
Lamar University

Clementine Msengi

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Finding Correlations Among Academic Performance, Demographic Influences and Clinical Competency Utilizing Predictive Variables in An Associate Degree Nursing Program

About the Author(s)

Dr. Rebecca Montz,

6042 Cheena Dr.

Houston, TX, 77096

(337) 354-5126

rlmontz12@gmail.com

Dr. Brett Welch, Lamar University 4400 MLK Blvd.

Beaumont, TX 77710

(409) 880-8215

brett.welch@lamar.edu

Dr. Neil Faulk, Lamar University 4400 MLK Blvd.

Beaumont, TX 77710

(409) 880-7362

nfaulk@lamar.edu

Dr. Clementine Msengi, Lamar University 4400 MLK Blvd.

Beaumont, TX 77710

(409) 880-8209

clementine.msengi@lamar.edu

Keywords

Admission Criteria, Clinical Competencies, Compassionate Practice, Emotional Intelligence, Student Retention



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Dr. Rebecca Montz, *Lamar University*

Dr. Brett Welch, Lamar University, *Dr. Neil Faulk, Lamar University*

Dr. Clementine Msengi, *Lamar University*

Abstract

A nonexperimental, quantitative, correlation study was utilized as the research design to explore the relationship between multiple academic and demographic variables on the final clinical assessment score and Health Education Systems, Inc., (HESI) Exit Exam (E²) score from a South Texas ADN program. The research was conducted to address the nursing workforce shortage and effective ways to predict academic and clinical achievements for associate degree nursing (ADN) programs. The academic variables for the research consisted of preadmission grade point average (GPA) and Anatomy and Physiology (A&P) I prerequisite GPA. Age and gender were used as the demographic variables for the research.

Quantitative correlational analysis identified if academic and demographic variables were beneficial in determining not only academic achievement but also the clinical success of nursing students to validate admission criteria for the future selection process of applicants at a small, public community college in South Texas. The results of the research determined a student's overall academic performance and demographic background will not inhibit them from becoming a successful nurse.

Keywords:

Admission Criteria, Clinical Competencies, Compassionate Practice, Emotional Intelligence, Student Retention

Introduction

The admissions selection for nursing programs has become increasingly challenging due to the pressure of potential applicants achieving the desired outcome of becoming a registered nurse and contributing to the workforce (Wambuguh, Eckfield, & Hofwegen, 2016). A few of the challenges of applicant selection consist of large applicant pools, predicted future nursing shortages, lack of nursing faculty, inadequate financial program resources, and insufficient clinical training facilities (Wambuguh et al., 2016). Research by Grant (2016) has shown the United States (US) has undergone a nursing shortage for decades. This has been in large part to the aging population, the growing prevalence of prolonged disease, and the insufficient capacity of nursing schools (Grant, 2016). The deficit is on the verge of becoming a crisis that will impact both patients and healthcare providers (2016). America's nurses compose over 3 million healthcare employees, which makes it the field's largest division and continues to be one of the fastest-growing professions (2016). According to the Bureau of Labor Statistics (2017), employment of nurses is projected to grow 15 percent from 2016 to 2026.

Research by Pitt, Powis, Levett-Jones, & Hunter (2012) addressed the need to identify factors that affect students' progression and attrition considering nursing programs have increased the number of accepted applicants to suffice the workforce need. Previous practice focused on factors that impact students' academic performance rather than investigating factors that affect attrition and clinical performance. Research by Pitt et al. (2012) found that nursing attrition was related to age, gender, admission qualifications, performance in science courses, critical thinking skills, and academic engagement.

The clinical setting is a contributor to the attrition in nursing education as it was identified as an essential stressor which requires remediation to strengthen student confidence and assure clinical proficiency and quality patient care (Lynn & Twigg, 2010). Investigators

recommended examination of variables that impact the clinical performance of students considering the vital role of clinical competencies required in the profession due to a significant insufficiency of research (Pitt et al., 2012).

Examining the admission criteria for associate degree nursing (ADN) applicants could lead to the establishment of reliable predictors of academic and clinical achievement. Luparell (2011) published that students are often evaluated on their clinical and intellectual skills, but even students who perform at high levels academically and clinically were lacking in the ability to interact efficiently and professionally with people. Therefore, the need exists for nursing programs to apply valuable affective screening criteria of applicants. Thus, improving the probability of all admitted nursing students completing the necessary academic and clinical portions of the program to address our national nursing shortage.

Background

The Bureau of Labor Statistics (2017) identified the healthcare industry as one of the largest industries in the US. Educational institutions must select applicants that will graduate and fulfill job needs. However, more research is warranted to identify variables that can be utilized in the admissions process to predict the academic and clinical success of students. The clinical environment requires students to incorporate and apply educational content to interpret and address medical situations (Lynn & Twigg, 2010). Research by Lynn & Twigg (2010) concluded that 10 to 20 percent of the University of Maryland School of Nursing students struggled in the clinical setting.

Therefore, reliable admission criteria should include students' academic ability, as well as noncognitive attributes such as communication skills and persistence to predict clinical success (Ingrassia, 2016). Health education programs require students to become accomplished in their chosen field by demonstrating competence in the clinical and classroom settings (Cox, Clutter, Sergakis, & Harris, 2013). Casares, Bradley, Jaffe, and Lee (2003) investigated how clinical education is the primary factor of healthcare programs that connect academic education with the technical application of knowledge and skills in the workplace. The clinical experience provides students the possibility to test theories and experiences acquired in the classroom and to improve skills through patient interaction under the guidance of a licensed healthcare worker (Casares et

al., 2003).

Nancarrow, Moran, and Graham (2014) researched that 21st-century healthcare workforce training should be centered in the clinical setting with a high emphasis on competencies. The researchers expressed that a competency-based model include an increase in clinical service to assist with workforce shortage and clinical training resources that aid in developing technical skills, not just lecture-based education (Nancarrow et al., 2014). The research emphasized competency-based education focused on the achievement of mastery through the measurement of learning and its concentration on operational proficiency and effectiveness (Nancarrow et al., 2014).

The demand for more skilled workers, at the national and local levels, is significantly affected by the Baby Boomer population, which will present a notable shortage of healthcare workers in the US (Barfield, Folio, Lam, & Zhang, 2011). Jacobson and Lalonde (2013) validated that improving workforce skills enhances the nation's competitiveness and fosters economic growth. Nursing programs must determine a method for selecting the best prospective students to meet the workforce shortage. Prospective students must possess the academic and clinical skills needed to perform the nursing job responsibilities. By identifying which variables can be used as predictors of future academic and clinical success, programs can decrease attrition rates and provide the workforce with an adequate number of qualified nurses.

Purpose of the Study

The primary purpose of this research was to identify if academic variables such as preadmission grade point average (GPA) and Anatomy and Physiology I (A&P) GPA predicted clinical performance. The research also examined post-admission criteria, such as the E^2 score, to determine the students' overall academic and clinical achievement through the five-semester program. Age and gender of all students were utilized as the demographic variables for the research to investigate clinical performance. The prerequisite course, A&P I, was investigated to determine if a correlation with the E^2 score existed. All pre-and post -admission criteria variables

were used to predict the final clinical assessment score, in turn determining if the variables impacted professional and technical skills.

This research helps fill a gap in the literature as most previous research has concentrated primarily on factors that influence nursing students' academic performance, with limited studies examining factors that affect attrition and only one study investigating the impact on clinical performance (Pitt et al., 2012). Admission processes in higher education are as diverse as the needs of the institutions and applicant pools, they are aimed to satisfy. The data obtained from this research will aid nursing faculty in making decisions concerning admission criteria for applicants, therefore benefiting student retention and inversely impacting the existing shortage. Also, the research may have implications for other ADN programs to utilize the A&P I GPA as a significant component of their admission criteria.

Many admission selections focus on a mixture of subjective and objective variables which include personal essays, interviews, standardized test scores, letter of recommendations, preadmission GPAs, and success of pre-requisite courses. However, some higher education institutions provide open or nonselective admissions. Nearly 78 percent of institutions recognize standardized test scores to be significant but are evaluated in combination with academic transcripts ("Are test scores still important," 2018). Although test scores and grades seem to be the most notable aspect of a college application, other college admissions requirements such as class rank, interviews, essays, and recommendation letters all have some influence on the result of the admissions process ("Are test scores still important," 2018).

Healthcare programs limit the number of students accepted into the program due to the restricting of enrollment available at clinical facilities in which students receive technical training. In regulating the number of students, clear criteria of admissions must be established with clear guidelines to ensure the selection of dedicated and capable students that are likely to finish challenging programs which qualify them for a profession in the healthcare settings. Expanding the number of nurses, to improve the

nursing shortage, relies on the success of the applicants accepted into programs, student retention, and the number who successfully pass The National Council Licensure Examination (NCLEX-RN). The declining number of graduates contributes to the nursing shortage by preventing entrance into the workforce which is due to nursing school attrition and NCLEX-RN deficiency (Yoho, 2006).

Investigating admission criteria success in an ADN program provides insight into factors that can promote successful clinical performance and program completion. The comparison of admission criteria to final clinical assessment scores assists faculty of ADN programs in distinguishing nursing students who are expected to be competent and capable of completing the program which in turn aids in improving the country's deficit of nurses. The results of the study will contribute valuable information to nursing faculty as they cultivate admission criteria to reflect the diversity of nursing applicants.

Methods

The research utilized a quantitative non-experimentation correlational research design to consider the research questions. According to Creswell (2012), quantitative research seeks to quantify data and generalize results from a sample of the population of interest. The objective of this research was to identify academic and demographic variables which statistically relate to the final clinical assessment and E² scores of ADN students at an urban community college in South Texas. Creswell (2012) discussed that correlational research attempts to identify whether an association between variables exists and reveals the nature and extent of the relationship without requiring any experimental interventions.

Descriptive data including age, gender, preadmission GPA, A&P I GPA, and E² score, and final clinical assessment scores were gathered from the files of the 2016 and 2017 graduates of an ADN program. The preadmission GPA consisted of required prerequisites and core courses in A&P I, medical terminology, chemistry, English, microbiology, psychology, humanities, and math. Clinical assessment evaluations

examined students' professionalism (time management, preparedness, implementation of policies and procedures), informatics (confidentiality, Centers for Disease Control and Prevention guidelines, patient reports), and patient care (assessment, diagnosis, care planning, ethics, implementation, teamwork).

The independent variables in this research were ADN students' preadmission GPA, A&P I GPA, E^2 score, gender, and age. The independent variables were compared to the dependent variable which was final clinical assessment score. The E^2 score also represented the dependent variable for the simple regression design whereas the independent variable was A&P I GPA. The research sought to conclude if the independent variables can be utilized in the future selection admissions process for community college ADN programs.

A convenience sample was used in the research because students had graduated from the ADN program during the timeframe the retrospective data was evaluated. The population of importance for this research was past graduates from a single South Texas accredited ADN program that utilizes a competency-based curriculum. The participants were ADN students who completed the program and graduated in 2016 ($n = 40$) and 2017 ($n = 51$). The demographic characteristics retrieved from this sample included age and gender. The data represented females ($n = 64$) and males ($n = 27$). The range in age was 20 to 49 with the mean age being ($M = 30.08$). Complete academic records were used for data collection constituted by the sample of participants ($n = 91$).

Permission was granted from the Investigational Review Board (IRB) of the nursing program's college and Lamar University Office of Research and Sponsored Programs Administration. Permission was also obtained from the Director of Nursing to access student records such as academic transcripts and clinical assessments from the participating college. Due to the sensitivity of collected data from the college such as grades, test scores, and demographic information, all names were removed to ensure the privacy of the graduates. In a retrospective study published by Kruzicevic et al. (2012),

data collection was considered exempt from student permission since the data was archival; therefore, permission from the graduates was not practical.

Research Findings

Descriptive statistics using analysis of variance were utilized for this research. The descriptive research identified various admission variables related to the overall academic and clinical performance of ADN nursing students. Applying the information found in the participants' academic records, including official college transcripts, A&P I GPA, E² score report, and demographic information were collected. The quantitative, retrospective research involved examining if academic and demographics variables impacted the final clinical assessment score as well as the E² score in an ADN program.

Archived data was retrieved and used from college records and existing databases. The research utilized descriptive statistics, analysis of variance, multiple and simple regressions, and Pearson correlation models to analyze the data. The α levels were considered significant if $p < .05$. The dependent variable used to determine clinical performance was the final clinical assessment score and the independent variables were preadmission GPA, A&P I GPA, E² score, age, and gender. The collected data was inserted into Statistical Package for Social Science (SPSS) to calculate the descriptive statistics. The descriptive data described the students included in the research, multiple regression, simple regression, and Pearson correlation which were used to identify the presence of significant relationships between variables and the final clinical assessment and E² scores.

The findings of the analyses are presented in this chapter by using descriptive statistics and the following results: (a) assumption testing multiple regression analysis, (b) multiple regression analysis, (c) assumption testing for simple regression analysis, (d) simple regression analysis, (e) assumption testing for correlation analysis, and (f) Pearson analysis for correlation analysis. The research was guided by the following research questions and null hypotheses:

RQ 1. Is there a significant relationship between the final clinical assessment score and preadmission GPA and the age, gender, A&P I GPA, for ADN students?

H1o: There is no significant relationship between the final clinical assessment score and preadmission GPA and the age, gender, A&P I GPA, for ADN students.

H1a: There is a significant relationship between the final clinical assessment score and preadmission GPA and the age, gender, A&P I GPA, for ADN students.

RQ 2. Is there a significant relationship between the A&P I GPA and the E^2 score for ADN students?

H2o : There is no significant relationship between the A&P I GPA and the E^2 score for ADN students.

H2a : There is a significant relationship between the A&P I GPA and the E^2 score for ADN students.

RQ 3. Is there a significant relationship between the E^2 score and the final clinical assessment score for ADN students?

H3o: There is no significant relationship between the E^2 score and the final clinical assessment score for ADN students.

H3a: There is a significant relationship between the E^2 score and the final clinical assessment score for ADN students.

Findings for Research Question One

The first research question investigated the relationship between academic and demographic variables on the final clinical assessment score. The academic variables included preadmission GPA and A&P I GPA. The demographic variables of the 2016 and 2017 ADN graduates from a South Texas program consisted of age and gender. The following variables were dummy coded: Gender female (1 = Female, 0 = Male) and gender male (1 = Male, 0 = Female). The descriptive statistics for the selected variables are provided in Table 1.

Table 1

Descriptive Statistics for Research Question One Selected Variables (n = 91)

Variables	Low	High	M	SD
CP Eval Score	84	96	91.13	1.990
Pre Admissions GPA	2.50	4.00	3.1634	.36735
Age	20	49	30.08	7.377
Gender Female	0	1	.70	.459
Gender Male	0	1	.30	.459
A&PGPA	2.00	4.00	3.2088	.69148

Note. Statistics variables for final clinical assessment score, preadmission GPA, age, gender female, gender male, and A&P I GPA

The statistics included the students' final clinical assessment score (M = 91.13, SD = 1.990), preadmission GPA (M = 3.1634, SD = .36735), age (M =

30.08, SD = 7.377), gender female (M = .70), gender male (M = .30), and A&P I GPA (M = 3.2088, SD = .69148).

Following, the multiple regression output an ANOVA was performed which examines if the regression model serves a more significant predictor of the final clinical

assessment score compared to utilizing the mean. As represented, the amount of variance the current model accounts for is 3.5% of the variance in final clinical assessment score, and this was not statistically significant at $F(4, 86) = 1.815, p = 0.133$ (Table 2 and 3).

Table 2

Model Summary for Research Question 1^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F	df1	df2	Sig. F Change	Durbin-Watson
1	.279 ^a	.078	.035	1.955	.078	1.815	4	86	.133	1.693

Notes. a. Predictors: (Constant), Gender Female, Pre Admissions GPA, Age, A&P I GPA b. Dependent Variable: Final Clinical Assessment Score

Table 3

ANOVA for Research Question 1^a

Model		Sum of Squares	df	Mean Square	F	p.
1	Regression	27.744	4	6.936	1.815	.133 ^b
	Residual	328.673	86	3.822		
	Total	356.418	90			

Notes. a. Dependent Variable: Final Clinical Assessment Score b. Predictors: (Constant), Gender Female, Pre Admissions GPA, Age, A&P I GPA

The results from the coefficient table indicated the model was not a fit and none of the independent variables were significant predictors of final clinical assessment score. The *b* coefficients relate preadmission and A&P I GPA, age, and gender with the final clinical assessment score (Table 4). Only age recorded a negative *b* coefficient while the other variables were positive. Although a weak relationship exists, if students obtained higher GPA in preadmission coursework and A&P I they were more likely to score higher on the final clinical assessment. Based on the corresponding t-test results on age ($t = -1.536$), it was discovered that clinical performance scores have a negative correlation

with age. Gender male based on pre-set conditions to keep independent variables was excluded from the final analysis. Based on the data analysis the null hypothesis was retained. There is no significant relationship between the final clinical assessment score and preadmission GPA and the age, gender, A&P I GPA, for ADN students.

Table 4

Coefficients for Research Question 1^a

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	88.510	1.912		46.290	.000	84.709	92.312		
Age	-.044	.028	-.162	-1.536	.128	-.100	.013	.961	1.041
Pre-Admissions GPA	.857	.613	.158	1.398	.166	-.361	2.074	.838	1.193
A & P GPA	.222	.322	.077	.690	.492	-.418	.826	.857	1.167
Gender Female	.733	.451	.169	1.624	.108	-.165	1.631	.987	1.013

Note. a. Dependent Variable: Final Clinical Assessment Score

Findings for Research Question Two

The second research question investigated the relationship between the A&P I GPA and the E^2 score. Simple regression was used to analyze the variability of a single dependent variable, E^2 score, by a single independent variable, A&P I GPA (Creswell, 2012). Seven assumptions must be met before a simple linear regression can be performed. The two non-testable assumptions were met where the dependent variable is continuous and an independent variable on a continuous or nominal level. The dependent variable of the E^2 score was measured on a continuous scale. The one predictor variable of A&P I GPA was measured on a continuous scale.

All seven assumptions were met, so the linear regression was performed. The amount of variance the current model accounts for is 3.4% of the variance in the final clinical assessment score and was not statistically significant at $F(1, 89) = 3.012, p = 0.082$ (Table 5 and 6). This means the model is not a fit and the independent variable was not a significant predictor of the E^2 score. The null hypothesis was retained, and there is no significant relationship between the A&P I GPA and the E^2 score for a South Texas ADN program's 2016 and 2017 graduates.

Table 5

Model Summary for Research Question Two

Model Summary for Research Question Two

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.184 ^a	.034	.023	8.28955

Note. a. Predictors: (Constant), A&P I GPA

Table 6

ANOVA for Research Question 2nd

Model		Sum of Squares	df	Mean Square	<i>F</i>	<i>p.</i>
1	Regression	213.163	1	213.163	3.102	.082 ^b
	Residual	6115.777	89	68.717		
	Total		90			

Notes. a. Dependent Variable: Exit Exam Score

b. Predictors: (Constant), A & P GPA

Findings of Research Question Three

The final research question for the study determined if there was a significant relationship between the E^2 score and the final clinical assessment score for ADN 2016 and 2017 graduates from a South Texas program. The Pearson coefficient (r) is a bivariate measure of association of

the relationship between two variables (Salkind, 2014). A bivariate analysis using the Pearson correlation coefficient (r) was conducted to assess the relationship between the E^2 score and the final clinical assessment score.

The correlation coefficient analysis was completed on the E^2 score and the final clinical assessment score which determined to be not significant at $r = .184, p = 0.081$ (Table 7). A correlation from .0 to 2 demonstrates a weak or no relationship between variables (Salkind, 2014). Thus, the null hypothesis was retained, and there is no significant relationship between the E^2 score and the final clinical assessment score amongst the 2016 and 2017 graduates from a South Texas ADN program.

Table 7

Correlations for Research Question Three

		Exit Exam Score	CP Eval Score
E^2 Score	Pearson Correlation	1	.184
	p (2-tailed)		.081
	N	91	91
Final Clinical Assessment Score	Pearson Correlation	.184	1
	p (2-tailed)	.081	
	N	91	91

Discussion

The research contributes to existing literature focusing on academic admission criteria, attrition, and demographics that impact the academic success of ADN students. However, the lack of research on factors that affect students' clinical performance is an area that requires immediate investigation considering the requirements of the nursing profession (Pitt et al., 2012). The purpose of this research was to explore and obtain a better understanding and examine the academic and demographic variables related to the academic and clinical performance of students from an ADN program utilizing competency-based education in South Texas.

Cline (2013) researched admission criteria factors that predicted graduation

achievement to help alleviate the nursing shortage. Research (Schmidt & MacWilliams, 2011) stated the importance of identifying best practices to ensure skilled nursing is critical for programs to admit applicants who are likely to succeed and address the nursing shortage. Cline's (2013) mixed method research discovered the criteria likely to predict success were overall college GPA, college science GPA, perseverance, and hardiness. The results of what (Cline, 2013) was compared to graduation as the current research concluded that academic variables (preadmission GPA and A&P I GPA) did not significantly correlate to the final clinical assessment score of ADN students.

Additional studies proved that success in anatomy and physiology did not strongly predict NCLEX-RN success (Jeffreys, 2007; Seldomridge & DiBarolo, 2004). The conduct research results correlated with these findings due to the weak correlation between A&P I GPA and the E^2 scores of ADN students. Previous researchers found the E^2 score did not accurately predict success on the NCLEX-RN exam (Alameida et al., 2011). Therefore, the current research indirectly suggests A&P I GPA is not a great academic variable to predict the overall academic success of nursing students. Research (Salvatori, 2001) stressed that preadmission overall GPA is the best predictor of academic achievement in all of the health professions, however, the correlation between preadmission GPA and clinical performance is insufficient. Therefore, the results of research question one coincides with the conclusions from the literature (Salvatori, 2001).

Limitations

The retrospective data does not allow for the ability to examine students randomly and renders a disadvantage due to reviewing past data rather than current relevant data. The limitations of the research included preadmission GPA, A&P I GPA, clinical assessment tool, population, and program sample size. The research did not focus on standardized test as an admission criterion, which may be a more reliable academic variable than preadmission and A&P I GPAs. The preadmission and A&P I GPAs were obtained from multiple institutions and instructors, which did not provide consistency in overall achievement.

Another significant limitation of the research was the clinical assessment tool utilized in the clinical setting for this particular program was not a standardized assessment instrument used by other nursing programs. Due to this loss of standardization, the reliability of the evaluating tool limits the results of the research. Student assessment in the clinical setting also requires consistency in evaluating to avoid subjectivity between instructors. This method establishes a concern about the reliability of the assessment results.

Convenience sampling was applied to the population of the research which was limited to one institution and targeted only graduates from 2016 and 2017. As it included only ADN students from one program, the results were limited and cannot be generalized to other nursing programs or other institutions. Students accepted into the program, but did not graduate, were not included in the research; therefore, attrition was not investigated. The number of applicants admitted into the program who did not progress to graduation due to academic and nonacademic reasons was deficient. For this reason, statistical analysis was not utilized on accepted students failing to graduate.

This research used a sample size of 91 from a small, ADN program in South Texas. The findings of the research may not be generalized to other nursing programs, locations, and enrollment. A larger sample of multiple nursing programs would provide support for the findings presented in this research. The outcomes from this research can serve as guidance for faculty to evaluate academic and demographic variables that relate to the clinical success of students.

Future Research

There were various limitations to the current research which should be addressed in future research. First, the sample size of ($n = 91$) from a single ADN program, which included only graduates from 2016 and 2017, may have increased the potential for sampling error; therefore, further research should attempt to increase the sample size programs in Texas. Interested researchers may want to consider investigating nursing programs across the US. Increasing the variation in admission criteria from nursing programs

across the country would provide a more representative sample and a comprehensive understanding of relationships between variables and student success.

Another recommendation for future research is to examine the reliability of multiple clinical evaluation tools utilized by various nursing programs. This research did not use qualitative methods to determine how students and faculty felt about the evaluation process. Further recommendations also include the use of standardized tests as an independent academic variable to ensure consistency of scores rather than preadmission and prerequisite courses GPAs.

Also, this research did not include the examination of students accepted into the program that did not graduate. Therefore, attrition was not investigated. Future qualitative research should investigate the number of applicants admitted into the program that did not progress to graduation to determine if it was due to academic, nonacademic reasons, or clinical performance. Further research in this area could assist in determining the variables that impact the clinical performance of students and aid in modifying admission criteria.

Additional research into student attrition may impact social change in remediation services to generate an increase of qualified registered nurses. Further research is essential in identifying challenges nursing students are confronted with in the clinical setting to improve training and enhance the quality of clinical education (Nahid et al., 2016).

Conclusion

Nursing programs strive to graduate and retain students who will become valuable members of the profession. Nursing faculty must also consider selecting applicants who have the increased potential of being successful. The Texas Center for Nursing Workforce Studies (2017) reported that 86 out of the 119 registered nursing programs in Texas did not accept all qualified applicants who represented 10,353 (36.4%) applicants. Therefore, accurate selection of students is essential to nursing programs since there are limitations on the number of students accepted. The demand for nurses exists throughout the US and

according to Grant (2016) over 3 million healthcare workers are represented by nurses making it the largest and fastest growing profession. The Bureau of Labor Statistics (2017), predicted employment of nurses to increase 15 percent from 2016 to 2026.

The numerous nursing programs available, the various admission criteria from program to program, and the skills required for programs do not allow for standardized admission criteria in all nursing programs. Ingrassia (2016) revealed that most healthcare related educational programs assessed cognitive and noncognitive factors to predict academic and clinical success. Preadmission GPA was used as the overall predictor however, no standard criteria were identified (Ingrassia, 2016).

Although this study did not find a statistically significant relationship between academic and demographic variables on the E² and clinical assessment scores, the current study adds to the sparse research-related to factors that affect clinical performance of nursing students. Yet, the research did indicate applicants should not solely be assessed on their academic background because the results confirmed weaker performing students could complete nursing competencies in the clinical setting.

Due to the present and forecasted nursing shortage in the US, it is vital for nursing programs to have adequate admission criteria to ensure program completion and licensure success. Early identification of the factors that limit academic and clinical success should be a significant component of routine and continued research for all nursing programs across the country. The research significantly assisted the administration and nursing faculty of this public community college in determining the impact, if any, of students' academic and demographic variables which affected academic and clinical performance scores. This research intends to improve the admission criteria for ADN programs and choosing qualified applicants to serve as competent nurses in their communities.

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