PACKRAT: A Predictor of Success on the PANCE

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1. Introduction (Describe your idea)

The ultimate goal for physician assistant programs is to provide the right amount of education and clinical experience to students in preparation of clinical practice. In addition, programs must adequately prepare students for successful completion of the Physician Assistant National Certifying Examination (PANCE). Knowing that program completion and PANCE completion are required to practice as a PA, practice exams like the Physician Assistant Clinical Knowledge Rating and Assessment Tool (PACKRAT) may be a good predictor for PANCE performance.

Today, Physician Assistants (PA's) are formally educated, nationally certified healthcare providers who perform evaluative, diagnostic and therapeutic skills under the supervision of a physician[1]. In order to be eligible for the PANCE, students must graduate from an accredited training program. Although the ultimate goal for programs is to produce qualified PA's for clinical practice, it is essential for these students to successfully complete the PANCE in order to practice medicine.
Also, PA re-certification requires successful testing on the PANCE every six years

The PANCE is organized using a blueprint of content. This blueprint consists of knowledge and skill areas including diseases, disorders, and medical assessment in a number of areas.[2] As a result of increased importance of the PANCE, there are preparation exams available. One such exam is the Physician Assistant Clinical Knowledge Rating and Assessment Tool (PACKRAT). The PACKRAT is a multiple choice question exam patterned off the PANCE by using the content blueprint as a template[3]. This exam may be used as a tool to evaluate strengths and weakness for both the student and the program and to better prepare students for the PANCE.

The ability to pass the certification exam is paramount to the student, to the profession, and to PA programs. The analysis of the PACKRAT compared to PANCE scores may improve the assessment of the program curriculum, but equally important, the PACKRAT may be predictive of passing the PANCE. Therefore, the purpose of this study is to evaluate whether proficiency on the PACKRAT exam served as a predictor of PANCE scores for Wichita State University physician assistant classes of 2003-2004.

2. Experiment, Results, Discussion, and Significance (Describe how you developed your idea)

The study data used in this investigation were from the WSU PA graduating class of 2003 and class 2004.The sample size consisted of 84 students who had completed the program and had taken the PANCE after completing the program. For both classes, the PACKRAT 1 was administered at the end of the didactic year just prior to the beginning of the clinical rotations. The PACKRAT 2 was administered following the clinical year and prior to the administration of the PANCE.

Correlation analysis was conducted using linear models to determine if there was correlation between PACKRAT 1 and PANCE; and PACKRAT 2 and PANCE scores. Logistic regression was used to assess the Capability of PACKRAT 1 and PACKRAT 2 to predict the PANCE score.

Descriptive statistics included data from both classes of 2003 and 2004 with a mean PANCE score of 490 (standard deviation +/- 95.24). Likewise, the mean for the PACKRAT 1 was 140.5 (standard deviation +/- 18.17). The mean for the PACKRAT 2 was 152.48 (standard deviation +/-13.76).

Student performance of in this study showed an overall first time pass rate of 95% (class of 2003) and

90% (class of 2004). Comparison of student scores on the PACKRAT reported by number correct) to the performance on the PANCE (as measured by the reported score) showed a statistically significant relationship (P<0.001) with a compared Pearson Correlation Coefficient of 0.602 for PACKRAT 1/PANCE and 0.744 for PACKRAT 2/PANCE.

Linear regression of PACKRAT 1 and 2 (as measured by the number correct) versus PANCE (as measured by the reported score) showed a significant relationship between the PACKRAT 1 and PANCE (P<0.05) and PACKRAT 2 and PANCE (P<0.001). The regression of the PACKRAT scores on PANCE scores revealed an r score of 0.74 and r^2 of 0.55. Therefore, 55% of the variance in the PANCE scores can be accounted for by the variance for PACKRAT scores.

This study demonstrated that PACKRAT scores correlated with PANCE scores and the PACKRAT scores predicted success on the PANCE score. Statistical significance discovered in the study was very strong. The measured correlation coefficient of 0.602 and 0.744 demonstrated that performance on PACKRAT is correlated to the score on the PANCE. In other words, the higher the PACKRAT score (particularly the PACKRAT 2), the higher the expected PANCE score.

Importance of this study allows the WSU PA program to modify curriculum to better prepare students for the PANCE exam. Also, this study may yield current and future discussion in utilizing the PACKRAT. In addition, this study allows students and programs an opportunity for early intervention and to utilize additional resources in order to prepare for the PANCE. Due to the few numbers of PA schools nationwide, it is often a collaborative effort between programs in order to maximize its resources. Knowing that there is variation between programs, all graduates must take the PANCE. The value of PANCE testing preparation is integral for the future physician assistant.

3. Conclusions

Wichita State University PA students' PACKRAT scores are strongly correlated with PANCE performance. PACKRAT 2 (taken after the clinical year) has a higher correlation to PANCE performance. The PACKRAT appears to predict WSU PA student outcomes on the PANCE.

4. Acknowledgements

[1] Cawley, J. Physician Assistants in the Healthcare Workforce. In: D.K. Clawson & M. Osterweis (eds.), *The Roles of Physician Assistants and Nurse Practitioners in Primary Care.* Washington, DC: Association of Academic Health Centers. 1993.
[2] National Commission on Certification of Physician Assistants (NCCPA). *Certification Standard: The Value of the PA-C.* www.nccpa.net
[3] Cody JT, Adamson KA, Parker RL, Brakhage CH. Evaluation of the Relationship Between Student Performance on the PACKRAT and PANCE Examinations. *Perspective on Physician Assistant Education.* 2004;15(1):42-46.