# RESEARCH BRIEF

The Predictive Strength of the Physician Assistant College Admissions Test (PA-CAT) Scores to 2026 Cohort Didactic Performance at Rocky Vista University Physician Assistant Program

Rocky Vista University: Class of 2026 Report
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(1) Rocky Vista University

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**Rocky Vista University Physician Assistant Program**
**8401 S. Chambers Road**
**Englewood, CO 80112**

**Mission**:
The mission of the Rocky Vista University Physician Assistant Program is to prepare clinically competent, collaborative, and compassionate PAs through a rigorous, hands-on curriculum to serve the needs of diverse communities.

**Cathy C. Ruff, MS, PA-C**

Cathy Ruff is Associate Professor, Program Director, and Chair at Rocky Vista University, Physician Assistant Program. She is an accomplished physician assistant educator with nearly 25 years of experience in curriculum development, assessment, and educational innovation. She spent 15 years within an established program before serving as a founding member of a developing PA program. Recognized for her expertise in competency-based medical education (CBME), Cathy successfully integrated core CBME components across the curriculum, earning her an institution-wide Faculty Innovator Award. Her dedication to the profession was further honored with the prestigious PAEA Master Faculty Award in 2023 for her contributions to teaching, service, scholarship, and administration. Cathy has also incorporated predictive modeling techniques to identify at-risk students early, enabling proactive success strategies. Her commitment to excellence in PA education and curriculum innovation continues to drive student success and program growth.

**Scott Massey, PhD, PA-C**

With over three decades of experience in PA education, Dr. Scott Massey is a recognized authority in the field. He has demonstrated his expertise as a program director at the esteemed Central Michigan University and as the research chair in the Department of PA Studies at the University of Pittsburgh. Dr. Massey's influence extends beyond practical experience; he has significantly contributed to accreditation, assessment, and student success. His innovative methodologies have guided numerous PA programs to ARC-PA accreditation and have improved program outcomes. His predictive statistical risk modeling has enabled schools to anticipate student results. Dr. Massey has published articles related to predictive modeling and educational outcomes. He has also conducted longitudinal research in stress among graduate Health Science students. His commitment to advancing the PA field is evident through participation in PAEA committees, councils, and educational initiatives.

**Rajat Chadha, PhD**

Dr. Rajat Chadha, with a PhD in Education from Indiana University, Bloomington, is an expert psychometrician with more than 14 years of extensive experience working on multiple significant projects. Dr. Chadha has worked as a psychometrician in high-stakes certification for physicians in the United States. He has also worked on predictive risk modeling for Physician Assistant programs and has published book chapters and peer-reviewed articles in leading journals.

**Additional Information**

For questions about the research brief, access to the full study, or to express interest in future research opportunities, please contact:

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# Research Brief: The Predictive Strength of the Physician Assistant College Admissions Test (PA-CAT) Scores to 2026 Cohort Didactic Performance at Rocky Vista University Physician Assistant Program

## Abstract

The present study examined the relationship between PA-CAT scores and didactic performance in the Class of 2026 (n = 35) at Rocky Vista University. Findings show that the PA-CAT composite score is significantly (p < .05) positively correlated with performance in multiple courses. These results suggest that the PA-CAT serves as a strong predictor of academic success during the didactic phase of the PA program.

## Physician Assistant College Admissions Test (PA-CAT)

The PA-CAT is a discipline-specific assessment composed of 240 items that measure both knowledge and application across nine prerequisite science subjects essential for success in the demanding Physician Assistant (PA) curriculum. It was developed specifically for PA educators and admissions departments to support a holistic admissions process.

Since its launch on May 1, 2020, and through July 31, 2025, the PA-CAT has been administered to 5,799 examinees. Each examinee receives a composite scaled score, representing overall performance across all test items, as well as three subject-specific scaled scores in Anatomy & Physiology, Biology, and Chemistry. The composite score demonstrates exceptionally high reliability (0.939), making it a dependable measure of prerequisite science knowledge and application skills and a strong predictor of success in PA program coursework.

## Relationship between PA-CAT Composite Score and Performance in Physician Assistant Program

We looked at how PA-CAT scores relate to student performance in the PA program at Rocky Vista University. To do this, we measured the strength of the connection between students' PA-CAT composite scores and their course performance. In the next section, we'll share what we found and explain how strong these relationships are based on the size of the correlations.

### Correlation Coefficient

A correlation is a way of showing whether two things move together. The number (called the correlation coefficient) can go from –1 to +1. A positive number means that when increases, the other usually increase too. A negative number means that when one increases, the other usually decreases. A number close to zero means there's no clear connection between them.

At Rocky Vista University, we found that higher PA-CAT scores tend to go hand in hand with better performance in several courses, including Clinical Medicine: Anatomy II Lab, Clinical Medicine: Evidence-Based Practice I, Clinical Medicine: Evidence-Based Practice II, Clinical Medicine: Illness and Disease II, and Clinical Medicine: Skills and Assessment II. In simple terms, students who did well on the PA-CAT were more likely to also do well in these classes.

*Statistical Significance*

Statistical significance is assessed using the *p*-value, which represents the probability of observing a correlation coefficient as extreme as the one calculated if the true correlation were zero. For example, a *p*-value of 0.082 means there is an 8.2% chance of observing that correlation (or a stronger one) purely by random variation, assuming no true relationship exists.

A correlation is considered statistically significant when the *p*-value falls below a pre-determined threshold, known as the significance level (alpha). In educational research, the most commonly used alpha is 0.05 (the 5% significance level), while more conservative analyses may adopt 0.01 (the 1% significance level).

At Rocky Vista University, the link between PA-CAT scores and performance in several courses met the 5% cutoff. In other words, the better performance of students with higher PA-CAT scores is very unlikely to be due to chance; it reflects a real relationship.

*Size of the Correlation Coefficient*

A higher absolute correlation coefficient reflects a stronger relationship between two variables and indicates greater predictive value. General guidelines for interpreting effect sizes suggest that a coefficient of approximately 0.10 represents a small relationship, 0.30 a medium relationship, and 0.50 or greater a large relationship (Cohen, 1988; Cohen, 1992).

Table 1 reports the correlation coefficients between PA-CAT Composite scores and PA program performance variables, along with their associated *p*-values and interpretations of relationship strength. Statistically significant results are highlighted in red.

The size of the correlation coefficient of PA-CAT composite score with Clinical Medicine: Evidence-Based Practice II at Rocky Vista University is strong. In other words, PA-CAT composite score is very useful in predicting the performance of applicants in this course. The size of the correlation coefficient of PA-CAT composite score with Clinical Medicine: Evidence-Based Practice I is medium. PA-CAT composite score is useful in predicting the performance of applicants in this course. The relative usefulness of PA-CAT composite score in predicting Clinical Medicine: Evidence-Based Practice II is higher than the usefulness of predicting the performance in Clinical Medicine: Evidence-Based Practice I. Other correlation coefficients in the table can be interpreted similarly.

The scatter plots showing the relationship between PA-CAT composite score and the PA program performance variables are presented in Appendix A.

*Table 1: Correlation between PA-CAT Composite Score and PA Program Performance*

| | Correlation with PA-CAT Composite score | $p$-value | Size of the Correlation Coefficient |
|---|---|---|---|
| PAS 5133: Clinical Medicine: Illness and Disease I | 0.390$^{*}$ | p = 0.005 | Medium |
| PAS 5135: Clinical Medicine: Evidence-Based Practice I | 0.446$^{**}$ | P = 0.026 | Medium |
| PAS 5137: Clinical Medicine: Skills and Assessment I | 0.395$^{*}$ | p = 0.004 | Medium |
| PAS 5114: Molecular and Cellular Concepts II | 0.390$^{*}$ | p = 0.015 | Medium |
| PAS 5116: Anatomy II | 0.433$^{*}$ | p = 0.020 | Medium |
| PAS 5116 LAB: Anatomy II Lab | 0.417$^{*}$ | p = 0.014 | Medium |
| PAS 5134: Clinical Medicine: Illness and Disease II | 0.437$^{*}$ | p = 0.002 | Medium |
| PAS 5136: Clinical Medicine: Evidence-Based Practice II | 0.529$^{**}$ | p < 0.001 | Large |
| PAS 5138: Clinical Medicine: Skills and Assessment II | 0.626$^{**}$ | p = 0.003 | Large |
| **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). | | | |

**Limitations**

A limitation of this study is that the findings are based on a small sample (n = 35) drawn from a single cohort at one PA program, which restricts their generalizability to other cohorts at the same institution or to PA programs more broadly.

**Appendix A: Scatter plots – Relationship between PA-CAT Composite Score and PA Program Performance**