



PA Student History and Physical Documentation Association with GPA & PANCE

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INTRODUCTION

- Performing and documenting a patient H&P is a major component of first year academic education of WSU PA students.
- H&P is summative of Patient Evaluation, Clinical Medicine, Pharmacology, Anatomy, Pathophysiology and Health Care Issues coursework.
- Students must master communication with patients and health care providers.
- The H&P demands a high level of critical thinking and medical knowledge.
- H&Ps are initially focused on format and then progress to content that is rich in critical thinking.

Study Objective

The objective of this study was to determine if there was an association between proficiency with H&P documentation and PA school GPAs and PANCE score.

METHODS

- Retrospective, observational pilot study included all PA students from 2014-2016 (n=147).
- Students visited a local hospital or outpatient clinic 3 times each semester, for a total of nine visits during academic year.
- Total of 1323 H&P documents created over 3 years
- Unique in-house created assessment tool/rubric was utilized for developing the H&P.
- The H&P development process was integrated throughout the curriculum.
- Required content and academic focus of the H&P changed during the year as education progressed.

METHODS CONT

- 5-6 faculty were randomly assigned H&P papers to grade using a customized rubric, with the goal to avoid repeat grading of same student.
- Faculty included clinical PAs (all were WSU alumni); trained by WSU faculty.
 - Intraclass Correlation Coefficient (ICC) was established between graders. ICC of .857, 95% CI [.756 - .918]
- Rubric was adapted each H&P to represent required content as the academic focus changed.

for auto-calculating use "1" to mark column

	Excellent	Adequate	Needs Improvement
PE			
Reports exam findings for all required sections			1
Records PE findings in a systematic order			1
PE accurately documented		1	
Uses proper medical terminology			1

Fig 1. Partial Example of Grading Rubric.

Faculty were instructed to place a "1" under the column that best describes student's performance on the H&P

Statistical Analysis

- Reported median and means with associated standard deviation and 95% confidence intervals.
- Independent samples t-test were used to compare means between males and females.
- Age, sex, means of H&P score, academic year 1 GPA, clinical year 2 GPA and PANCE score were used to calculate Pearson product-moment correlations.
- Coefficient of determination R² calculated for PANCE variability.

RESULTS

76% female (n=111), 24% male (n=36)

Table 1: Demographics

	Mean (±SD)	95% CI [lower, upper]	Median
Age	26.5 (±6.5)	25.4 – 27.6	24
GPA 1	3.73 (±0.26)	3.69 – 3.77	3.81
GPA 2	3.78 (±.22)	3.74 – 3.82	3.88
PANCE*	495.5 (±77.4)	483 – 508	488

*n=145. SD, Standard Deviation; GPA 1, GPA academic year 1; GPA 2, GPA clinical year 2.

Table 2: H&P Scores

	Mean (±SD)	Median	95% CI [lower, upper]
H&P Sem 1	91.1 (±4.9)	92	90.3 – 91.9
H&P Sem 2	91.5 (±4.6)	92	90.8 – 92.2
H&P Sem 3	91.1 (±5.1)	92	90.3 – 92
Overall	91.3 (±3.8)	92	90.6 – 91.9

H&P scores for three semesters and overall score. SD, standard deviation

Table 3: H&P Correlations

		GPA 1	GPA 2	PANCE
H&P	Pearson Correlation	0.512	0.425	0.448
	p-value*	≤ 0.001	≤ 0.001	≤ 0.001

*p significant ≤0.01. Pearson product moment correlations of H&P with GPAs and PANCE scores. GPA 1, GPA academic year 1; GPA 2, GPA clinical year 2

The H&P had the following effect sizes:

- Strongly** associated with GPA 1
- Moderately** associated with GPA 2
- Moderately** associated with PANCE score.

H&P scores share 20% of the variance in PANCE score (R² = .201)

Table 4: Age & Sex Correlations

		H&P (n=147)	PANCE (n=145)
Age	Pearson Correlation	-.271	-0.127
	p-value	0.00	0.064
Sex	Pearson Correlation	-.250	-0.54
	p-value	.002	.523

*p significant ≤0.01. Pearson product moment correlations of age and sex with H&P and PANCE scores.

- Age** had a **weak negative** correlation with H&P mean and no correlation with PANCE.
 - The older a subject was the lower the H&P mean score.
- Sex** was found to have a **weak correlation** with H&P mean and no correlation with PANCE.
 - Females had a higher overall H&P mean (M=91.8) compared to males (M=89.6)(p=.003)

No correlation between sex or age with PANCE. Weak correlation between sex and age with H&P.

CONCLUSIONS

- H&P documentation is moderately associated with PANCE score and PA school GPAs.**
- This suggests that H&P documentation is a valuable teaching exercise for the PA student.