

Background & Objective

- Pharmacy programs continue to seek processes to identify candidates who will be successful.¹
- A recent investigation sought to determine if nonacademic factors can predict academic success.¹
 - Evaluated grit, resilience, and perceived stress through high school Grit-Grid (HS-GG), Academic Pharmacy Resilience Scale (APRS-16), and the Cohen Perceived Stress Scale (CPSS), respectively.²⁻⁵
 - Pre-pharmacy GPA >3.2, HS-GG >0.9, CPSS >34, and APRS-16 >35 predicted on-time progression.¹
- These nonacademic factors have potential to impact student wellbeing or academic performance.
- Additional factors, including self-compassion (expression of warmth, concern, and caring toward the self), may also impact success and are currently evaluated at our institution for incoming students.^{6,7}
- The primary objective was to determine how pre-pharmacy characteristics and nonacademic factors relate to first semester pharmacy school performance.

Methods

- Pharmacy students in the Class of 2027 completed the following surveys at the start of pharmacy school:
 - Self-Compassion Scale Short Form (SCS-SF)²
 - 12-Item Grit Survey^{3,4}
 - Academic Pharmacy Resilience Scale (APRS)⁵
 - Cohen Perceived Stress Scale (PSS)⁶
- Surveys were scored according to published methods.
- Pre-pharmacy characteristics, first semester GPA, and percentage grades for core courses were collected.
- Correlation analysis was performed to identify associations among pre-pharmacy characteristics, survey scores, and academic performance.
- P*-values <0.05 were deemed statistically significant.

Methods (survey instruments)

SCS-SF

- 12 items scored 1 to 5
- 6 subscales (self-kindness, self-judgment, common humanity, isolation, mindfulness, over-identification)
- Average of subscales = total SCS score
- ≤2.49 (low), 2.5-3.5 (mod), ≥3.51 (high)

Grit Scale

- 12 items scored 1 to 5
- Half of the items are reverse scored
- Items totaled and individual scores range from 1 to 5
- Higher scores indicate more indicate more grit

APRS

- 16 items scored 1 to 5
- 6 items are reverse scored
- Items totaled and individual scores range from 1 to 5
- Higher scores indicate more resilience

Cohen PSS

- 10 items scored 0 to 4
- Items totaled and individual scores range from 0 to 40
- Higher scores indicate more stress
- 0-13 (low), 14-26 (mod), 27-40 (high)

Results

- A total of 83 students completed all surveys and activities and were included in the analysis.

Table 1. Student Characteristics and Results (N=83)

Age, years	22.0 ± 2.7
Pre-Pharmacy GPA	3.52 ± 0.40
Pre-Pharmacy M/S GPA	3.41 ± 0.45
Semester 1 GPA (core courses)	2.92 ± 0.77
Semester 1 Percentage Grades	86.5 ± 8.0%

GPA – grade point average; M/S – math and science

Average Scores on Survey Instruments

SCS-SF

3.30 ± 0.59

Grit Scale

3.98 ± 0.41

APRS

60.30 ± 6.02

Cohen PSS

19.31 ± 3.22

Results/Discussion

Table 2. Correlations with Academic Performance

Variable	Semester 1 GPA (core courses)		Semester 1 Percentage Grades	
	Coefficient (r)	<i>P</i> -value	Coefficient (r)	<i>P</i> -value
Age, years	-0.232	0.035	-0.227	0.039
Pre-Pharmacy GPA	0.436	<0.001	0.449	<0.001
Pre-Pharmacy M/S GPA	0.512	<0.001	0.473	<0.001
SCS-SF	0.054	0.626	0.124	0.265
Grit Scale	0.057	0.666	0.096	0.465
APRS	-0.068	0.605	-0.077	0.560
Cohen PSS	0.162	0.229	0.148	0.267

GPA – grade point average; M/S – math and science
 Student success = higher semester 1 GPA and percentage grades

- The most influential indicators of academic performance were pre-pharmacy GPA and pre-pharmacy math and science GPA.
- Attitude and behavior scale scores did not correlate with indicators of academic performance.
- Subscale scores of surveys also did not correlate with student academic performance.
- Limitations include timing of when activities were conducted, single semester of data (in our historically most challenging semester), and not accounting for other potential confounding factors.
- Future directions could explore potential benefit of these surveys in guiding students who encounter challenges in coursework, correlation with behavior reports, additional scales and subscales, and additional students from different cohorts or different semesters.

References

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