

# The Relationship Between Learning and Study Strategies Inventory (LASSI) and Academic Performance in Pharmacy School

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## Background

- Deficiencies in learning and study strategies contribute to poor academic performance.
- FDU SoP&HS invests significant resources to increase students' awareness of learning and study strategies to help students succeed.
- Administration of LASSI early in the professional curriculum provides valuable insights into students' awareness and use of different learning and study strategies.
- LASSI scores positively correlate with academic performance of students in select health professions programs<sup>1,2</sup>. Similar analysis from pharmacy programs is scarce.

## Objective

- Examine the relationship between LASSI scores and academic performance in pharmacy education.

## Methods

- LASSI, 3<sup>rd</sup> ed., was administered to three cohorts of students during P1 orientation (1<sup>st</sup> administration) and again at the end of their respective P1 year (2<sup>nd</sup> administration).
- Differences between LASSI scores on the 1<sup>st</sup> and 2<sup>nd</sup> administration were assessed using Student's t-test.
- To determine the strength and direction of relationships between LASSI scores and internal (P1-P4 GPAs) and external (NAPLEX area 1 and 2 scores) academic performance measures Spearman correlation analyses were performed.
- Statistically significant results are denoted as \*p<0.05.

Learning and Study Strategies Inventory (LASSI, 3 <sup>rd</sup> ed.)		
Scales related to the <b>skill component</b> of strategic learning:	Scales related to the <b>will component</b> of strategic learning:	Scales related to the <b>self-regulation component</b> of strategic learning:
Information Processing (INP)	Anxiety (ANX)	Concentration (CON)
Selecting Main Idea (SMI)	Attitude (ATT)	Self-Testing (SFT)
Test Strategies (TST)	Motivation (MOT)	Study Aids (STA)
		Time Management (TMT)

## Results

- Over 3 years, 248 and 212 students completed LASSI at the beginning (1<sup>st</sup> administration) and end (2<sup>nd</sup> administration) of P1 year, respectively. Two hundred and one (201) students completed both LASSI administrations.
- A significant decrease was observed between the 1<sup>st</sup> and 2<sup>nd</sup> LASSI administration scores in the ATT, CON, SFT, and STA scales (Fig. 1).
- The number of students with low LASSI scores (<50%) was higher at the end of the P1 than at the beginning of P1 in the ATT, CON, SFT, STA, and TMT scales (Fig. 2A and 2B).

Figure 1

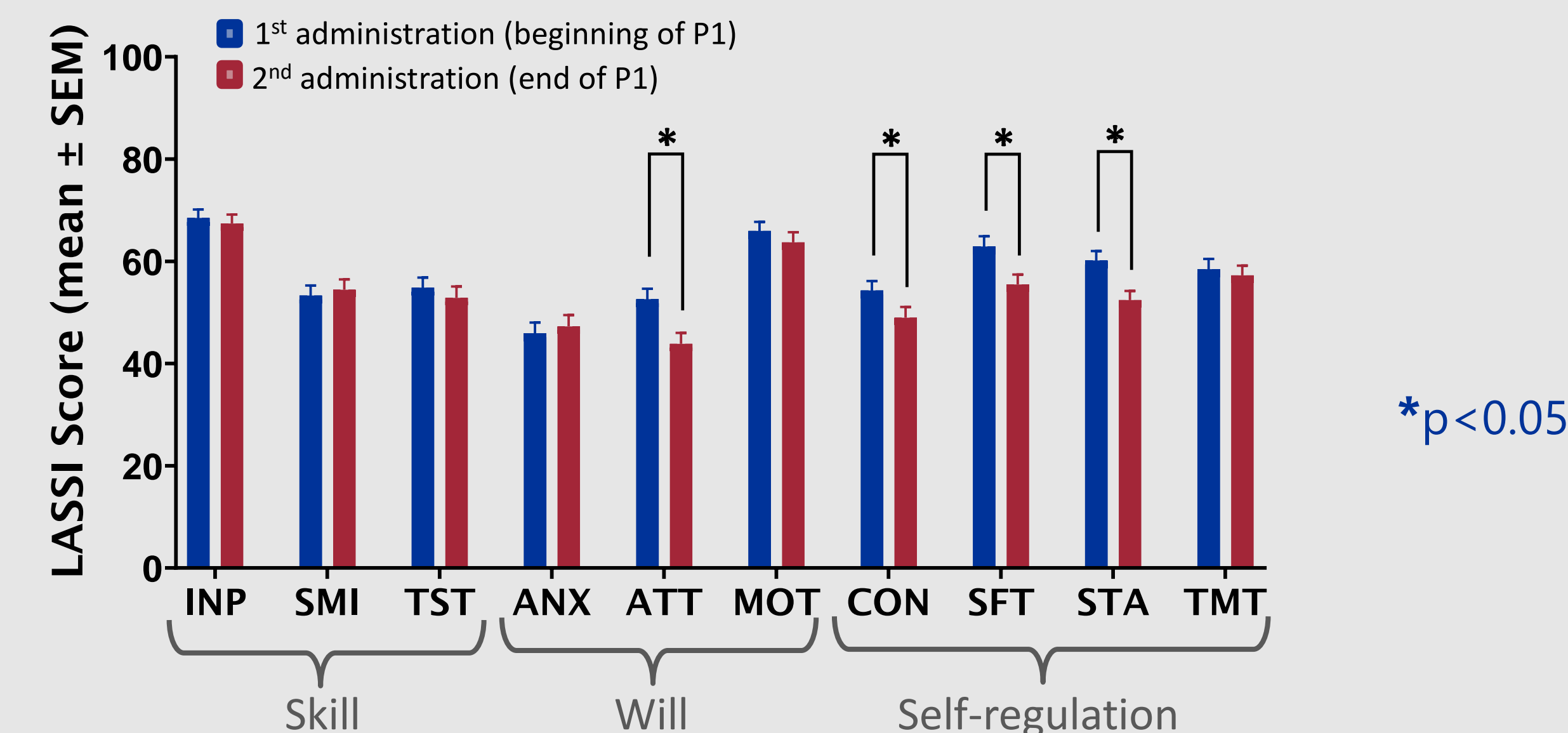


Figure 2

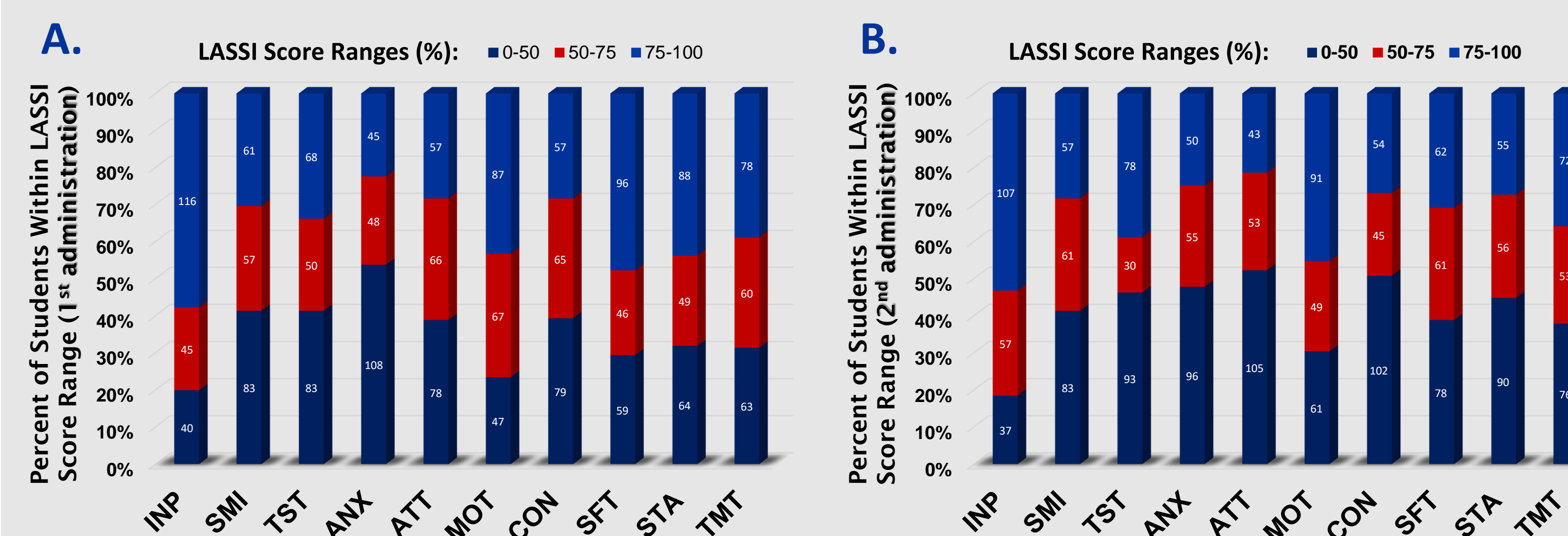


Table 1. Correlations between LASSI scores (beginning of P1) and P4 GPA and NAPLEX Scores

	LASSI Scale (1 <sup>st</sup> administration)	Correlation with P4 GPA (N = 222)	Correlation with NAPLEX Score (N = 168)
Skill	INP	0.303	0.291
	SMI	0.045*	0.354
	TST	0.084	0.171
Will	ANX	0.217	0.059
	ATT	0.690	0.250
	MOT	0.345	0.743
Self-regulation	CON	0.008*	0.048*
	SFT	0.344	0.748
	STA	0.710	0.318
	TMT	0.563	0.889

## Results (cont'd)

Table 2. Correlations between LASSI scores (end of P1) and P4 GPA and NAPLEX Scores

	LASSI Scale (2 <sup>nd</sup> administration)	Correlation with P4 GPA (N = 197)	Correlation with NAPLEX Score (N = 154)
Skill	INP	0.046*	0.012*
	SMI	<0.001*	0.002*
	TST	<0.001*	0.001*
Will	ANX	0.002*	0.003*
	ATT	0.717	0.506
	MOT	0.002*	0.169
Self-regulation	CON	0.006*	0.378
	SFT	0.062	0.352
	STA	0.483	0.329
	TMT	0.015*	0.166

## Conclusions

- Assessing pharmacy students' awareness of learning and study strategies is more meaningful at the end of P1 year than before it, considering an expected increase in self-awareness.
- Four of the same end-of-P1 LASSI scale scores are associated with both internal (GPA) and external (NAPLEX) performance measures. LASSI may be useful to educators in preparing students for academic success. Further research is needed to explore the effects of implementing targeted learning and study strategies training on student academic performance.

## Future Directions

- Evaluate targeted educational interventions to improve individual students' abilities to be successful in the pharmacy program.
- Use these data to inform strategies to promote the use of effective study skills and behavior.

## References

- Khalil MK, Hawkins HG, Crespo LM, Buggy J. The relationship between Learning and Study Strategies Inventory (LASSI) and Academic Performance in Medical Schools. Med Sci Educ. 2017;27:315-320.
- Khalil MK, Williams SE, Hawkins HG. The Use of Learning and Study Inventory (LASSI) to investigate differences between low vs. high academically performing medical students. Med Sci Educ. 2020;30:287-292.