Validating survey instruments to measure entrepreneurship education outcomes for undergraduate students

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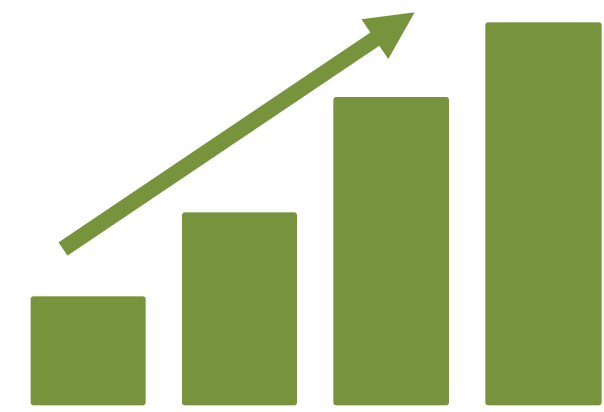
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ASEE
AMERICAN SOCIETY FOR ENGINEERING EDUCATION
MIDDLE ATLANTIC SECTION

INTRODUCTION

Entrepreneurship Education Programs (EEPs) in STEM education.

PURPOSE:
To conduct rigorous assessment, the validity of the survey instruments should be established.

Testing validity of survey instruments → Refining the instruments → Rigorous Assessment ↵

Student Outcome: Self-efficacy
Students' self perceived confidence in their ability to perform tasks or demonstrate specific behaviors.
→ Entrepreneurial Self-efficacy
→ Technological Self-efficacy

PARTICIPANTS

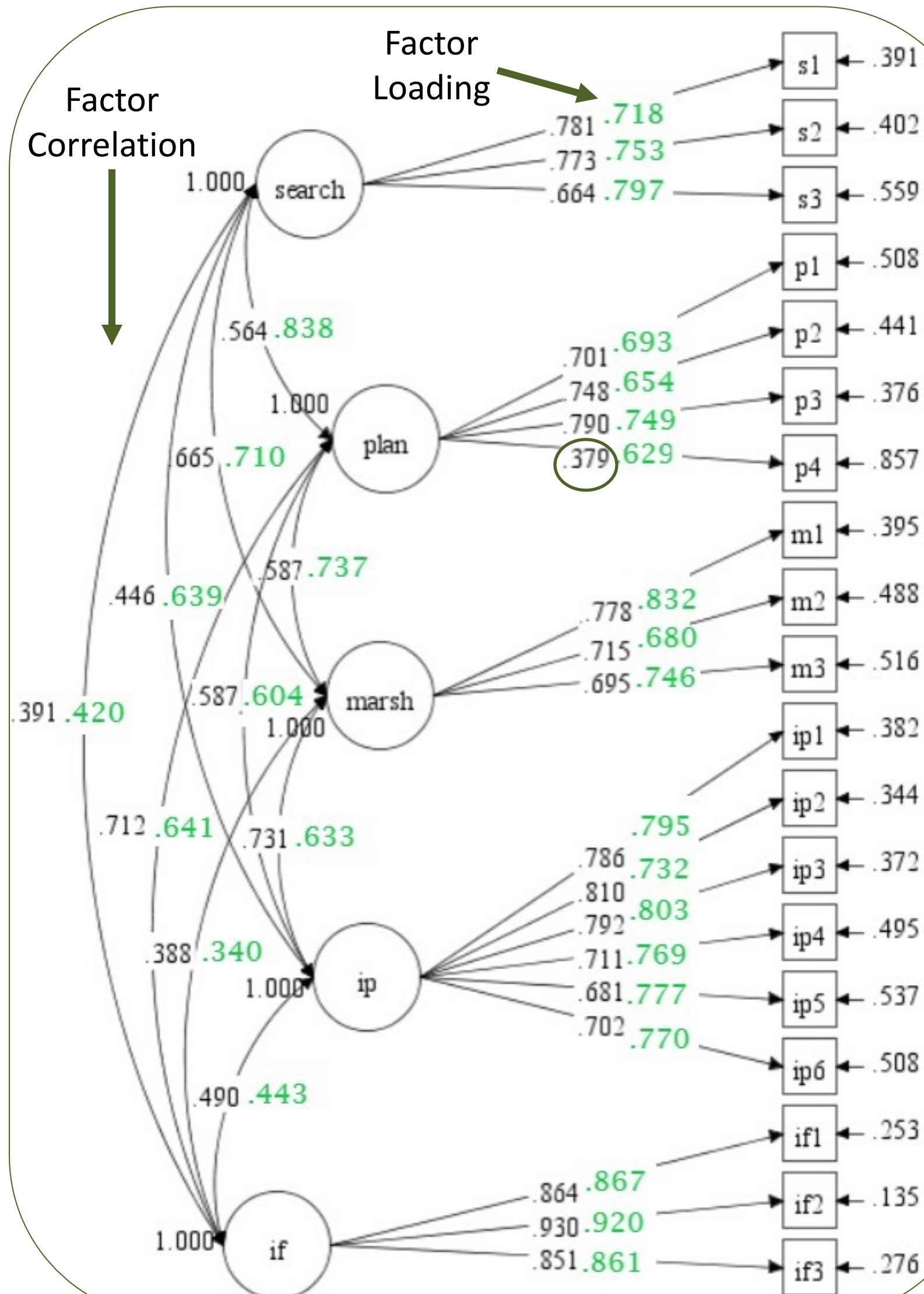Upper-division entrepreneurship course
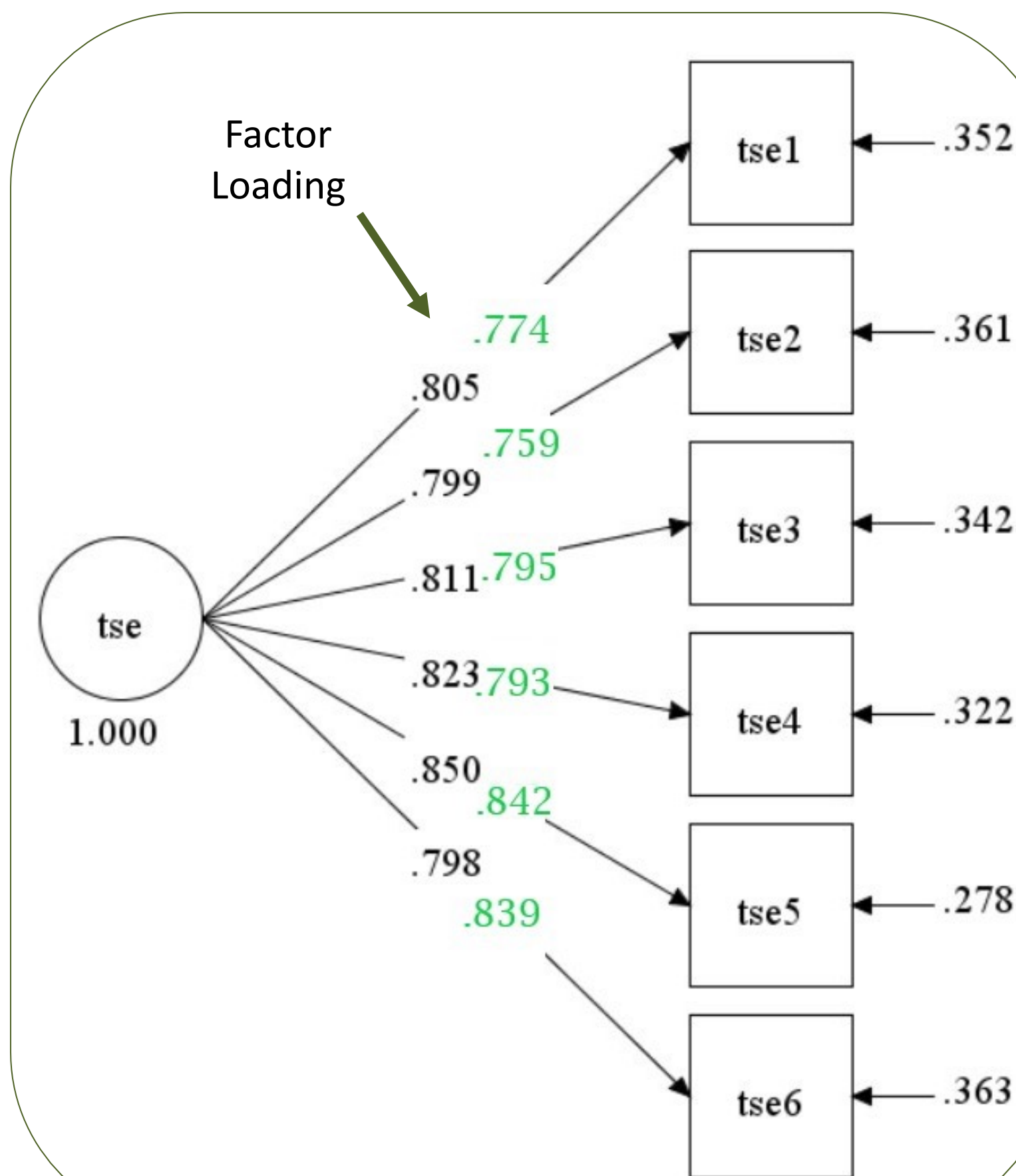
Pre-Collection   Post-Collection

(n=252)   (n=193)

MEASUREMENT MODEL: CONFIRMATORY FACTOR ANALYSIS

Entrepreneurial Self-efficacy

Technological Self-efficacy

*Values in green represent **post**-data analysis.

Technological Self-efficacy[2]
Student's self perception of their capabilities to utilize technology (tools and sites).

McGee's ESE Instruments[1]

SEARCHING: Identification of an idea or opportunity.
PLANNING: Converting ideas into a business plan.
MARSHALING: Assembling resources to launch business.
IMPLEMENTING PEOPLE: People aspects of the business.
IMPLEMENTING FINANCE: Financial aspects of the business.

MODEL FIT INDICES[3]

	CUT-OFF	ESE		TSE	
		PRE	POST	PRE	POST
CFI	>0.90	.924	.935	.972	.980
TLI	>0.90	.908	.922	.953	.967
RMSEA	<0.06	.073	.070	.113	.090
SRMR	<0.08	.066	.057	.026	.026

CONCLUSION

- The factor loading for *p4*, was higher at post level when compared to pre level.
- The low factor loading of *p4* at pre level, and not at post level, suggests the need of refining the instrument to ensure its validity for future pre-post comparisons.

FUTURE WORK

- Performing structural equation modeling and latent mean modeling for pre and post data.
- Analyzing results to determine if TSE predicts ESE at pre and post data.

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