

Effect of Stress on Physical Function between Physical Therapy Students and Undergraduates



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Background

- Student Physical Therapists (SPTs) may experience higher levels of stress due to increased workloads, personal problems, or financial responsibility.¹
- High levels of stress can increase risk for cardiometabolic disease which is characterized by high blood pressure, increased abdominal fat, and insulin resistance.²

Purpose/ Hypothesis

- The purpose of this study was to explore the impact of stress on the physical function of SPTs compared to undergraduate students (US).
- We hypothesized that SPTs will have higher levels of stress, lower strength and lower cardiorespiratory fitness values compared to undergraduate students.

Methods

Sample:

- SPTs (n=45) and US (n=8)

Study Design

- Cross-sectional study
- Involved undergraduate students and Physical Therapy students currently enrolled at CSULB

Outcome Measures

Muscular Strength Testing:

- 1-repetition maximum chest press (RM) and leg press
- Isometric handgrip testing using a dynamometer

Aerobic Fitness:

- $VO_{2\text{ Peak}}$ measured on a cycle ergometer

Stress:

- Perceived Stress Scale (PSS)

Statistical Analysis

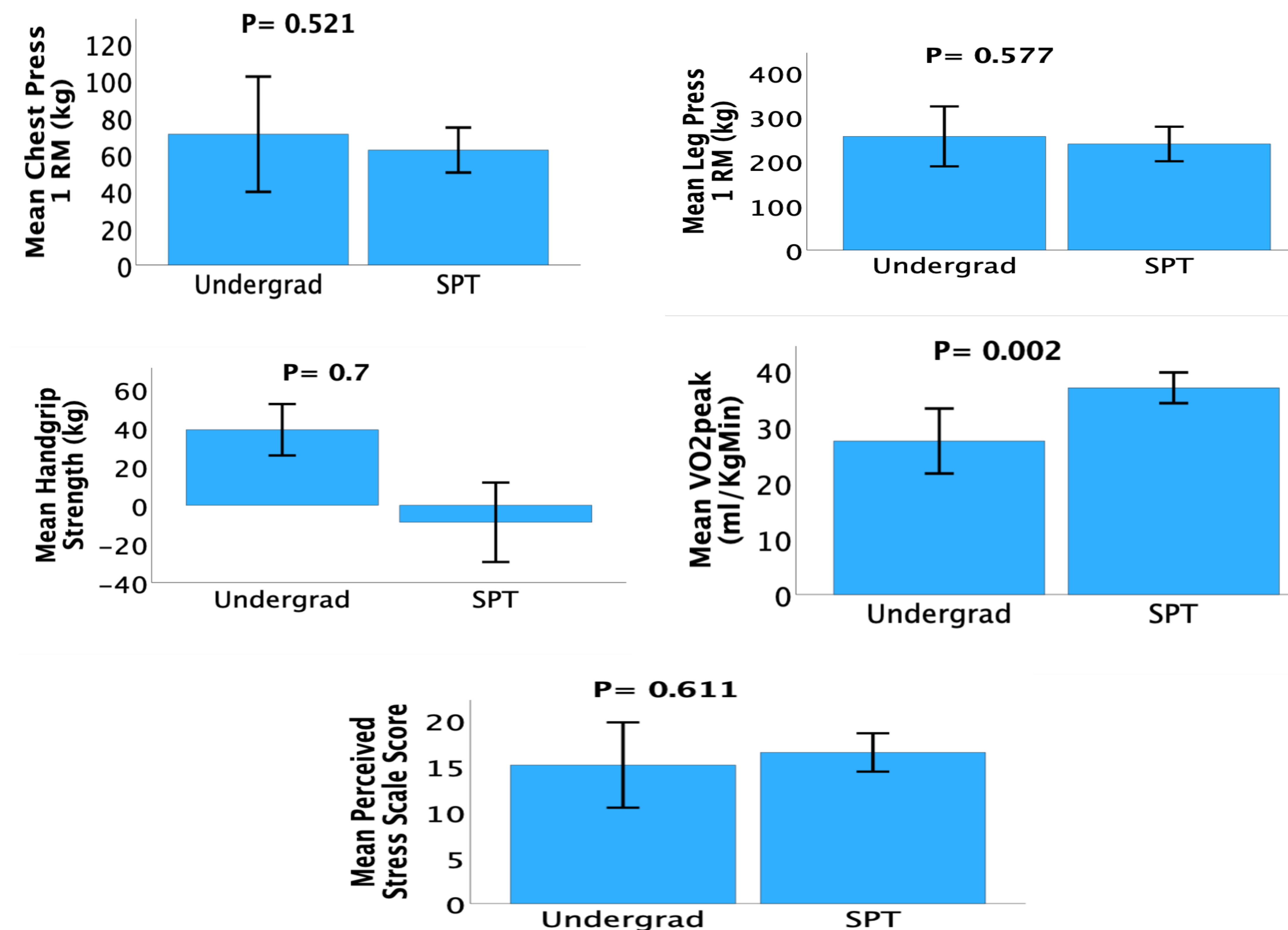
- T-tests were used to compare differences SPTs and undergraduates



Results

Characteristics	SPT (n=45)	Undergraduates (n=8)	Significance, p
Age (years)	26.6 ± 2.9	23.3 ± 4.1	0.007
BMI (kg/m ²)	24.3 ± 3.4	27.6 ± 3.7	0.015
Body Fat %	21.5 ± 7.6	29.9 ± 7.5	0.009
Sex (Female)	24 (53.3%)	4 (50%)	0.862
Sex (Male)	21 (46.7%)	4 (50%)	0.862

Table 1: Baseline Characteristics



Results Summary

- SPTs were older had lower BMI and lower body fat % compared to US ($P < 0.05$)
- SPTs had significantly higher $VO_{2\text{ peak}}$ (37.0 ± 6.9 ml/kg min) compared to US (27.5 ± 6.9 kg-min, $P = 0.002$)
- No other outcome measures were significantly different between SPTs and US

Conclusion

- There were no differences in stress or muscular strength between groups.
- SPTs had significantly higher cardiorespiratory fitness compared to undergraduate students.
- Further research is needed to determine the relationship between stress and physical function among SPTs .
- In future research the number of undergraduate students tested should be increased.

Lessons Learned

- I learned how data is collected in a research study.
- I learned how to develop an abstract using data collected.
- I learned how different tests such as aerobic testing are conducted by researchers.

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References

