

The Physiological Effects of Exercising Alone Versus with a Partner



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Background

- The general population is on a constant pursuit for sources of motivation to maintain a consistent workout routine.
- Research demonstrates increased motivation when exercising with a partner, but does not investigate the physiological effects.

Objective

To investigate changes in heart rate (HR), blood pressure (BP), rate of perceived exertion (RPE), and time in target HR zone when exercising alone compared to exercising with a same-sex partner.

Methods

Design: Experimental 2x9 repeated measures research, conducted by Doctor of Physical Therapy (DPT) students.

Setting: This study was conducted in the Physical Therapy lab at the University of New England in Portland, Maine.

Subjects: 41 DPT students were randomly assigned to one of two conditions: exercising alone or with a partner first.

Procedure: Subjects completed an 8-stage protocol on a cycle ergometer for 16 minutes.

Measurements: HR, BP, RPE, and time in target HR zone. Outcome measures were collected at resting, warm-up, each stage of protocol, and cool down.

Statistics: A two-way repeated measures ANOVA with a Bonferroni correction for HR, BP, RPE, and a t-test for time in target HR zone.

Results

- No significant differences in mean HR, BP, RPE and time in target HR zone when exercising alone compared to with a partner (Figures 1-4).
- RPE was consistently higher in the alone condition in comparison to the partnered condition (Figure 2).
- Mean time in target HR zone was longer when exercising in the partnered condition: 3.8 min (1.5) vs. 3.4 min (1.7) (Figure 4).

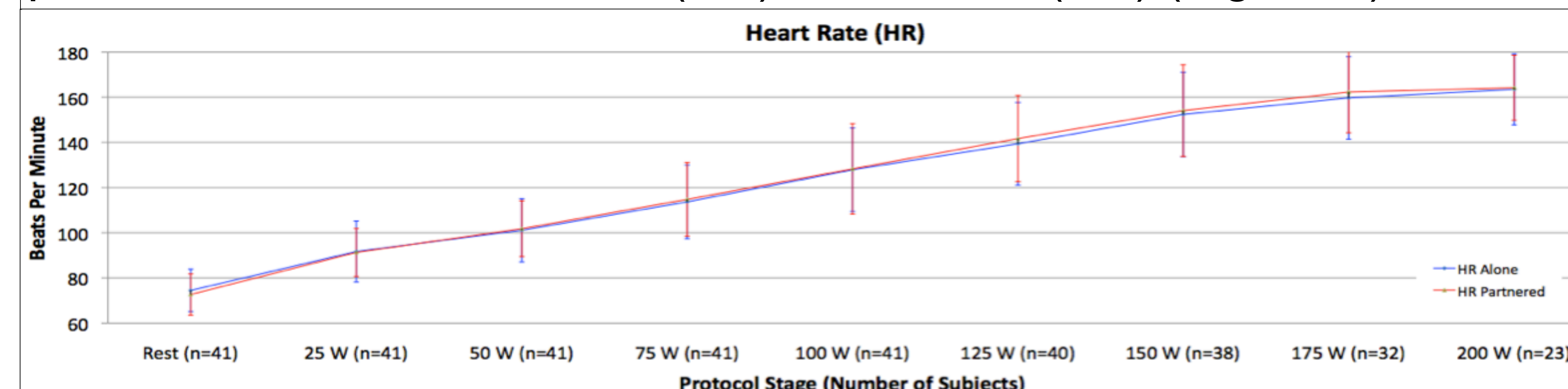


Figure 1. HR Responses to Exercising Alone and with a Partner.

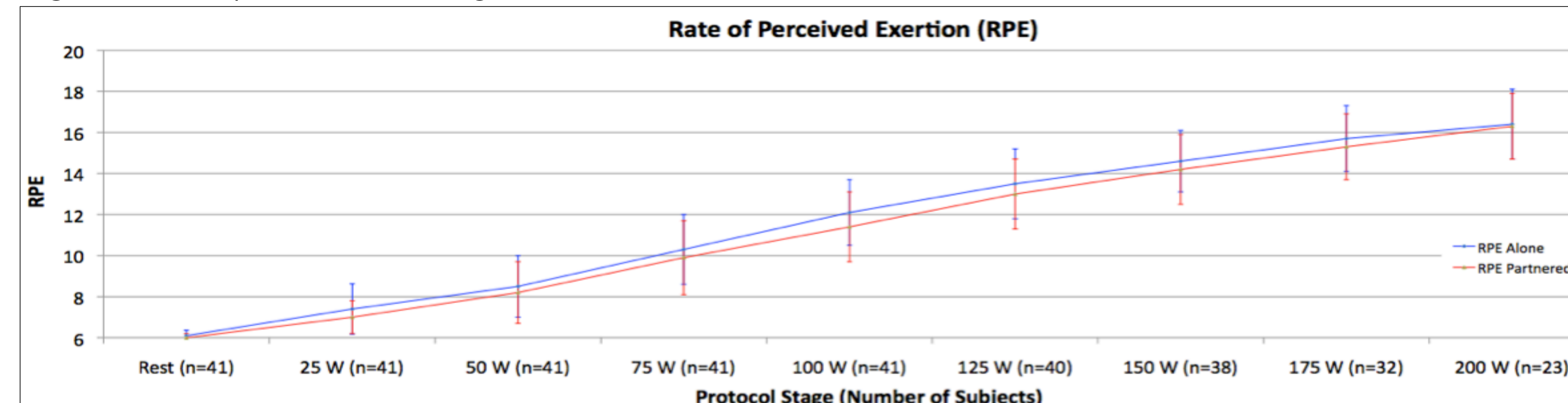


Figure 2. RPE Responses to Exercising Alone and with a Partner.

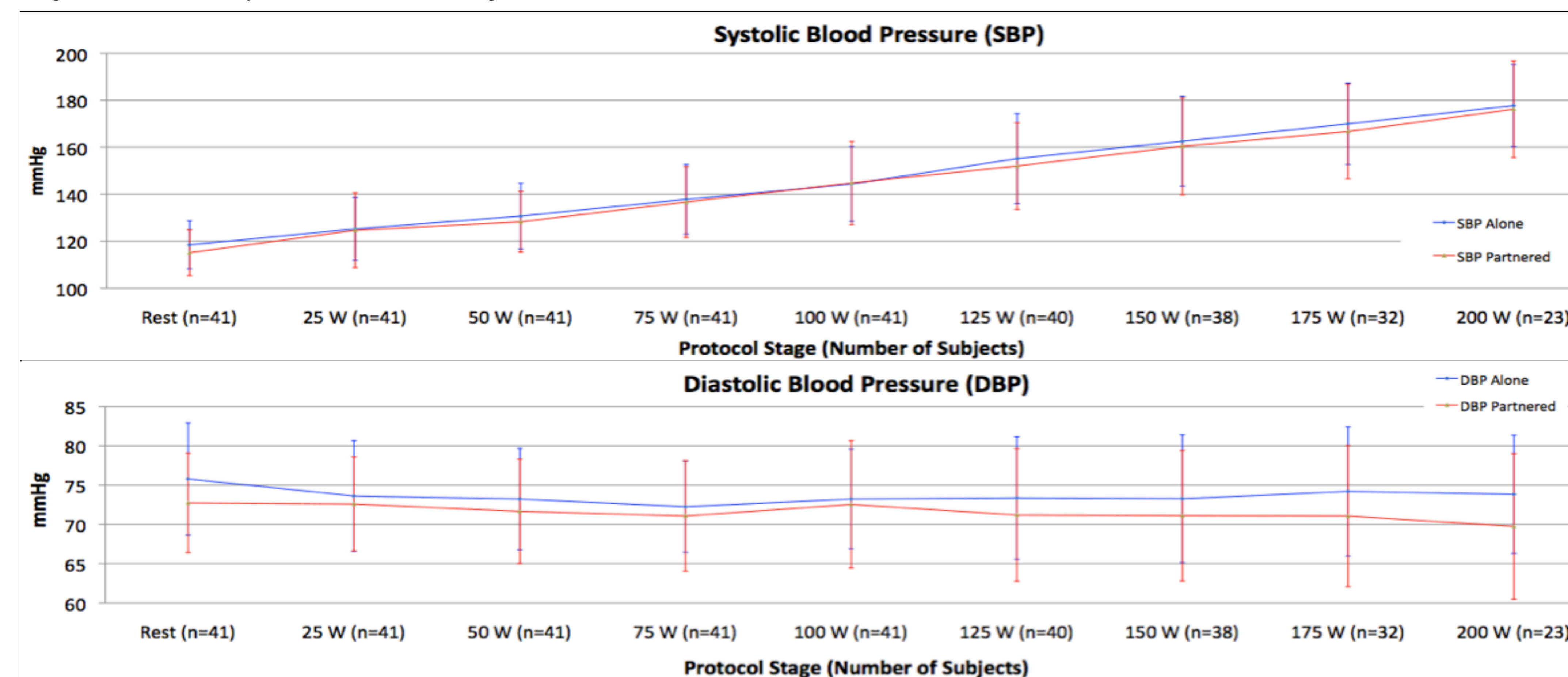


Figure 3. BP Responses to Exercising Alone and with a Partner.

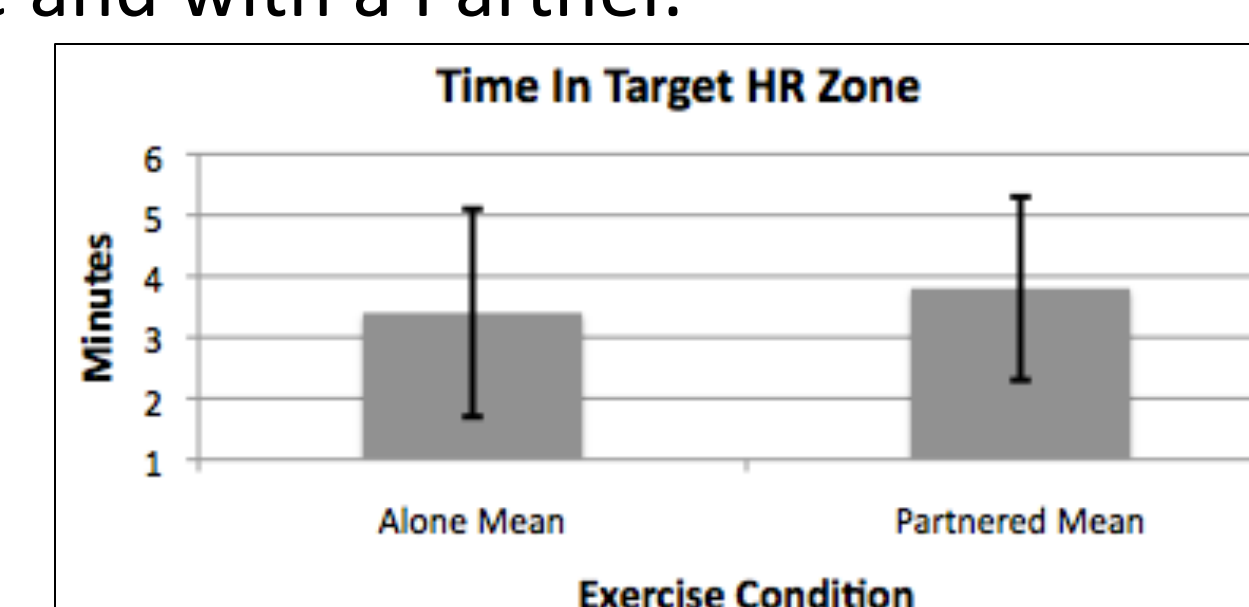


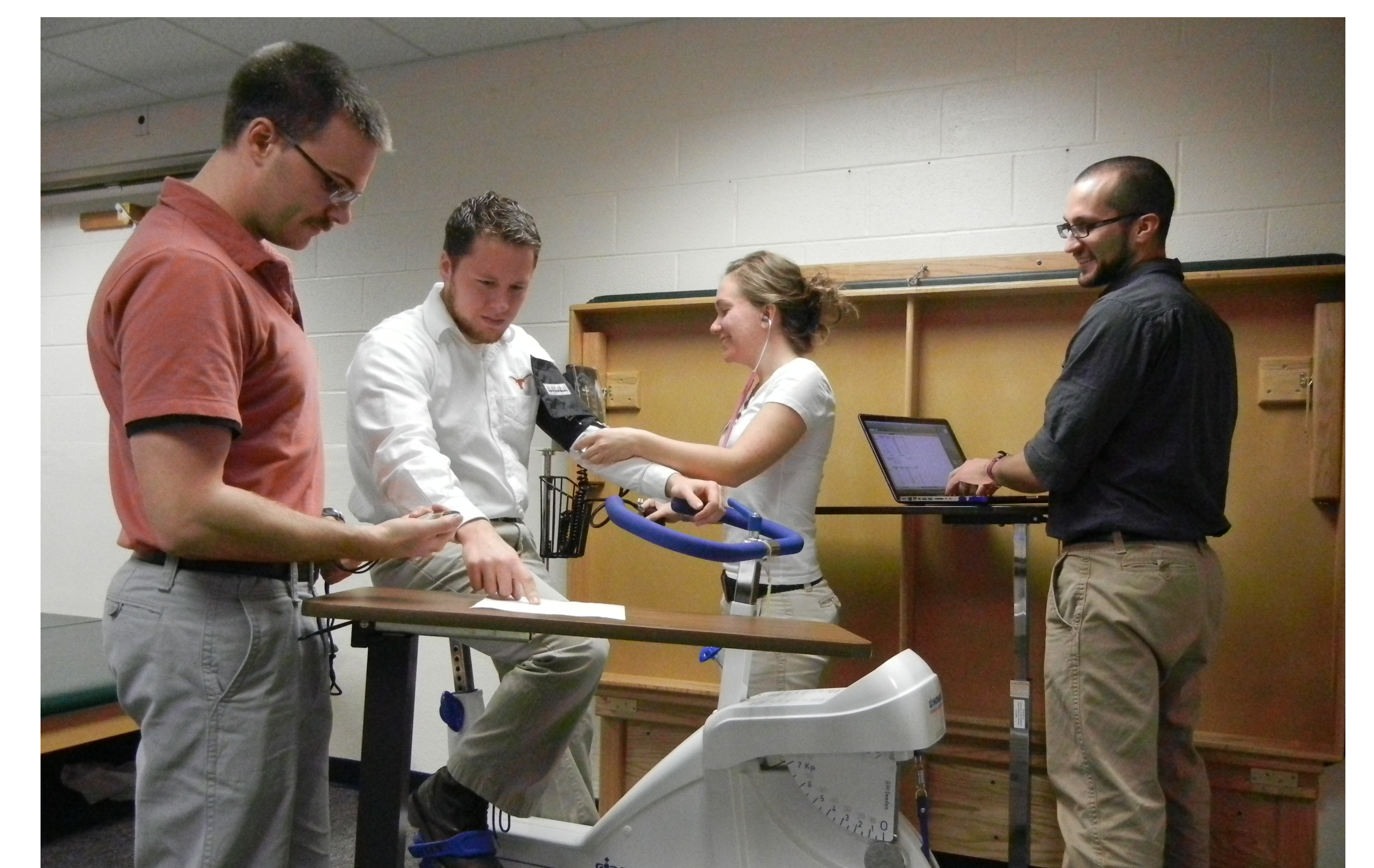
Figure 4. Time in Target HR Zone Mean Differences between Exercising Alone and with a Partner.

Discussion

- Despite lack of significance, the trends in our data were similar with results in other research.
- An individual exercising alone may have a higher perception of exertion while spending less time in his or her target HR zone.
- An individual exercising with a partner may have a lower perception of exertion while spending more time in his or her target HR zone.

Conclusion

This is the first study investigating these outcomes. Further research is warranted to measure the body's physiological responses and health benefits with partnered exercise. Additionally, future research should be conducted among different populations.



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