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INTRODUCTION

- The Army Combat Fitness Test (ACFT) is a battery of standardized field tests designed to assess various aspects of physical fitness among United States Army personnel and Army Reserve Officers' Training Corps (ROTC) cadets.
- The standing power throw is one of six different field tests that comprise the ACFT battery.
- The purpose of this study was to find the relevance in the countermovement jump during testing and the standing power throw within the ACFT.

METHODS

- Fourteen Army ROTC cadets (12 men, 2 women) who perform the standing power throw as part of their standard ACFT testing, volunteered in this ongoing study.
- The standing power throw involves throwing a 10-pound medicine ball backward and overhead for maximal distance. For laboratory-based testing, cadets completed countermovement jumps on a force platform that recorded ground reaction forces.
- A MatLab code was used to quantify peak velocity (m/s), peak power (W), rate of power development (W/s), and the modified reactive strength index (ratio between jump height and countermovement time).
- Pearson correlations were used to establish the relationship between the standing power throw and variables derived from ground reaction force.



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RESULTS

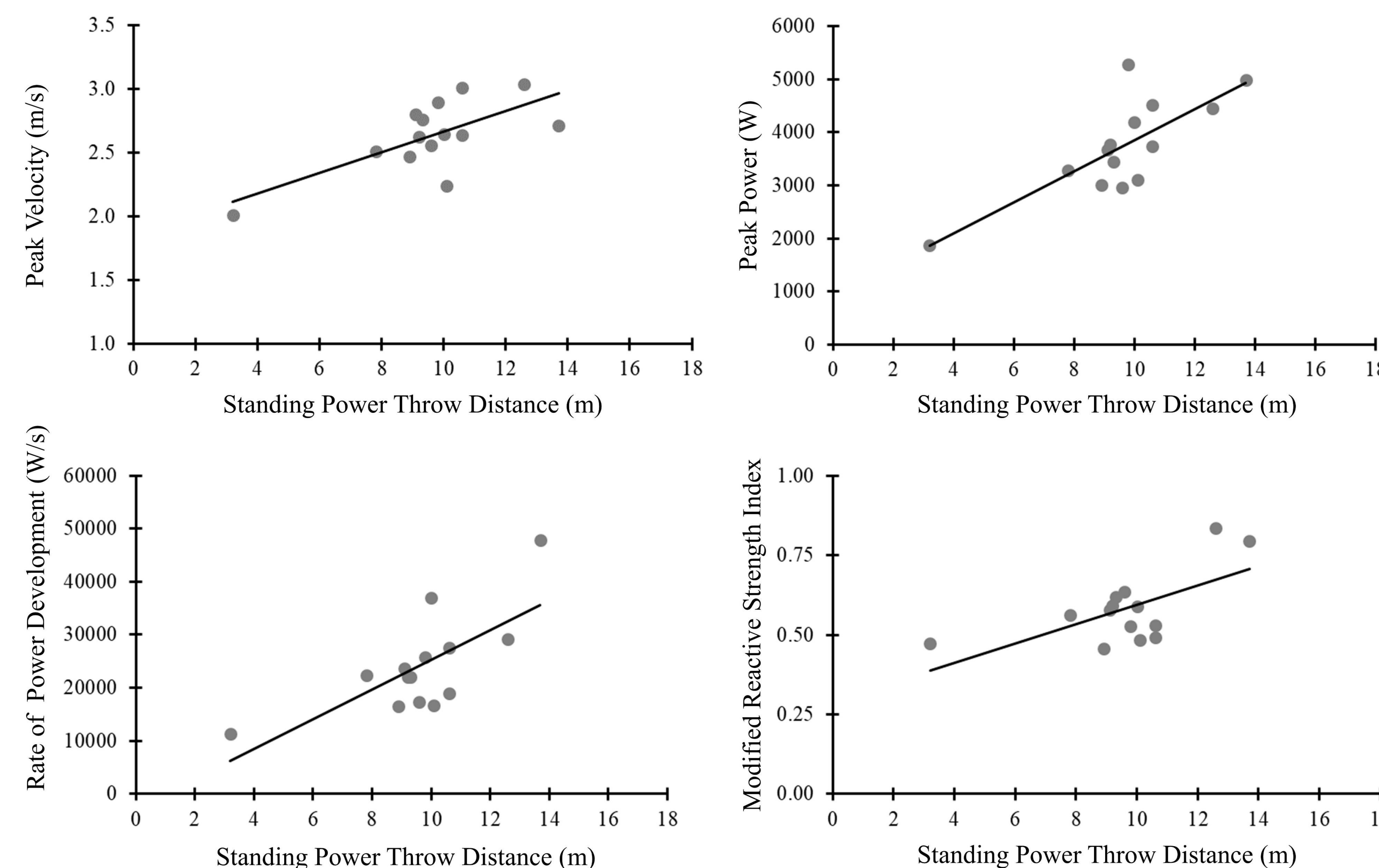


Figure 1. Pearson correlations between the standing power throw and metrics derived from ground reactive force.

- There were strong, positive relationships between standing power throw distances and peak velocity ($r = 0.69$, CI 95% = [0.26, 0.89]), peak power ($r = 0.77$, CI 95% = [0.41, 0.93]), maximal rate of power development ($r = 0.71$, CI 95% = [0.29, 0.90]), and modified reactive strength index values ($r = 0.65$, CI 95% = [0.18, 0.88]) (Figure 1), which indicates that better standing power throw performance corresponds with greater power/explosiveness.

DISCUSSION & CONCLUSIONS

- Our results indicate that standing power throw performance is strongly correlated with metrics related to power and explosiveness derived from forces recorded during countermovement jump testing.
- The force utilized in a countermovement jump does indeed relate with standing power throw within the ACFT test

REFERENCES

USArmyBasic. (2023, March 11). *Standing power throw (SPT)*. USArmyBasic. Retrieved April 24, 2023, from <https://usarmybasic.com/standing-power-throw-spt>