

Introduction

Rodeo requires strength, power, agility, and reaction time. Riders need strong adductors, necks, and grip to complete 8 second rides. Bullfighters must be agile and have quick reflexes to protect riders. There is no data on the relationship between anthropometric and physical performance qualities and competitive success in rodeo.

Methods

Forty-three amateur ($n=9$), professional ($n=23$), or internationally ranked ($n=11$) males (bareback=9, bull-riders=16, saddlebronc=7, bull-fighters=11) volunteered (26.8 ± 5.6 years). Anthropometrics included mass, height, and body-fat percentage. Performance measures included isometric hip adduction and abduction, neck flexion and extension, grip strength, squat and countermovement jump heights, eccentric utilization ratio, reactive strength index, change-of-direction, bike sprints, and several pneumatic power measures. ANOVA with Welch's correction were employed. Dunn's post-hoc and Cohen's effect sizes (d) were used to quantify pairwise comparisons. Spearman's Rho (ρ) was used to assess relationships between tests and competitive level (1=amateur, 2=low-pro, 3=medium-pro, 4=high-pro, 5=international).

Results

Fighters were taller and heavier than bull-riders ($d=0.84-0.87$, $p=0.008-0.017$). Bull-riders were leaner than fighters ($d=0.74$, $p=0.012$). Fighters had greater RSI than riders ($d=0.73-1.47$, $p<0.001-0.030$). Competitive level of rodeo riders ($n=32$) was correlated with age, and rodeo experience ($\rho=0.37-0.43$, $p=0.013-0.049$), bent-leg abduction ($\rho=0.43$, $p=0.014$) and straight-leg hip adduction and abduction ($\rho=0.49-0.56$, $p<0.001-0.005$) and neck flexion force ($\rho=0.43$, $p=0.016$), and rotational power ($\rho=0.50$, $p=0.004$). Competitive level of the fighters was correlated with age ($\rho=0.64$, $p=0.036$) and time-trial performance ($\rho=-0.74$, $p=0.006$).

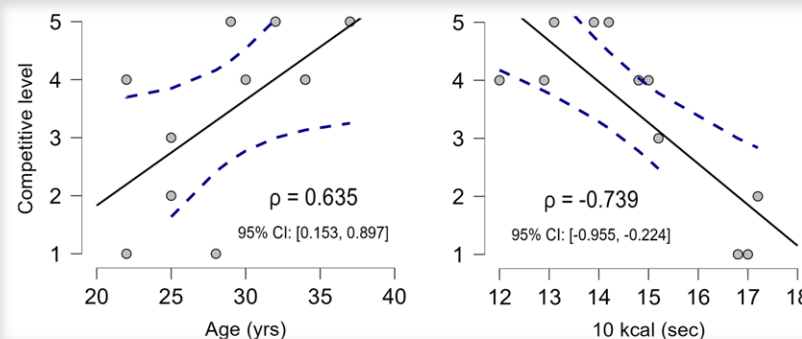


Figure 2. Significant ($p<0.05$) correlations (ρ) between competitive level, and anthropometric and performance characteristics of the bullfighters ($n=11$)

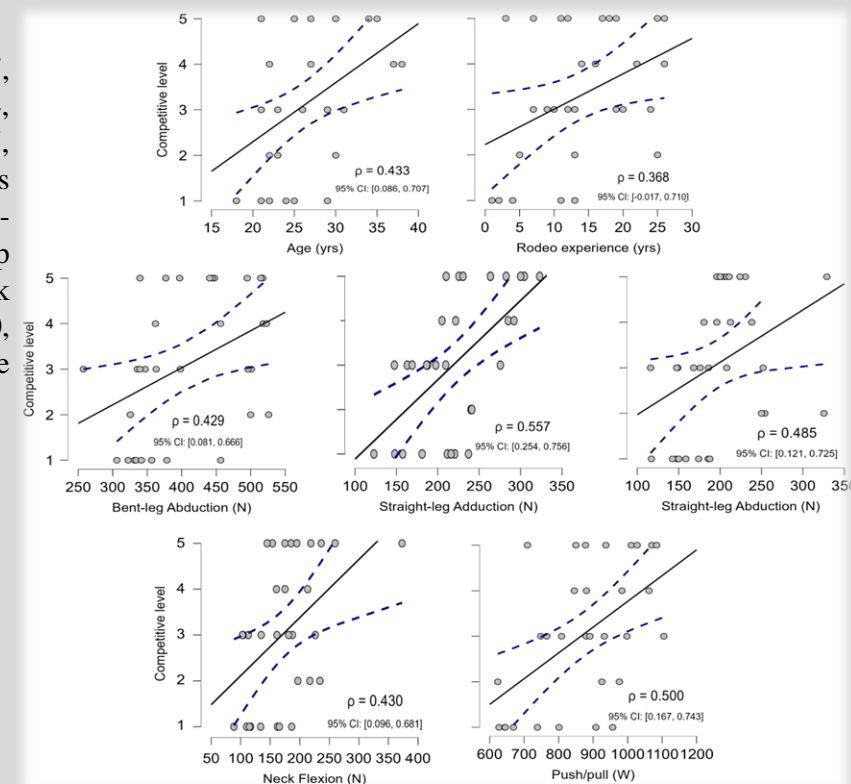


Figure 3. Significant ($p<0.05$) correlations (ρ) between competitive level, and anthropometric and performance characteristics of the pooled riders ($n=32$)

Conclusions

This study is the first to provide data on strength and power performance in rodeo athletes, and their relationship to competitive success. Strength and conditioning coaches should include hip adduction and abduction exercises, rotational exercises, and neck flexion strength training in their programs. Bullfighters should focus on anaerobic power and RSI training.



Figure 1. Isometric hip (A and B) and neck (C and D) strength, and pneumatic lateral jump (E), rotational 'push-pull' (F), and chest-press (G) power tests

