Human Performance Assessments in Cadet Populations

Donald P. Meckley  
*Liberty University*, dpmeckley@liberty.edu

kendall m. Warr  
*Liberty University*, kwarr@liberty.edu

Jeremy Miller  
*Liberty University*, jmiller402@liberty.edu

Joshua Boyle  
*Liberty University*, jboyle13@liberty.edu

Jared H. Hornsby  
*Liberty University*, jhornsby@liberty.edu

See next page for additional authors

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Human Performance Assessments in Cadet Populations

Authors
Donald P. Meckley, kendall m. Warr, Jeremy Miller, Joshua Boyle, Jared H. Hornsby, and James E. Schoffstall
Abstract

Introduction: This study assessed potential physiological differences between the Ranger Challenge (RC) Competition team and junior year cadets in an Army Reserve Officer Training Corps (ROTC) program. Methods: RC (m = 11, f = 2) and junior year cadets (m = 7, f = 3) were assessed in the following areas: 1) quickness and agility (5-10-5 shuttle run), 2) total-body power (standing broad jump), and 3) grip strength (hand grip dynamometry) assessed. The 5-10-5 shuttle run was performed twice (opening once to the left and once to the right). The standing broad jump required that cadets stand with their toes behind a line, perform a maximum of three preparatory movements, triple extend their knees, hips, and ankles while using their upper body to propel them as far forward as possible. After the jump the distance reached was measured from the line to the heel of the nearest foot. Hand grip dynamometry was performed once on each hand. The cadet held the dynamometer out to his or her side and, squeezed it as they lowered it to their hip. Results: There were no significant differences between groups for the 5-10-5 shuttle run (p = 0.91), standing broad jump (p = 0.49), or grip strength (p = 0.31). Conclusion: RC did not outperform the junior year cadets in these assessments of human performance.

Methods

RC team (m = 11, f = 2) and junior year cadets (m = 7, f = 3) had their 1) quickness and agility (5-10-5 shuttle run), 2) total-body power (standing broad jump), and 3) grip strength (hand grip dynamometry) assessed at the beginning of the fall semester. The 5-10-5 shuttle run was performed twice (opening once to the left and once to the right). Followed by, running 5 yards, touching a line on the ground, turning around, running 10 yards touching a line on the ground, turning around, and again running 5 yards with the time recorded once the cadet passed the starting point a final time. The standing broad jump required that cadets stand with their toes behind a line, perform a maximum of three preparatory movements, and triple extend their knees, hips, and ankles while using their upper body to propel them as far forward as possible. The cadet held the dynamometer out to the heel of the nearest foot, and squeezed it as they lowered it to their hip.

Results & Conclusion

Results

No statistically significant differences were found between RC and the junior cadets for the 5-10-5 shuttle run (p = 0.91), standing broad jump (p = 0.49), or grip strength (p = 0.31).

Conclusion

With no statistical differences observed, it was concluded that when returning from summer break RC did not outperform junior year cadets in these assessments of human performance. Changes in cadets’ priorities as they leave for summer break and the rigors of performing at CLC are two potential reasons for these outcomes. One of the limitations of this study is the fact that these assessments were conducted in the spring semester prior to summer break. Conducting the assessment in the spring semester would have helped with determining the effect that summer break had on cadet performance. Ideally, having three assessments (pre-summer break, post-summer break, pre-winter break, and post-winter break) would strengthen our ability to determine the effects summer break has on cadet performance.

Future Work

1. These assessments were a precursor to research now being conducted on the Occupational Physical Assessment Test (OPAT). The OPAT is being used by Cadet Command to assess Cadets’ ability to fulfill various job roles specific to combat jobs.

2. Other research currently being conducted after these assessments is focusing on Ranger Athlete Warrior (RAW) assessments and the Ranger Physical Assessment Test (RPAT). These are being used to assess RC team members’ physical ability to perform in the annual RC event.

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