

Bond University
Research Repository



The use of fitness testing to predict survivability in selection of specialist tactical personnel

Thomas, Rhiannon ; Strader, Jessica; Singh, Jaslyen; Orr, Rob Marc; Schram, Ben; Dawes, Jay

Published: 01/03/2019

Document Version:
Peer reviewed version

[Link to publication in Bond University research repository.](#)

Recommended citation(APA):

Thomas, R., Strader, J., Singh, J., Orr, R. M., Schram, B., & Dawes, J. (2019). *The use of fitness testing to predict survivability in selection of specialist tactical personnel*. Poster session presented at Rocky Mountain American College of Sports Medicine Annual Meeting 2019, Denver, United States.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

For more information, or if you believe that this document breaches copyright, please contact the Bond University research repository coordinator.

The Use of Fitness Testing to Predict Survivability in Selection of Specialist Tactical Personnel

Rhiannon Thomas¹, Jessica Strader¹, Jaslyen Singh¹, Robin Orr^{1,2}, Ben Schram^{1,2} and Jay Dawes.

¹Bond Institute of Health and Sport, Bond University, Gold Coast, QLD, Australia,

²Tactical Research Unit, Bond University, Gold Coast, QLD Australia,

³University of Colorado – Colorado Springs, Colorado Springs, CO, USA 80918

Purpose: Special Weapons and Tactics (SWAT) personnel are highly-trained individuals who possess skills that exceed capabilities and training level of general law enforcement or military personnel. To be selected into a specialist unit, candidates must typically complete some form of selection testing which assesses the candidate's ability to meet a stringent physical fitness standard and as well as their suitability for specialist service. The aims of this critical review were to identify, critically appraise and to synthesise the findings of current literature on the use of fitness testing to predict specialist personnel selection and to present their findings.

Methods: A systematic review was completed from three (Pubmed CINAHL and Medline) databases known for publishing studies or relevance to this field. Strict inclusion and exclusion criteria were applied. All studies were critically appraised using the CASP cohort study checklist with the interrater agreement calculated via Krippendorff's Alpha coefficient. The final Critical Appraisal Scores (CAS) of the CASP were calculated by the averaging of the three rater scores for each paper (out of twelve).

Results: The mean CASP score of the eight selected studies was 10.8 ± 1.4 points (range 8-12 points). The Krippendorff's alpha indicated a strong agreement between the three raters ($k_{\text{alpha}} = 0.733$). It was found in four out of the eight studies that push-ups, pull-ups and/or sit-ups were statistically significant predictors of successful selection. Additionally, five studies reported that aerobic fitness measures were indicative of success (bleep test, 2-mile run and loaded pack march).

Conclusion: The literature review concluded there were conflicting results as to what fitness measures could predict selection into the specialist team. This may be due to the specifics of the selection process where different requirements may influence the fitness measures of importance (e.g. pack march a greater indicator if the selection processes includes a high volume of loaded walking). However, upper body and trunk strength and endurance were identified as successful predictors of successful selection as was aerobic capacity. Additional research is required to develop a battery of fitness assessments, specific to each unit, to improve the selection process for specialist tactical personnel.