ORIGINAL RESEARCH

MODIFIED FUNCTIONAL MOVEMENT SCREENING AS A PREDICTOR OF TACTICAL PERFORMANCE POTENTIAL IN RECREATIONALLY ACTIVE ADULTS

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ABSTRACT

Background: Failure to meet minimum performance standards is a leading cause of attrition from basic combat training. A standardized assessment such as the Functional Movement Screen™ (FMS™) could help identify movement behaviors relevant to physical performance in tactical occupations. Previous work has demonstrated only marginal association between FMS™ tests and performance outcomes, but adding a load challenge to this movement assessment may help highlight performance-limiting behaviors.

Purpose: The purposes of this investigation were to quantify the effect of load on FMS™ tests and determine the extent to which performance outcomes could be predicted using scores from both loaded and unloaded FMS™ conditions.

Study Design: Crossover Trial.

Methods: Thirteen female and six male recreationally active college students (21 ± 1.37 years, 168 ± 9.8 cm, 66 ± 12.25 kg) completed the FMS™ under (1) a control condition ($FMS™_C$), and (2) an 18.10kg weight vest condition ($FMS™_W$). Balance was assessed using a force plate in double-legged stance and tactical physical performance was evaluated via completion times in a battery of field tests. For each condition, penalized regression was used to select models from the seven FMS™ component tests to predict balance and performance outcomes. Data were collected during a single session lasting approximately three hours per participant. Results: For balance, significant predictors were identified from both conditions but primarily predicted poorer balance with increasing FMS™ scores. For tactical performance, models were retained almost exclusively from $FMS™_W$ and generally predicted better performance with higher item scores.

Conclusions: The current results suggest that FMS™ screening with an external load could help predict performance relevant to tactical occupations. Sports medicine and fitness professionals interested in performance outcomes may consider assessing movement behaviors under a load.

Level of Evidence: 3

Keywords: Balance, movement quality, soldier athlete, talent identification

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