THE RELATION BETWEEN THE SPECIAL JUDO FITNESS TEST AND FIELD TESTING

Cedeno Ryan[1], Amasay Tal[1], Papadakis Zacharias[1], Egret Claire[1], Owens Amariliss
[1]Department of Sports & Exercise Sciences, Barry University, Miami Shores, FL

COLLEGE OF HEALTH AND WELLNESS

INTRODUCTION

- Judo, an Olympic sport, uses the Special Judo Fitness Test (SJFT) to predict an athlete's readiness for competition due to its sport-specific movement patterns.
- However, the SJFT's high anaerobic and technical demands may increase the risk of injury before competition.
- **PURPOSE: This study aimed to identify field tests that could predict performance on the SJFT, providing alternative ways to evaluate an athlete's readiness for performance.**

METHODS

- Ten judo athletes (age: 33.8±8.3 years; height: 171.5±3.7 cm; weight: 79.5±9.7 kg) each holding a minimum rank of green belt participated in the study.
- Athletes started the testing session by performing the SJFT.
- The athletes then continued to perform eight field tests, including pro-agility, six-meter timed hop, modified handgrip strength, maximum push-ups in one-minute, modified Gi flexed-arm hang, upper quarter Y-balance, maximum sit-ups in one minute, and 300-yard shuttle run tests.
- To answer the research question, a Pearson product-moment correlation analysis was performed to determine the relationship between the different field tests and the SJFT score and index, followed by a backward stepwise regression analysis to predict the SJFT score and index, α=0.05.

Judo athletes can employ the **six-meter hop test** to predict the **SJFT Score** and the **300-yard shuttle run test** to predict **SJFT Index**, thereby providing alternative assessments to evaluate their readiness for **SJFT performance and overall competition preparedness.**

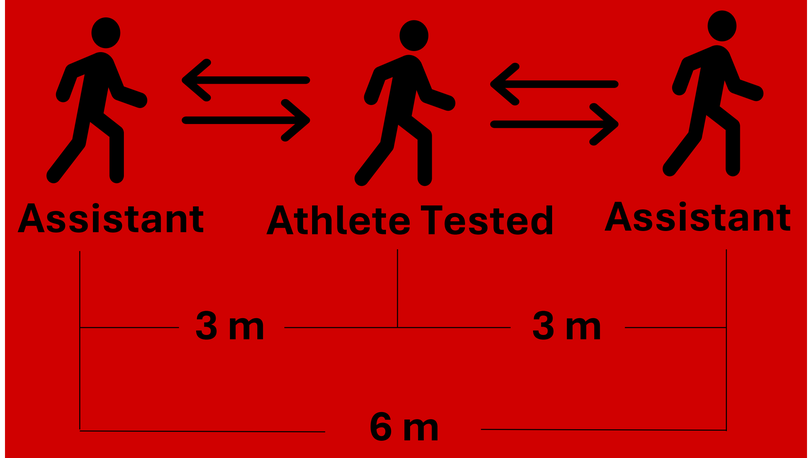

FIGURE 1. Special Judo Fitness Test

TABLE 1. CORRELATION OF FIELD TEST AND THE SJFT SCORE

Field Test	r	* p <.05
Pro-agility	-0.70	0.025*
6m Hop Test	-0.73	0.018*
Hand Grip Strength	-0.06	0.864
Maximum Push-ups	0.07	0.839
Maximum GI Hang	0.22	0.543
Maximum Sit-ups	0.49	0.154
300-Shuttle	-0.50	0.143
UQYBT Composite Score Right Hand	0.36	0.302
UQYBT Composite Score Left Hand	0.14	0.700

TABLE 2. CORRELATION OF FIELD TEST AND THE SJFT INDEX

Field Test	r	* p <.05
Pro-agility	0.73	0.017*
6m Hop Test	0.63	0.053
Hand Grip Strength	0.25	0.488
Maximum Push-ups	-0.27	0.444
Maximum GI Hang	0.001	0.998
Maximum Sit-ups	-0.58	0.078
300-Shuttle	0.73	0.017*
UQYBT Composite Score Right Hand	-0.4	0.249
UQYBT Composite Score Left Hand	-0.36	0.309

RESULTS

- The SJFT score was negatively correlated with the pro-agility (r =-0.70) and the six-meter hop (r=-0.73) and the SJFT index was positively correlated with the pro-agility (r=0.73) and the 300-yard shuttle run (r=0.73), $p<0.05$.
- A backward stepwise regression analysis revealed that the SJFT score can be predicted using the six-meter hop tests, (R^2=0.52, p=0.018).
- The regression equation is: SJFT score = 43.128 − 10.106 × (Six-meter Hop).
- Similarly, the SJFT index can be predicted using the 300-yard shuttle run, (R^2=0.53, p=0.017).
- The regression equation is: SJFT index = -14.034 + 0.386 × (300-yard shuttle run).

CONCLUSIONS

- The six-meter hop test score is a good predictor of the SJFT score, explaining 52% of the variance (R^2 = 0.52).
- Similarly, The 300-yard shuttle run test score is a strong predictor of the SJFT index, explaining 53% of the variance (R^2 = 0.53).
- The SJFT score and index can serve as measures for identifying an athlete's readiness for SJFT performance or, alternatively, their preparedness for competition.

PRACTICAL APPLICATIONS

- Our study suggests that instead of frequently administering the SJFT, potentially exposing athletes to unnecessary injury risk, coaches can rely on field tests such as the six-meter hop tests to predict the SJFT score or the 300-yard shuttle run to estimate the SJFT index.
- These field tests may provide an effective means of establishing baselines and monitoring sport-specific performance due to their simplified protocols.
- This practical approach helps coaches and athletes better understand and track the physical demands and performance capabilities relevant to judo, ensuring that athletes are optimally prepared for the SJFT and competition.