

**VALIDATION OF PHYSICAL FITNESS STANDARDS  
FOR THE UTAH RISK MANAGEMENT MUTUAL ASSOCIATION**

**FINAL REPORT**

**Thomas and Means**

## EXECUTIVE SUMMARY

The Utah Risk Management Mutual Association contracted with Thomas and Means to develop and validate physical fitness standards for the Police Officer position in 19 Utah agencies. Thomas and Means applied a construct/criterion validation process to define job-related standards that measured essential physiological factors necessary to perform the job of officer.

The validation study design consisted of eight basic tasks: 1) review of existing program and fitness/health data, 2) physical job-task analysis, 3) discussion group task definition, 4) fitness coordinator refresher training, 5) evaluation testing, 6) data analysis, 7) judgment process to define standards, and 8) standards implementation recommendations.

A focused physical job-task analysis defined physical- and health-related job demands. The job analysis data yielded essential physical tasks that are critical to officer job performance. From these data, three job task scenario tests were defined (roadway clearance, extraction, and pursuit and subdue) to measure an officers capabilities to perform the physical demands of the job. A stratified random sample of 180 officers from the 19 agencies undertook a testing sequence measuring performance of on-the-job-task scenarios and a battery of 9 physical fitness tests measuring underlying physical fitness factors.

Thomas and Means analyzed the test data to determine the relationship and predictability of the various physical fitness factors for performance of the criterion job-tasks. The analysis yielded data to support the utilization of a physical fitness test battery covering five (5) areas for applicants and incumbents:

- Aerobic power = 1.5-mile run
- Upper body absolute strength = 1 RM bench press raw or ratio score
- Upper body strength/endurance = maximum push ups
- Lower body power/strength = vertical jump
- Trunk strength/endurance = sit-ups

Two additional fitness tests were recommended for an incumbent battery, but without mandatory standards:

- Body composition = % fat caliper test
- Flexibility = sit and reach test

A specificity/sensitivity statistical analysis established cutoff score criteria for the fitness tests. Based on the data and data interpretation, we recommend absolute standards. These standards are defensible as being job-related standards for assessing applicant and officers capabilities to perform essential and critical physical tasks of the job. The defined standards reflect those underlying physical fitness areas that determine those capabilities. The level of physical performance required to meet

the standards is a level that insures the minimum physiological readiness that all officers should have in order to perform the critical physical functions of their jobs. The same standards are recommended for incumbents.

#### Mandatory fitness test standards

1.5-mile run	= 15:54 min:sec
Push-up	= 25 reps
Vertical jump	= 16 in.
Sit-up	= 35 reps
1 RM Bench press ratio	= .75

#### Voluntary

% fat	= 50th%tile on the CIAR age and gender norms
Sit+reach	= 50th%tile on the CIAR age and gender norms

The standards are recommended for eventual application within the 19 agencies after a transition period with a review process for insuring the fairness of the standards application process. Likewise, an incumbent fitness incentive program is defined as a transition program. Thomas and Means defined thirty-three (33) recommendations for applying the fitness standards. Specific recommendations focused upon testing, education, leadership, and operations for applying the suggested standards. In addition. several prototype policy, procedures and forms were specified.

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