

Bond University
Research Repository



Percentile rankings for selected physical fitness tests in highway patrol officers

Dawes, James; Flores, Richard R.; Orr, Rob Marc; Kornhauser, Charlie; Holmes, Ryan

Published: 01/11/2016

Document Version:
Publisher's PDF, also known as Version of record

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

Recommended citation (APA):
Dawes, J., Flores, R. R., Orr, R. M., Kornhauser, C., & Holmes, R. (2016). *Percentile rankings for selected physical fitness tests in highway patrol officers*. Poster session presented at ASCA National Conference on Applied Strength and Conditioning, Melbourne, Australia.

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.



PERCENTILE RANKINGS FOR SELECTED PHYSICAL FITNESS TESTS IN HIGHWAY PATROL OFFICERS

^{1,2}J.Jay Dawes, ¹Richard Flores ^{1,2}Robin Orr, ³Charles Kornhauser, ³Ryan Holmes
¹Department of Health Sciences, University of Colorado Colorado Springs, Colorado Springs, CO. USA
²Tactical Research Unit, Bond University, Robina, QLD, AUSTRALIA
³Colorado State Highway Patrol, Golden, CO., USA

Email: jdawes@uccs.edu

BLUF

The percentile ranking of fitness measures for a specific law enforcement agency have been developed thereby allowing for more valid inter-officer comparisons than previous comparisons to the general population.

INTRODUCTION

Percentile rankings are frequently used to help characterize what is usual in a defined population and can be used to establish a baseline score for a group of measurements in a specific population

To improve the accuracy and value of this information it is important that the individuals being compared are representative of the population in which specific percentile rankings were derived.

Currently, there is little information regarding percentile rankings specific to individuals within the law enforcement community.

Therefore, the purpose of this study was to establish normative data specific to highway patrol officers on selected measures of physical fitness.

METHODS

Retrospective data for six-hundred and twenty-three state troopers ($\sigma^2n=583$; mean age = 39.52 ± 8.09 yrs; mean height = 180.72 ± 7.06 cm; mean weight = 93.85 ± 15.75 kg; $\sigma^2n=30$; mean age = 36.20 ± 8.45 yrs; mean height = 169.62 ± 6.65 cm; mean weight = 74.17 ± 14.95 kg), as well as 1-minute push-up and sit-up scores, 20m Multi-stage fitness tests scores, and vertical jump height were provided for analysis.

This data were collected as part of the agencies normal yearly fitness assessment with the percentile values calculated for the total sample of officers.

For the purpose of this analysis the data was not stratified by age and gender as this is considered a potentially discriminatory practice within this community.

Normative values for physical fitness tests among highway patrol officers from the 5th to the 95th percentile are provided.

RESULTS

The percentile ranks for each measure and the law enforcement population as a whole are shown in Table 1.

Percentile Ranking	Push-ups (#) N = 613	Sit-ups (#) N = 616	20m MSFT (Level/Stage) N = 582	Vertical Jump (cm) N = 623
95	64.22	51.11	8/9	65.22
90	58.53	47.41	8/1	61.86
85	54.74	44.94	7/7	59.63
80	51.58	42.88	7/3	57.76
75	48.89	41.13	6/10	56.18
70	46.52	39.59	6/7	54.78
65	44.46	38.25	6/4	53.57
60	42.25	36.81	6/1	52.26
55	40.35	35.57	5/8	51.14
50	38.3	34.24	5/5	49.93
45	36.24	32.90	5/3	48.72
40	34.34	31.66	5/1	47.60
35	32.13	30.22	4/7	46.30
30	30.07	28.88	4/4	45.08
25	27.70	27.34	4/1	43.69
20	25.01	25.59	3/6	42.10
15	21.85	23.53	3/2	40.24
10	18.06	21.06	2/5	38.00
5	12.37	17.36	1/5	34.64



Table 1: Percentile Rankings for Incumbent Officers (Metric)

DISCUSSION

These reference values provide normative data for highway patrol officers that can be used to compare inter-officer fitness on the selected tests featured within this population.

PRACTICAL APPLICATION

Coaches working with law enforcement officers may find these outcomes more useful than those of the general population as an initial baseline percentile rating until sub-population specific data can be collected and analyzed.