



EXCEPTIONAL PHYSICAL FITNESS ASSOCIATED WITH DECREASED FIRST-TERM ATTRITION IN U.S. NAVY RECRUITS

Meg I. Robinson, MS

Naval Health Research Center/Epidemiology and Data Management Support Department
Leidos, Inc.



CO-AUTHORS AND AFFILIATIONS

Ryan W. Smith, MPH¹; Andrew J. MacGregor, PhD¹

¹Epidemiology and Data Management Support Department,
Naval Health Research Center, San Diego, CA



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BACKGROUND

- ① First-term attrition → compromises force readiness
 - Costs over \$200 million annually¹

- ① At Recruit Training Command (RTC), recruits complete the Physical Readiness Test (PRT)
 - Scores range from “Failure” to “Outstanding”
 - Low incentive to score anything above “Good”

- ① **The relationship between exceptional fitness and first-term attrition remains underexplored**

1. Enns, J. H., *Cost Attrition: Army and Navy Results for FY2008*, Monterey, Calif.: Naval Postgraduate School, 2012.



OBJECTIVES

For a cohort of recruits at Recruit Training Command:

1. Describe the characteristics of the study population
2. Analyze time to separation rates by physical fitness levels
3. Describe the relationship between exceptional physical fitness and first-term attrition (FTA) risk



MATERIALS AND METHODS

- ① 25,537 enlisted recruits (E-1 to E-3)
 - Initial PRT in 2016 at RTC Great Lakes
 - ≥ 2 non-waived PRT's

- ① Physical Readiness Information Management System (PRIMS)
 - Recruits were tracked for three years through December 31st, 2019 to assess FTA-proxy
 - **Exceptional physical fitness:** # of tests scored "Excellent" or "Outstanding" divided by the total number of non-waived PRTs during the study period

- ① Cox proportional hazards model and Kaplan-Meier survival curves
 - Relationship between exceptional physical fitness and time to separation
 - Adjusted for age, sex, and rank



RESULTS

DESCRIBE THE CHARACTERISTICS OF THE STUDY POPULATION

	Recruits (N=25,537)
Mean age years (SD)*	21.3 ($\pm$ 3.4)
Rank, n (%)*	
E-1	8,537 (33.4)
E-2	7,327 (28.7)
E-3	9,673 (37.9)
Male, n (%)	19,616 (76.8)
Median # PRTs (IQR)	5.0 (4 - 6)
Median exceptional physical fitness, rate (IQR)	14.3% (0% - 50%)
Separated within 3 years, n (%)	2,015 (7.9)

* At initial PRT

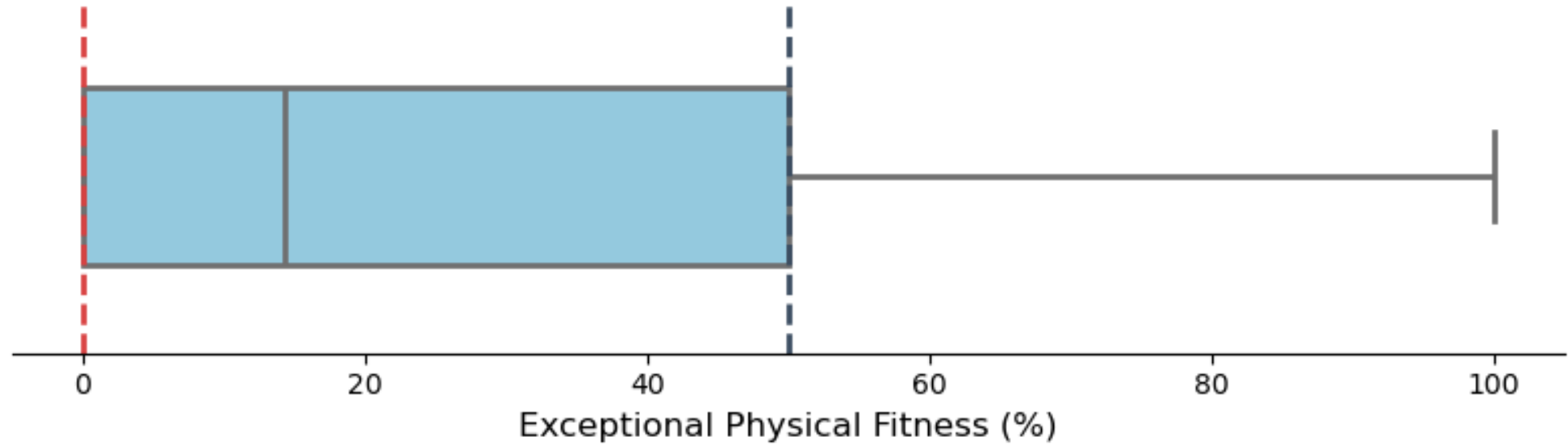


RESULTS

DESCRIBE THE CHARACTERISTICS OF THE STUDY POPULATION

0 to 25th percentile

75th to 100th percentile

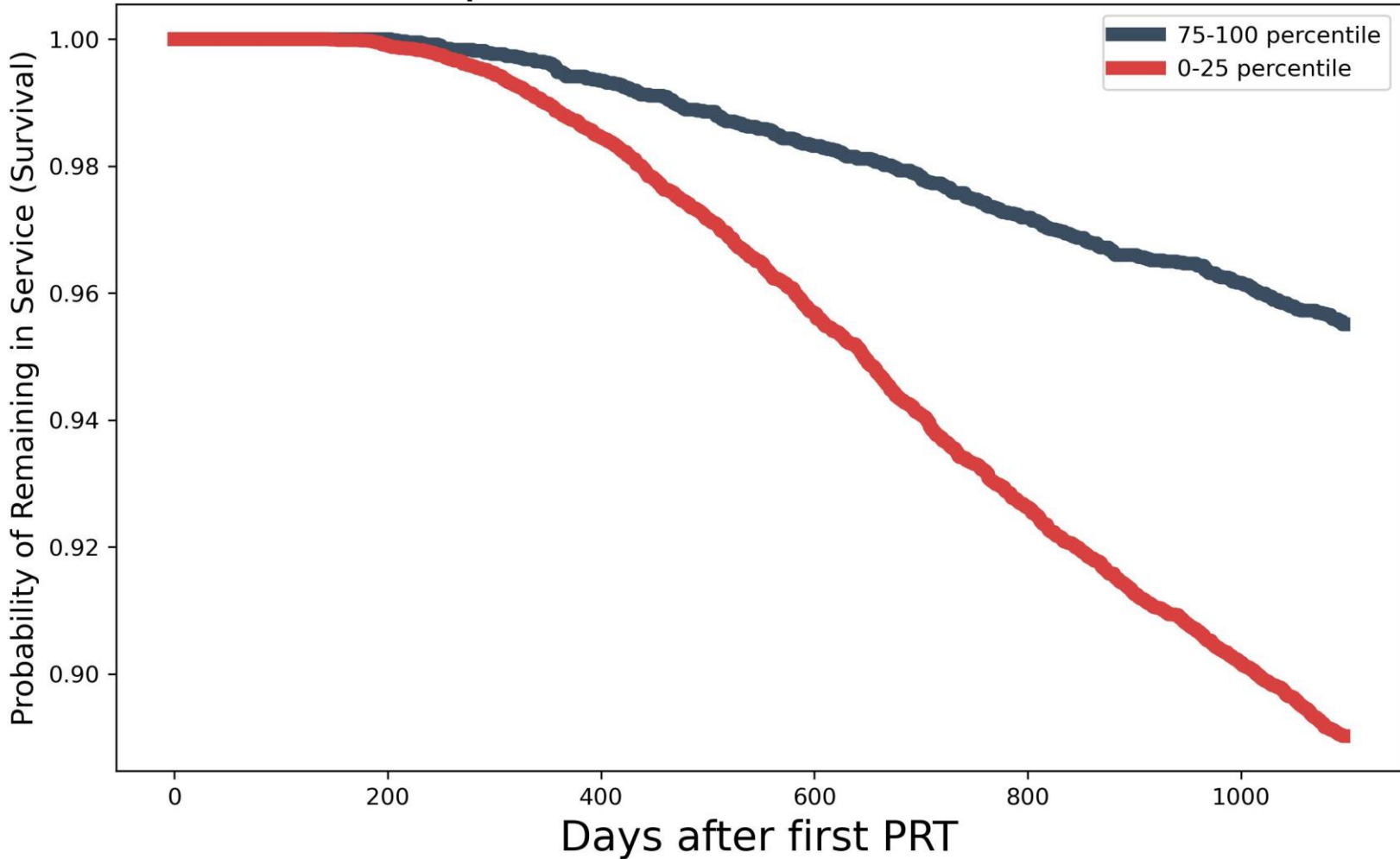




RESULTS

ANALYZE TIME TO SEPARATION RATES BY PHYSICAL FITNESS LEVELS

Kaplan-Meier Survival Curve



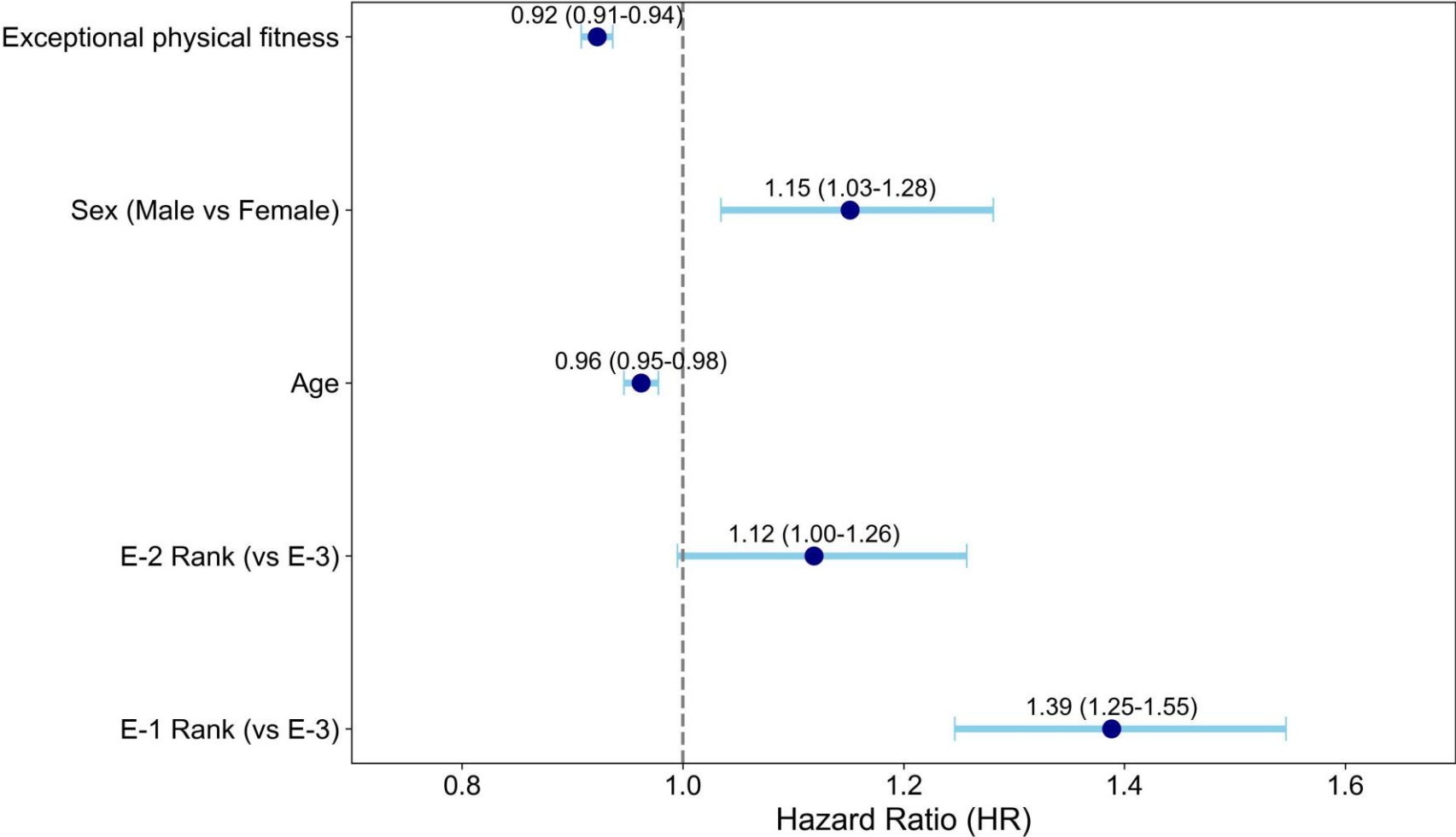
Those who perform exceptionally on >50% of their PRT's in their first 3 years have a separation rate of 4.5%

Those who perform exceptionally on 0% of their PRT's in their first 3 years have a separation rate of 11%



RESULTS

DESCRIBE THE RELATIONSHIP BETWEEN EXCEPTIONAL PHYSICAL FITNESS AND FTA RISK





CONCLUSIONS

- ⓐ Exceptional physical fitness is associated with decreased first-term attrition (hazard ratio: 0.92, $p < 0.001$)
- ⓐ This effect is notable given study's focus on recruits who completed two non-waived PRTs
 - We exclude those who separate before first PRT and those unable to participate in >1
- ⓐ Targeted interventions may improve first term attrition and reduce costs
 - Command-directed participation in the Fitness Enhancement Program
 - Combine current research with mental health and injury



THANK YOU!