

A Study on the Impact of Diet on Unified Fire Authority Firefighters' Physical Performance

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Introduction

Objective: This project aimed to find connections between Unified Fire Authority (UFA) firefighters' dietary habits, regular physical activity, nutrition knowledge, and self-reported physical performance on their routine physical assessment (RPA).

Background: Being a firefighter requires a high amount of physical exertion to save lives effectively. Therefore, it is important for them to be able to physically perform well. This project aimed to find connections between Unified Fire Authority (UFA) dietary habits, regular physical activity and nutrition knowledge on their physical performance. Firefighters working for UFA were invited via email to participate in this cross-sectional study.

Methods

Participants completed a 40-question survey that assessed specialized diet adherence, dietary intake, nutrition knowledge (including questions from the General Nutrition Knowledge Questionnaire with 1 point for each correct answer [26 points possible]), regular physical activity (International Physical Activity Questionnaire), and self-reported physical performance on their RPA. Based on responses, participants were categorized into one of two groups: High Performance (performed exceptionally well/very well) and Lower Performance (performed moderately well/slightly well/not well at all). Chi Squared Distributions and Independent T-Tests were used to assess group differences. Statistical significance was set at $p < 0.05$.

Results

- The survey was sent out to all 430 UFA firefighters, of them 94 completed the survey.
- 48 (51%) participants were rated high performance and 37 (39%) rated lower performance.
- Of those who participated in the survey, more high performance firefighters reported eating ≥ 5 servings of fruits and vegetables (29.2% vs 10.8%, $p=0.04$) than lower performance firefighters.
- There were no significant differences in prevalence of vigorous physical activity (12.1% vs 17.8%, $p=.27$), prevalence of following a specific diet (27.1% vs 21.6%, $p=.57$), or nutrition knowledge score (18.7% vs 18.2%, $p=.49$) when comparing High Performance and Lower Performance firefighters.

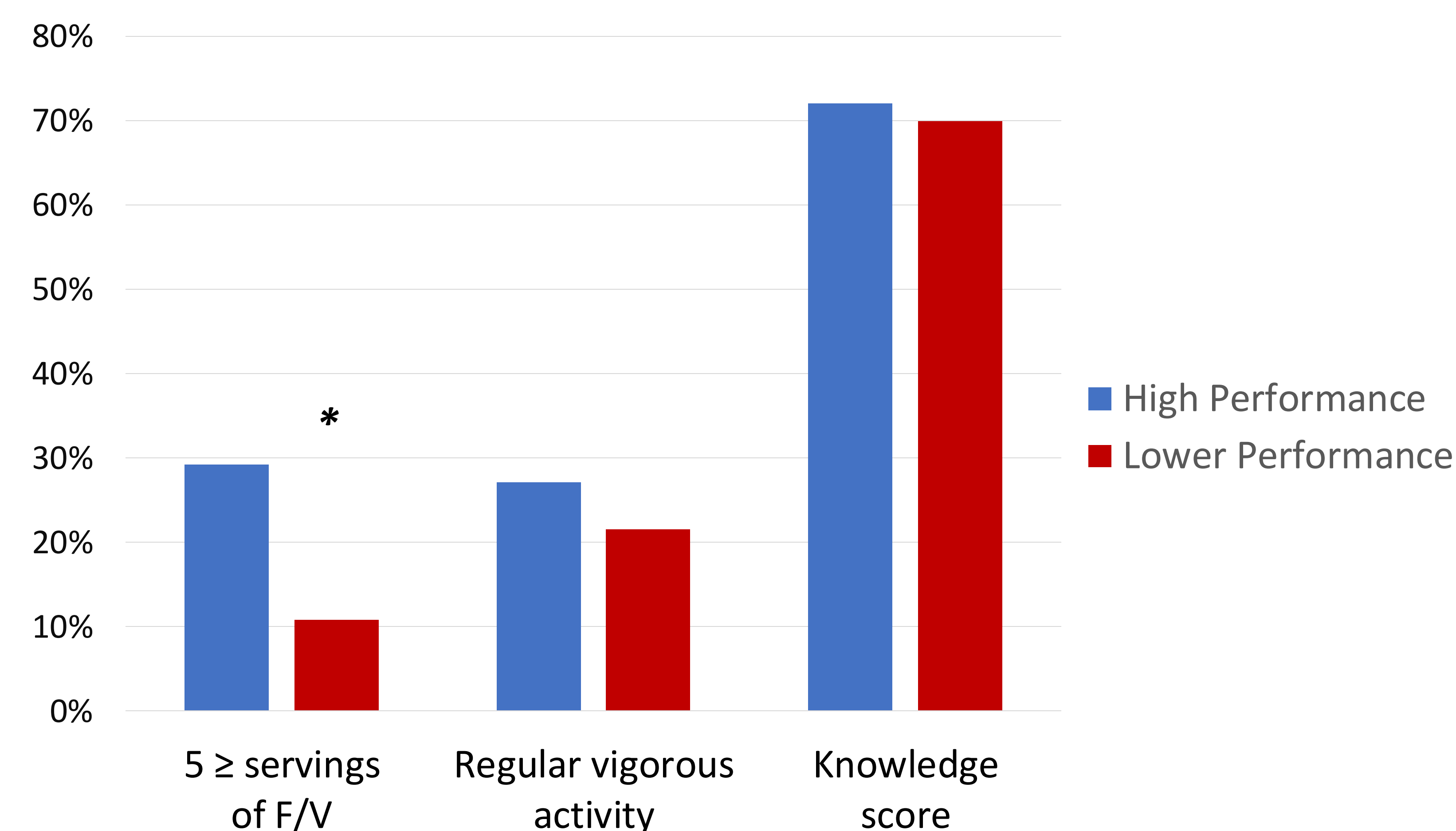


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Conclusions

High Performance firefighters had a higher prevalence of high fruit and vegetable consumption. Diet quality, including intake of fruits and vegetables, should be an included strategy for firefighters wishing to improve their physical performance. Future studies should use interviews and lab-based assessments to further assess factors that may influence firefighters' performance on RPAs.

Figure 1. Firefighters' Fruit/Vegetable Intake, Regular Physical Activity Level, and Nutrition Knowledge Score by Physical Performance Category



* $P < 0.05$

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