

EXPLORING FIREFIGHTER ON-DUTY EXERCISE PREFERENCES AND PRIMARY EXERCISE GOALS

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INTRODUCTION

- Only 27% of fire departments implement fitness programs.¹
- The majority of firefighters fail to meet the minimum physical activity guidelines.²
- Understanding firefighter on-duty exercise preferences and primary exercise goals can inform work-site exercise interventions in the fire service.

PURPOSE

The purpose of this investigation was to explore on-duty exercise equipment preferences and primary exercise goals in career firefighters.

METHODS

- 252 firefighters (15 women; age = 36.0 ± 8.5 yrs; stature = 1.8 ± 0.1 m; body mass = 94.8 ± 17.4 kg; BMI = 36.0 ± 8.5 kg/m²) from departments within a 4-hour radius of UNC-Chapel Hill (Figure 1) participated.
- Firefighters completed a survey about their on-duty resistance training (RT) and aerobic training (AT) preferences and goals.

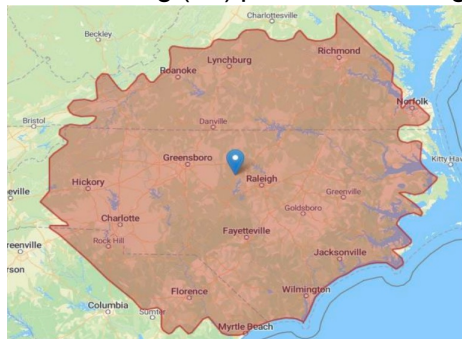


Figure 1. Recruitment area within a 4-hour drive from UNC-Chapel Hill.

RESULTS

- Results for select-all that-apply RT and AT, most preferred RT and AT, and primary exercise goals are in Table 1, Figure 2, and Table 2, respectively.

Table 1. Select-all Resistance and Aerobic Training Equipment

Preferred Equipment	Total
Resistance Training (N=252)	
Cable Machines	165 (65.5%)
Weight Stack Machines	189 (75.0%)
Resistance Bands	114 (45.2%)
Barbells	204 (81.0%)
Kettlebells	162 (64.3%)
Dumbbells	222 (88.1%)
Calisthenics Equipment	160 (63.5%)
Medicine Balls	108 (42.9%)
Other (e.g. sandbags, sleds, tires)	5 (2.0%)
Aerobic Training (N=244)	
Treadmill	143 (58.6%)
Stair Climber	147 (60.2%)
Elliptical	52 (21.3%)
Bike	111 (45.5%)
Rowing machine	151 (61.9%)
Other (e.g. ski ergometer)	4 (1.6%)

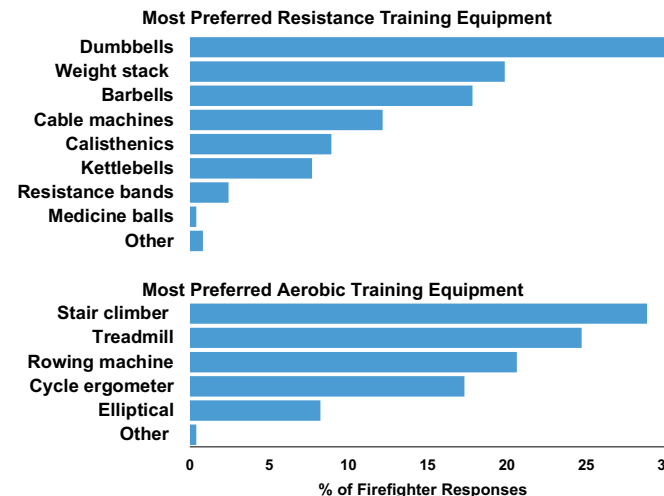


Figure 2. Most preferred on-duty resistance and aerobic training equipment.

Table 2. Breakdown of Firefighter Primary Exercise Goals

Primary Exercise Goals	Total
Improve Fitness	117 (46.4%)
Occupational Performance	44 (17.5%)
Weight Management	28 (11.1%)
Look Better	22 (8.7%)
Reduce Risk of Disease	21 (8.3%)
Improve Mental Health	7 (2.8%)
Have Less Pain	5 (2.0%)
Improve Camaraderie	3 (1.2%)
Feel Less Fatigued/Tired	3 (1.2%)
Prevent Injury	2 (0.8%)

N=252

CONCLUSIONS

- Firefighters preferred dumbbells, barbells, and weight stack machines for RT, and rowing machines, stair climbers, and treadmills for AT.
- The most preferred RT and AT were dumbbells and stair climbers, respectively.
- Nearly half listed improve fitness as their primary exercise goal, followed by occupational performance, weight management, look better, disease prevention, mental health, pain reduction, camaraderie, and injury prevention.

PRACTICAL APPLICATION

Findings offer insight into firefighter exercise preferences and goals, which may aid in the development of exercise interventions.

REFERENCES

1. National Fire Protection Association. Fourth Needs Assessment of the U.S. Fire Service. 2016.
2. Durand G, Tsismenakis AJ, Jahnke SA, Baur DM, Christophi CA, Kales SN. Firefighters' physical activity: relation to fitness and cardiovascular disease risk. *Med Sci Sports Exerc.* 2011

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