

Natural Disaster Preparedness Levels Among Firefighters

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Introduction

The primary problem is the lack of information of the disaster preparedness within Hinesville Fire Department (HFD) and Liberty County Fire Services (LCFS), Georgia.

This research sought to benchmark the organizational level of disaster preparedness of two critical departments (City and County Fire Services) by measuring three key attributes (knowledge, skills and personal preparedness) for disasters

The research collected data by using the Disaster Preparedness portion of the Disaster Preparedness Evaluation Tool (DPET) via an in-person brief and survey.

The goal is to benchmark the levels of disaster preparedness for both organizations, HFD and LCFS and determine which of the organizations are more prepared for a disaster

Research Purpose and/or Question(s)

Purpose: The purpose of this study is to benchmark the level of disaster preparedness among HFD and LCFS

RQ1: What is the current level of disaster preparedness among firefighters employed at HFD and LCFS

RQ2: Compare the differences between HFD AND LCFS

RQ3: What is the correlation between Firefighters Years of Experience compared to levels of disaster preparedness

Method / Data Source(s)

IRB Application was approved through Arkansas Tech University Approval to conduct the survey was granted by both HFD and LCFS Fire Chiefs without any issues

SAMPLE: Firefighters employed at HFD and LCFS

CONSENT: Each day, the firefighters were read a scripted brief, followed by a physical survey to complete at their own pace. A consent form was located on the top of each survey as Page 1, which had to be read, understood, and physically marked "I agree" or "I do not agree" before proceeding with the survey

SURVEY: Modified DPET was used which included 32 Items:

- 7 open-ended biographical data questions (age, gender, education level, fire fighter rank/ position, primary employment facility, years of experience as fire fighter, disaster response history)
- 25 questions on disaster preparedness, based on a five-point Likert scale. Values ranged from 1 (strongly disagree) to 5 (strongly agree)

The survey took participants approximately 15 minutes to complete

Analysis

H1: Since HFD has been established longer, they will have a higher level of disaster skills and knowledge compared to LCFS. (MEAN VS. MEAN)

H1 will be analyzed using a t-test

H2: The demographical question pertaining to years of experience (YOE) of firefighters will correlate with higher mean levels of skills and knowledge for disaster preparedness (HLDP). (YOE=HLDP)

H2 will be analyzed using an ANOVA

Findings/Results

Of the sixty-eight participants who received a survey, sixty-eight completed the survey. One survey was excluded from data analysis due to incompleteness, as one question was not answered. The survey was completed physically by participants and then input into QuestionPro.

LCFS= 30 Surveys Completed

HFP= 37 Surveys Completed

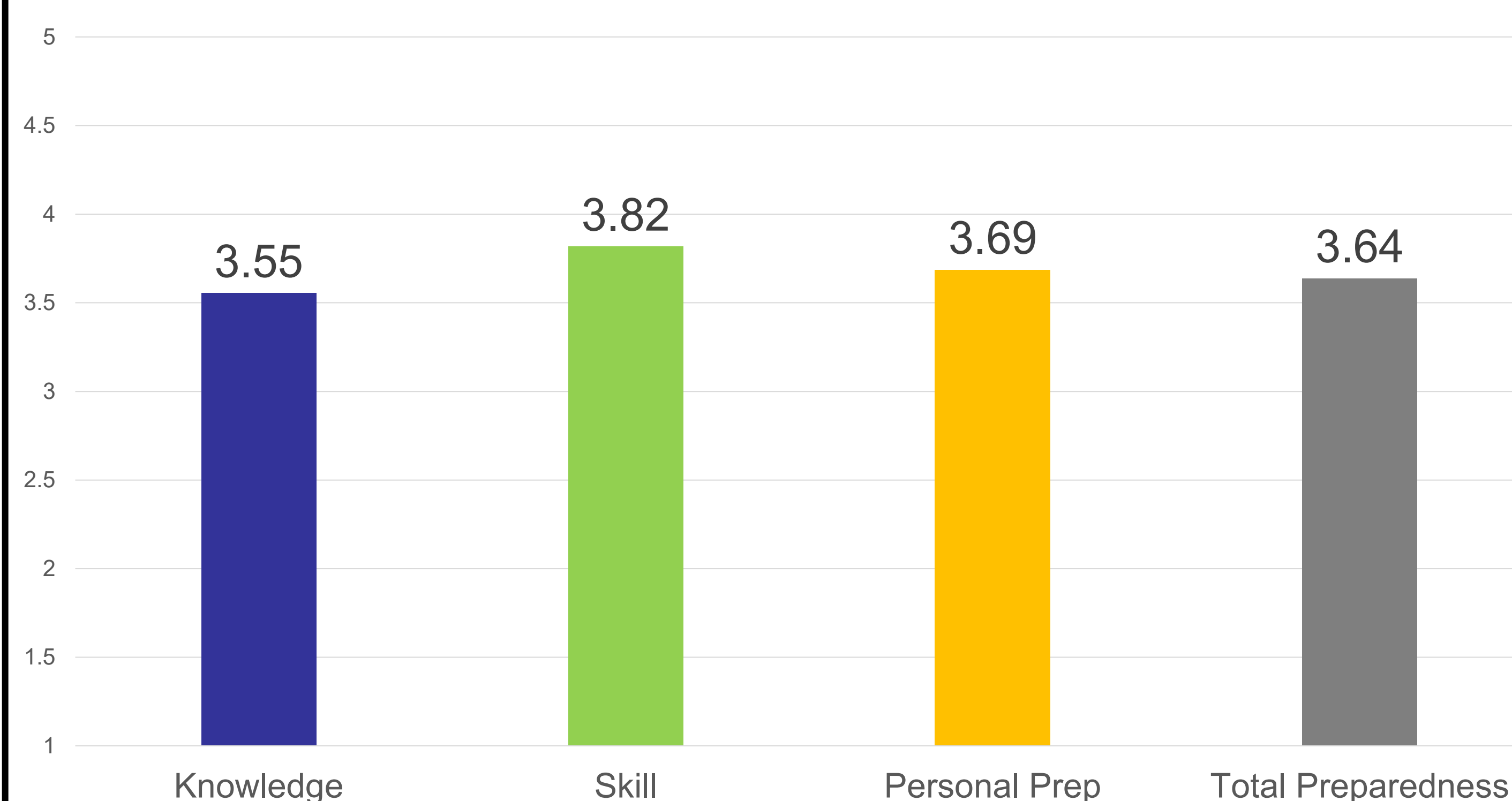


Figure 1: Mean of both LCFS and HFD broken up by Knowledge, Skills, Personal Preparedness and Combined overall total

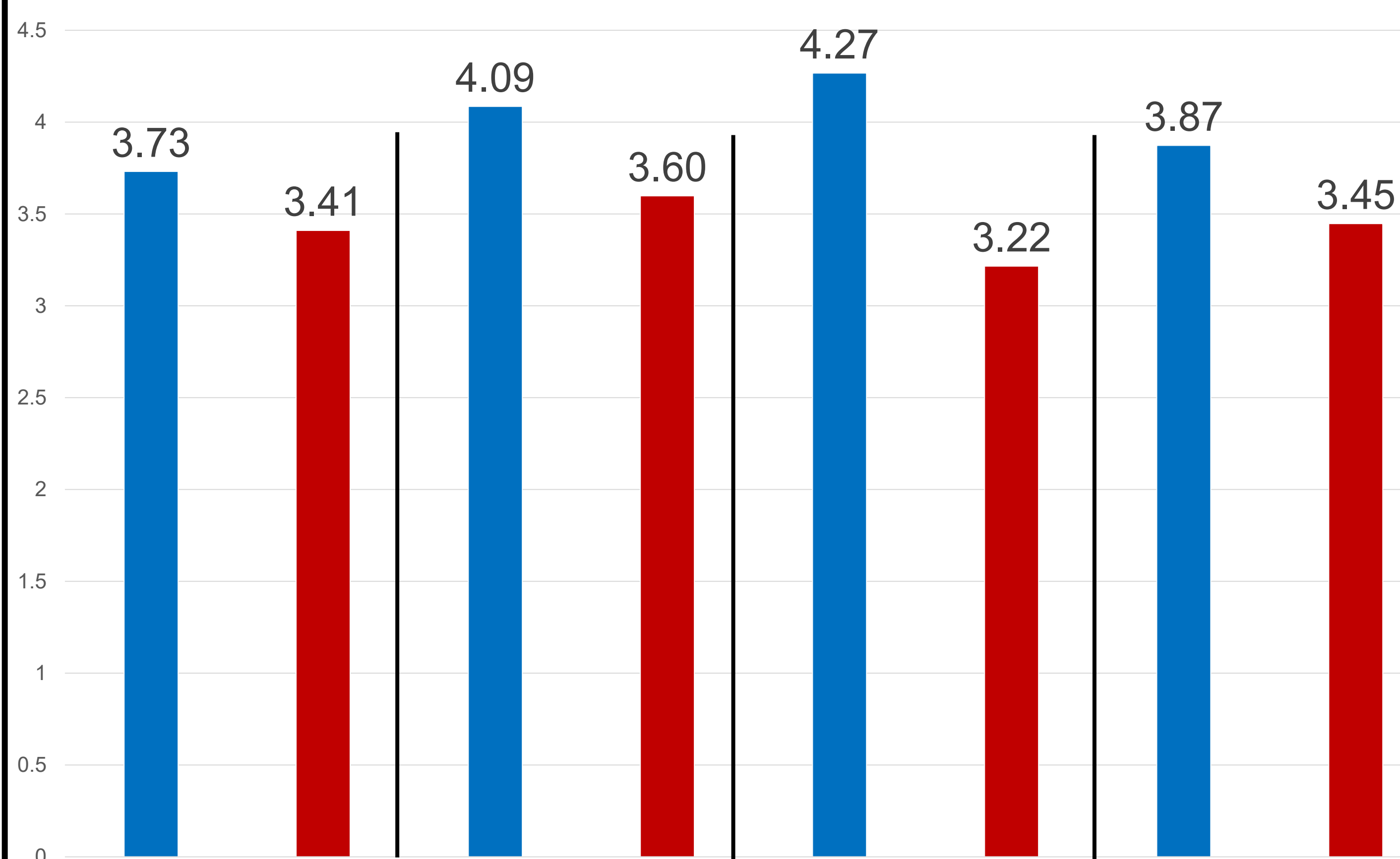


Figure 2: Mean of Total Preparedness - LCFS vs HFD

Discussion

Initial observations from the data are below:

RQ1: Answered. As shown in Figure 1: Our benchmark of the overall disaster preparedness, using the DPET, of HFD and LCFS

RQ2: Answered. As shown in Figure 2: Based on the mean scores from each LCFS and HFD, LCFS has a greater overall mean score for preparedness across all three categories (knowledge, skills and personal preparedness)

RQ3: Has yet to be answered as analytical statistics are still being conducted at this time. Survey was completed throughout March 2023 and some data analysis is still pending

H1: Seems that the Hypothesis 1 was not supported based on what the data in Figure 2 presents

H2: Has yet to be answered as the analytics for RQ3 are pending

Conclusions

Conclusions will be conducted in the following semester as I prepare for Master Thesis Defense. Initial recommendations are below:

There is always room for improvement but overall, both LCFS and HFD, preparedness level fell in the moderate spectrum on the DPET (Means between 2.5 and 4.0)

A recommendation would be Fire Chiefs, City Council members and the County Emergency Management Director utilize the findings from this research to identify gaps and improvements for their respective Fire Departments

References

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