

KEY FINDINGS

The anatomic region and number of MSK injuries have a great impact on work limitation in firefighters.



Background

- Firefighting is a high risk occupation that requires extreme levels of physical, mental and emotional exertions.
- These factors predisposes firefighters (FFs) to an increased rate of musculoskeletal (MSK) injuries than the average working population.¹
- More than 35% of these injuries are predominantly work related (MSK) injuries such as sprains and strains.¹
- There is little or no research of the at-work impact of these MSK injuries in FFs.

Objective

- To determine the differences in work limitation among FFs based on the anatomic region and number of musculoskeletal injuries.

Methods

Study design: Cross-sectional study

Data collection tool: Work limitation and anatomic region of MSK injury questionnaires

Participants: Male and female FFs between 18-60 years of age.

Data analysis: A one-way ANOVA and a post-hoc analysis.

Results

- A total of 325 (216 males, 109 females) participants were recruited via online platform for the study. Female FFs were sampled from other provinces to improve representation.
- Work limitation total scores (0-100) were normalized to 0-10 using a square root transformation.
- Higher work limitation scores reflect more work limitation experienced.

Figure 1: Average score of work limitation for region of MSK injuries

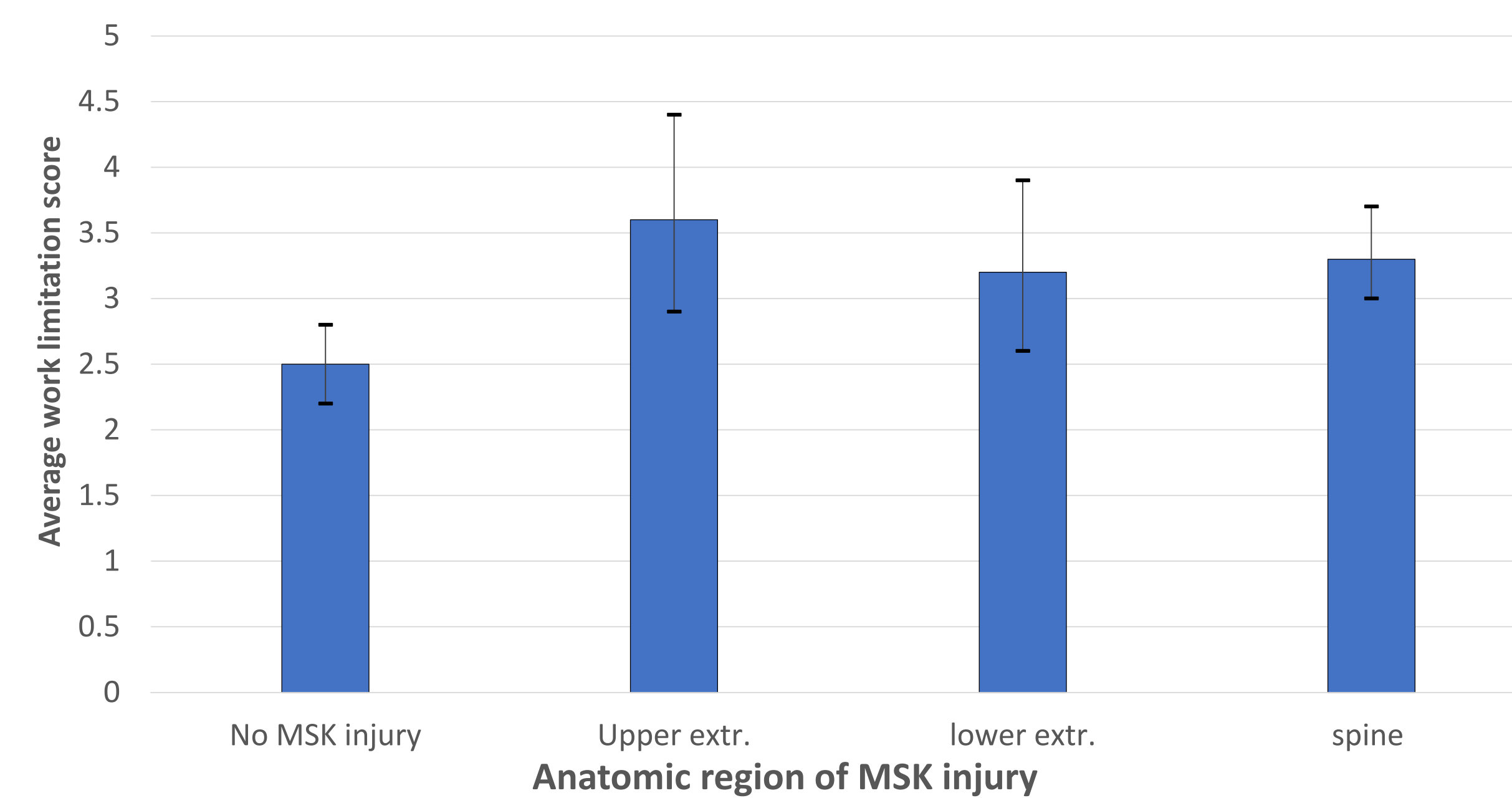
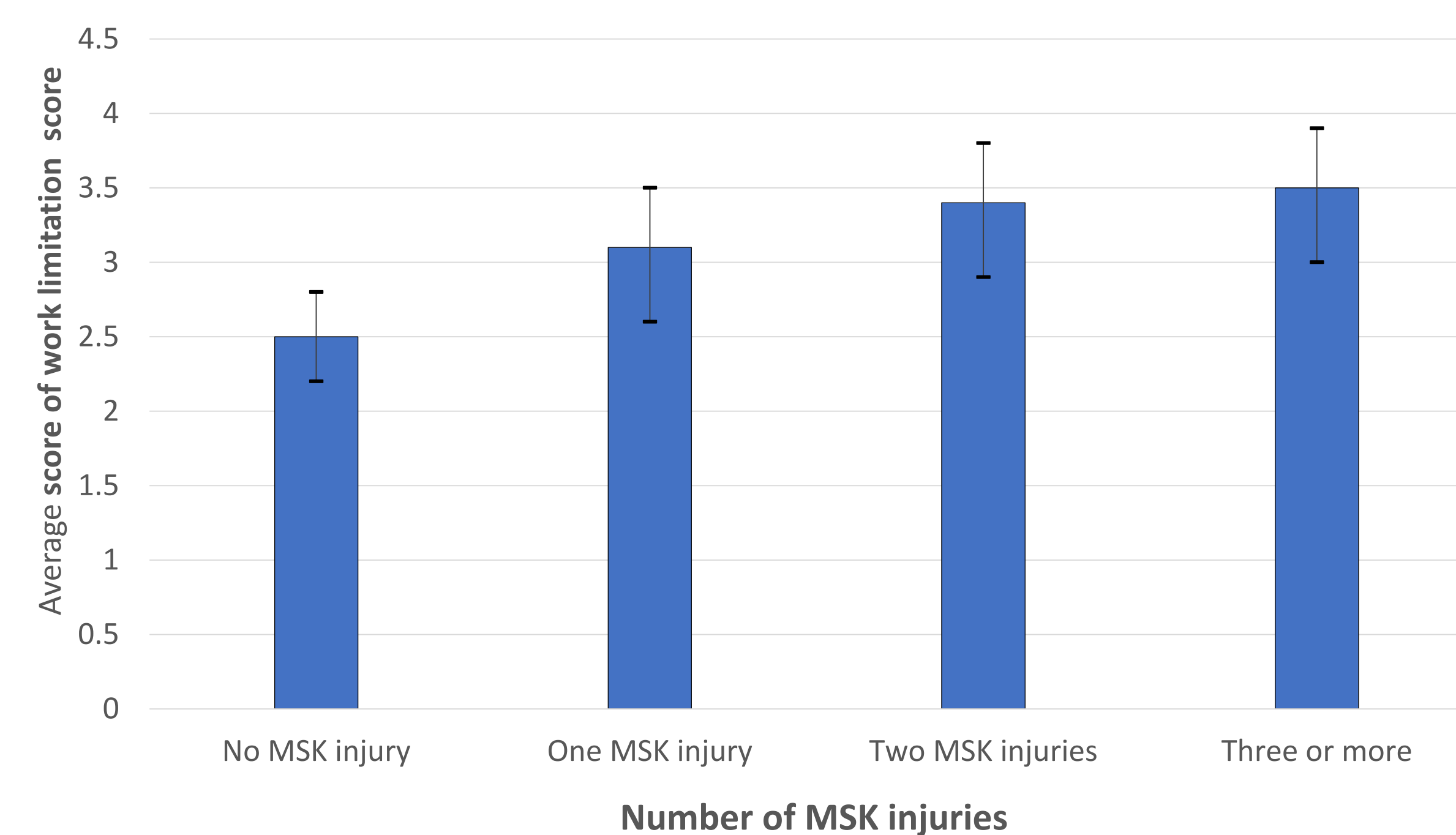


Figure 2: Average score of work limitation for number of MSK injuries



Results Continued

- Frequencies of self-reported MSK injuries are shown in Figures 3 and 4.
- Anatomic Region injuries:** FFs who had spinal ($p=0.002$; CI:0.22-1.38) and /or upper extremity ($p=0.05$; CI:-0.02-2.17) injuries experienced more work limitation than those with no anatomic region of injury (Figure 1).
- Number of MSK injuries:** FFs who had two ($p=0.008$; CI:-0.19-1.33) or more ($p=0.003$ CI:0.16-1.63) MSK injuries experienced more work limitation than those with no MSK of injury (Figure 2).

Figure 3: Summary statistics for the region of MSK injuries in FFs

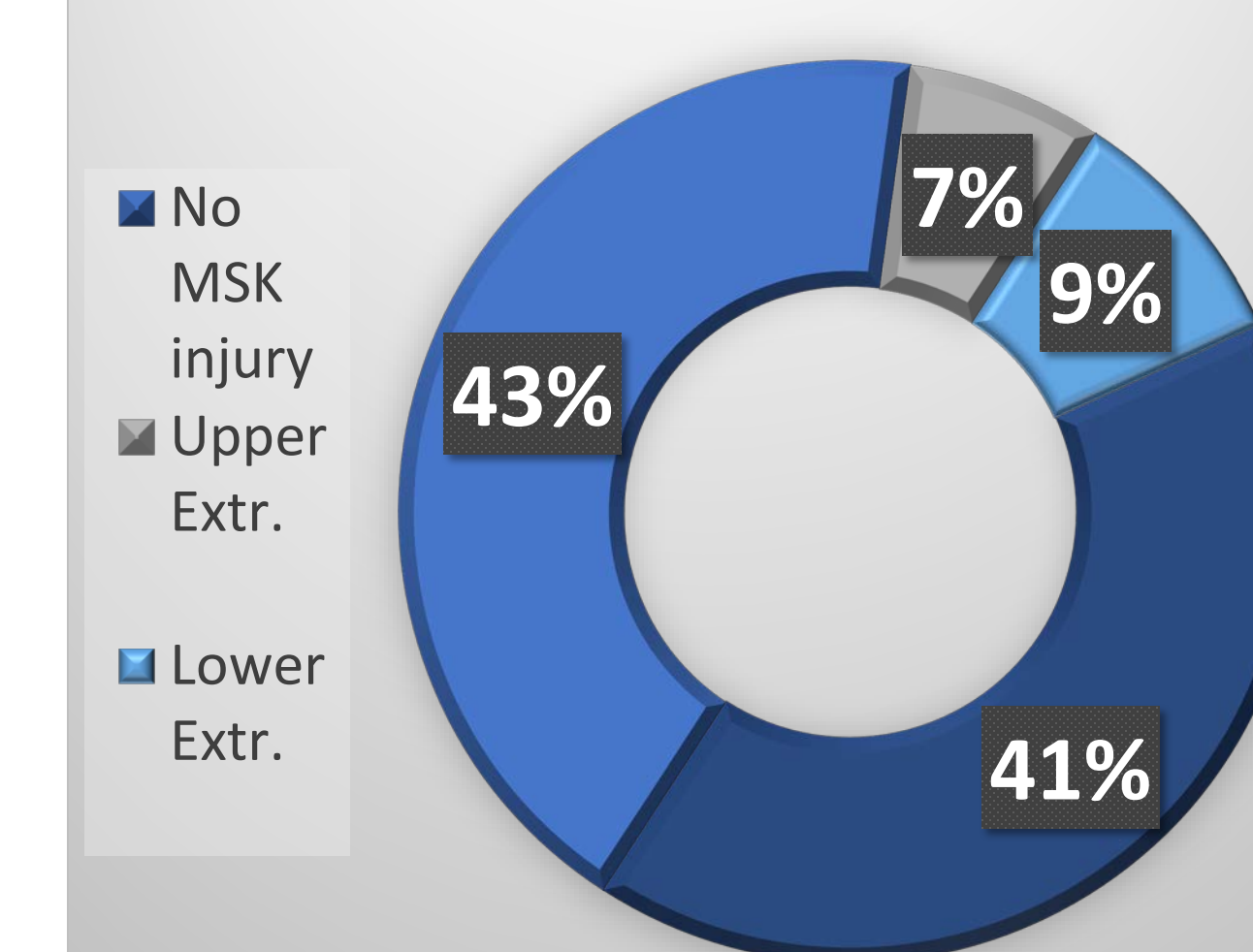
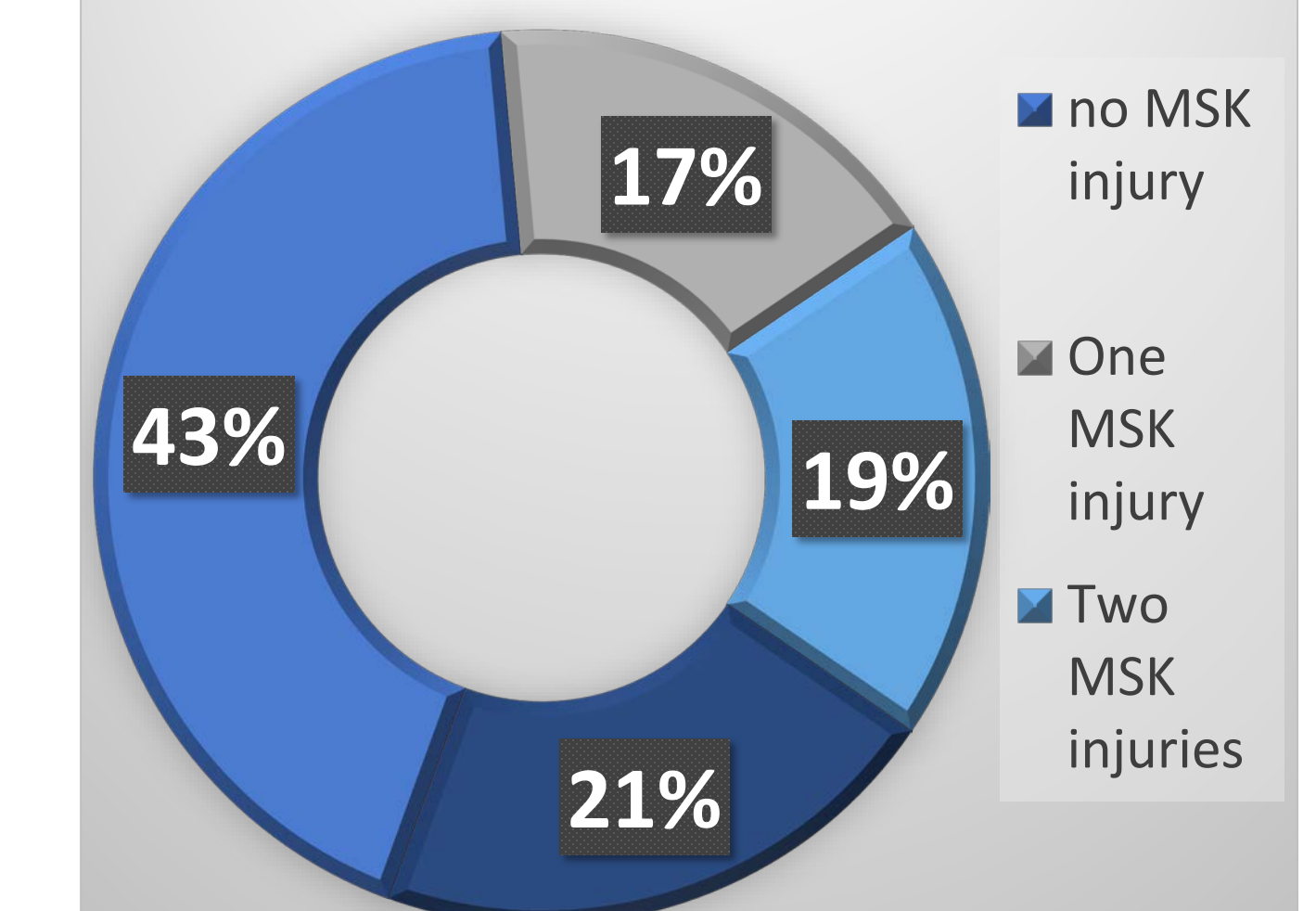


Figure 4: Summary statistics for the number of MSK injuries



Conclusion and Discussion

- The accumulation of MSK disorders and area of the body affected influence work limitation in FFs.
- Given the prevalence of injuries, better tools to assess MSK disorder and work limitations are needed.