

Unintentional Injury Mortality Risk in U.S. Workers

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Background

- Elimination of health disparities and inequities continues to be one of the overarching goals of Healthy People 2020.
- Within occupations, socio-economic and gender subpopulations experience varying health status and mortality rates.
- Injury mortality disparities across occupations have not been examined.
- We examined gender and education adjusted unintentional injury risk across occupations as compared to the rest of U.S. working population.

Methods

Using pooled 1986-2004 National Health Interview Survey data with mortality follow up data through 2006, age-adjusted unintentional injury mortality rates among U.S. workers aged >18 years were examined.

Hazard ratios were calculated using Cox regression analysis comparing each occupational group to all other worker groups (controlling for age, gender, and education level).

Education level was included as a measure of socio-economic status and was categorized based on the highest grade completed: less than 12th grade, 12th grade, and more than 12th grade.

Recode value of 112-123 from the 113-category recode of the ICD-10 codes was used identify unintentional injury deaths.

All analyses were performed with adjustment for sample weights and design effects using SUDAAN statistical package.

Age and race/ethnicity adjusted hazard ratio estimates and corresponding 95% confidence intervals (CI) were calculated for all workers by gender for 41 occupations

Second model was additionally adjusted for educational level

Hazard ratios are not reported for occupations with fewer than 5 deaths

Figure 1: Male Unintentional Injury Mortality by Occupation Adjusted

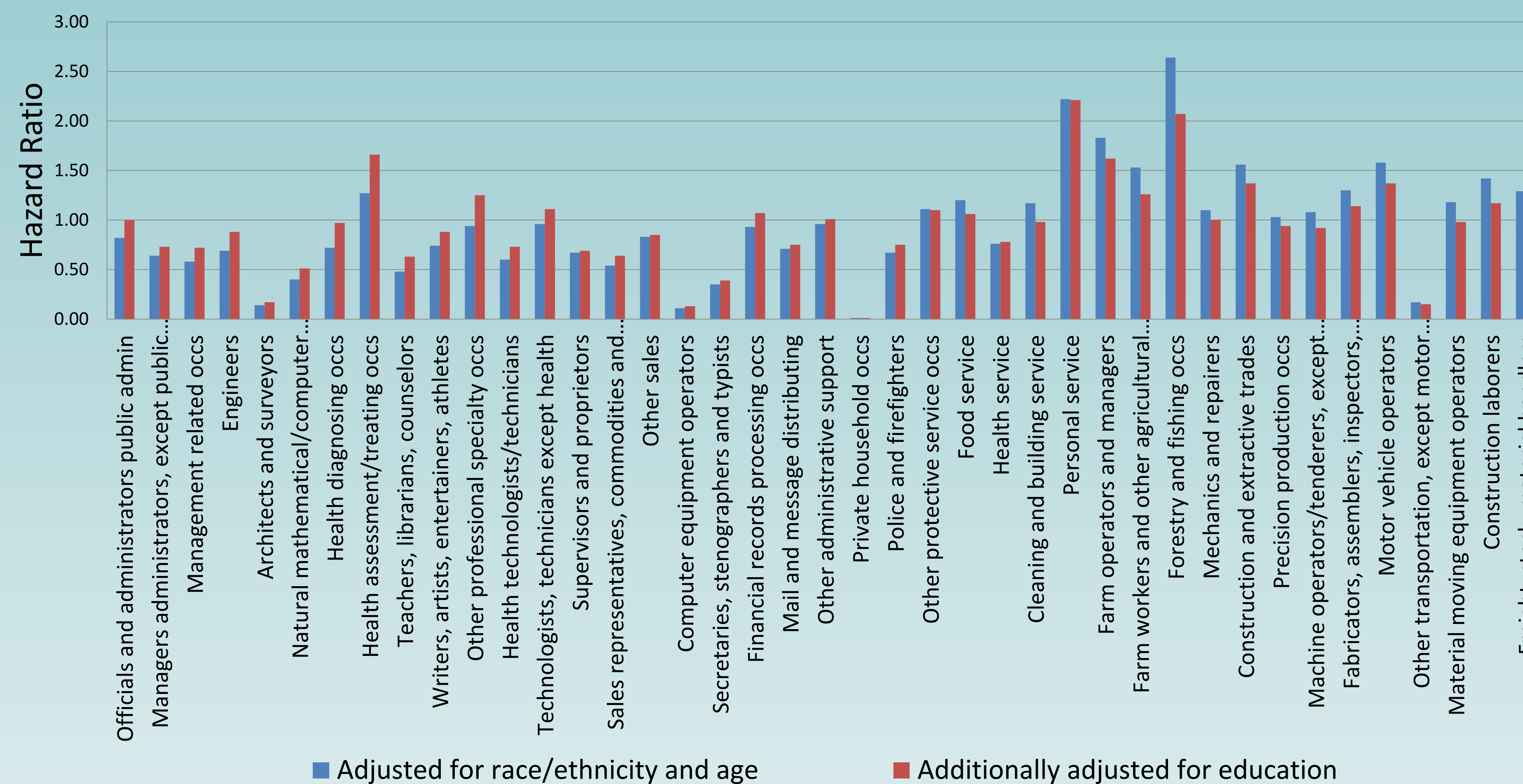
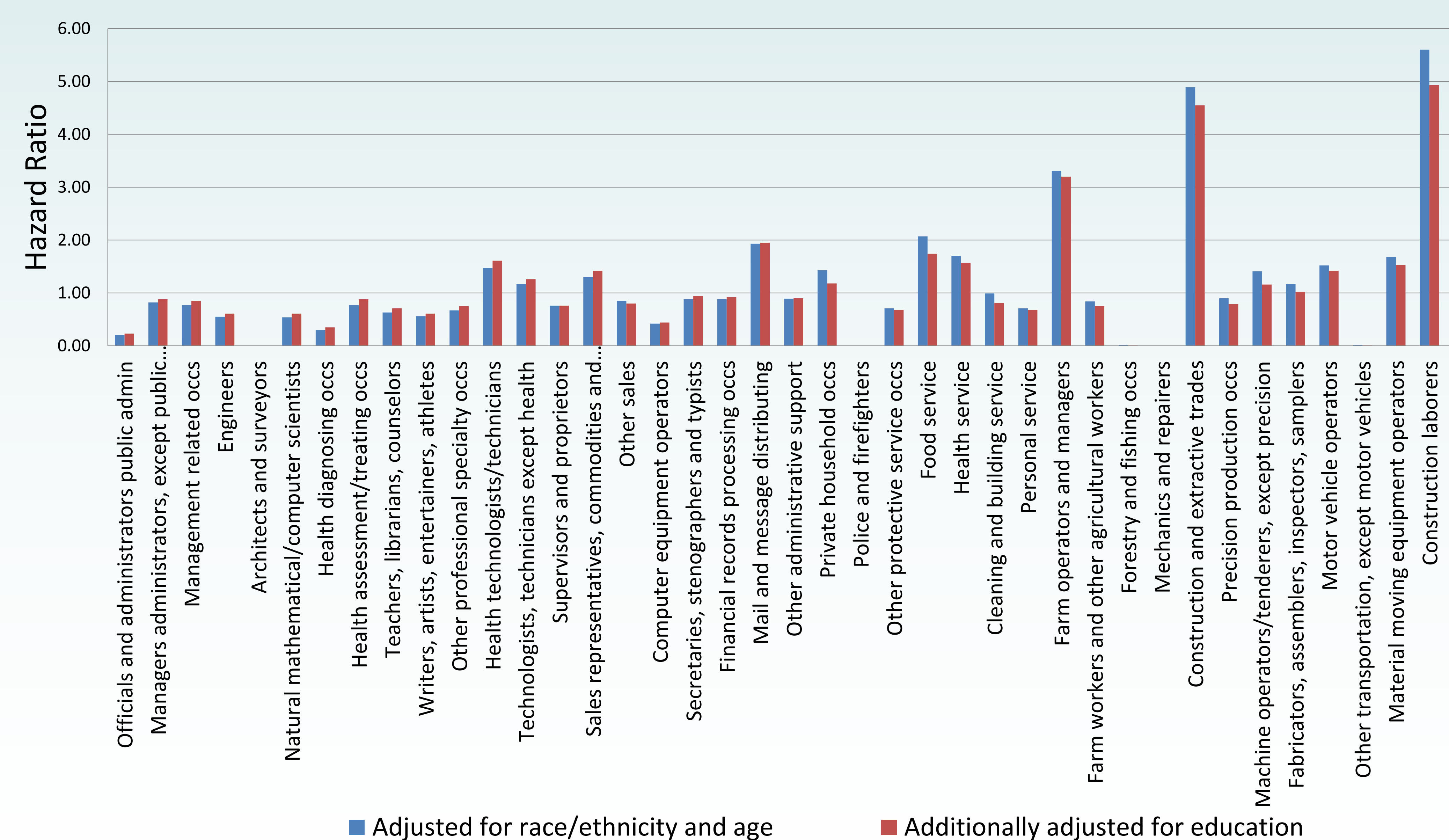


Figure 2: Female Unintentional Injury Mortality by Occupation Adjusted



Results

There were 2,336 deaths among 660,352 U.S. workers.

Adults employed in “blue collar” occupations were at significantly greater risk of unintentional injury mortality compared to all other workers.

Highest and lowest age-adjusted risk occupations were:

Males (Figure 1)

- Highest risk: Forestry and fishing occupations (Hazard Ratio=2.64; 95% confidence interval: 1.25 - 5.60), Personal service (2.22; 1.01 - 4.90), and Farm operators and managers (1.83; 1.37 - 2.45) .
- Education adjusted: Farm operators and managers (1.62; 1.21 - 2.17), Construction and extractive trades (1.37; 1.14 - 1.63) and Motor vehicle operators (1.37; 1.07 - 1.76)
- Lowest risk: Sales representatives, commodities and finance (0.54; 0.37 - 0.78), Teachers, librarians, counselors (0.48; 0.28 - 0.81), Natural mathematical/computer scientists (0.40; 0.17 - 0.95).
- Education adjusted: Sales representatives, commodities and finance (0.64; 0.45 - 0.93) Managers administrators, except public administration (0.64; 0.53 - 0.78)

Females (Figure 2)

- Highest risk: Construction and extractive trades (4.89; 1.97 - 12.12), Farm operators and managers (3.31; 1.67 - 6.56), Food service (2.07; 1.47 - 2.91).
- Education adjusted: Construction and extractive trades (4.55; 1.83 - 11.28), Farm operators and managers (3.20; 1.62 - 6.34), Food service (1.74; 1.21 - 2.51)
- Lowest risk: Teachers, librarians, counselors (0.63; 0.42 - 0.95).

Conclusions

There exists a significant inequity in risk of unintentional injury mortality across occupations, and especially for blue collar as compared to white collar U.S. occupations.