



The impact of work schedule on firefighters' health: A natural experiment

July 27, 2022 Nicole Bowles, PhD (she/her), Assistant Professor, The Oregon Healthy Workforce Center

Increased call volume has increased firefighters' occupational burden

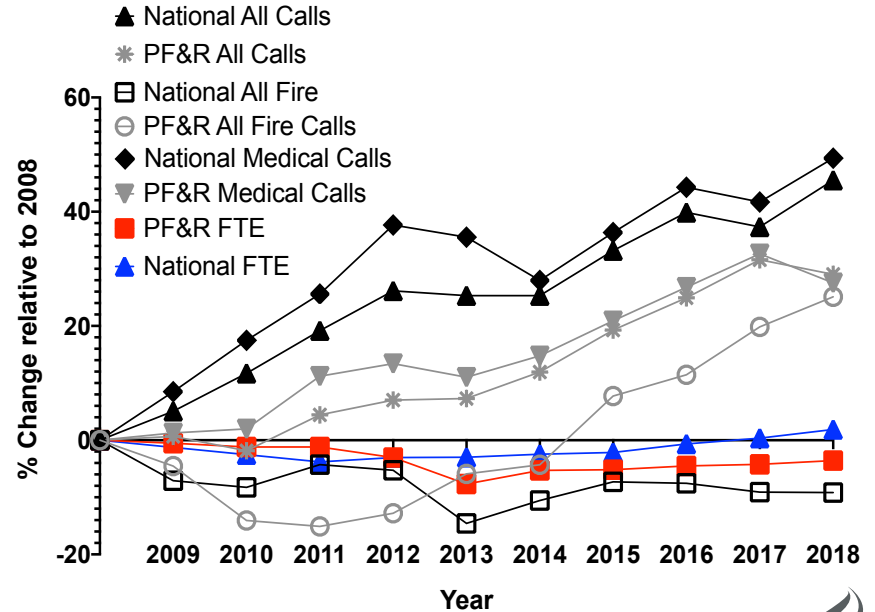


Image from Portland Fire and Rescue

Increased call volume has increased firefighters' occupational burden



Image from Portland Fire and Rescue



Increased call volume can lead to fewer sleep opportunities on shift and increased stress at home.

Increased call volume can lead to fewer sleep opportunities on shift and increased stress at home.




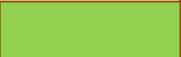



...you go home and you're not well-rested and you're asked, "Where are we going to dinner tonight?" and it seems like such an insignificant question, [but] that's when a lot of people shut down and they just don't talk and what's important to your significant other you don't care about. Then that creates some tension which goes in a lot of different directions, like divorce.








Watkins, S. L., Shannon, M. A., Hurtado, D. A., Shea, S. A., & Bowles, N. P. (2021). *American journal of industrial medicine*, 64(2), 137-148.



Are alternative schedules the answer?

 Work Day
 Day Off

24/48 Schedule						
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
						

1/3/2/3 Schedule						
Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
						

Qualitatively the 1/3/2/3 schedule
improves morale and work-family conflict

Qualitatively the 1/3/2/3 schedule improves morale and work-family conflict

“I’m definitely not as short with my kids. You get off shift and even if it was on the second day your kids would do something that were mildly irritating and you would just, at least I would just go off the deep end. And I am way, way better than I was 6 months ago [before the schedule change] and with that being said I am more involved with my kids than I was 6 months ago. Like right now I coach both of my kids’ basketball teams which is like every day 3-4 hours after school and I still feel great”.

The number of consecutive days on and off shift impact *work interfering in family*

The number of consecutive days on and off shift impact *work interfering in family*

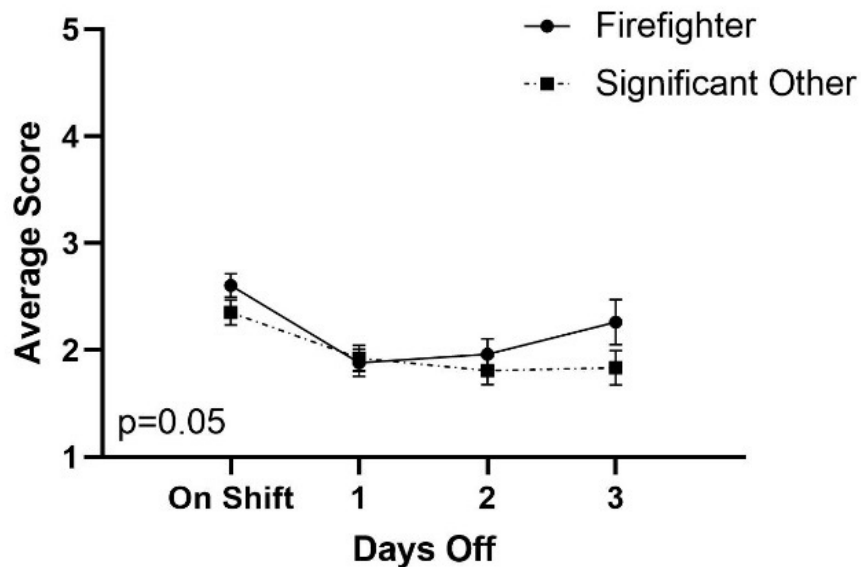
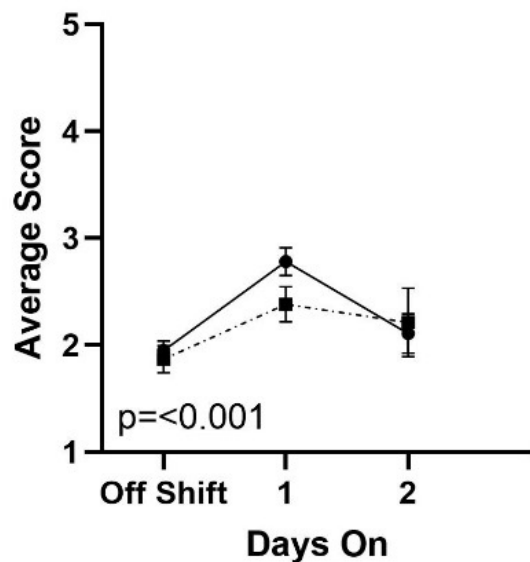


464 daily observations, n=16 firefighters and their respective significant other

Bowles et al. *In prep*



The number of consecutive days on and off shift impact *work interfering in family*

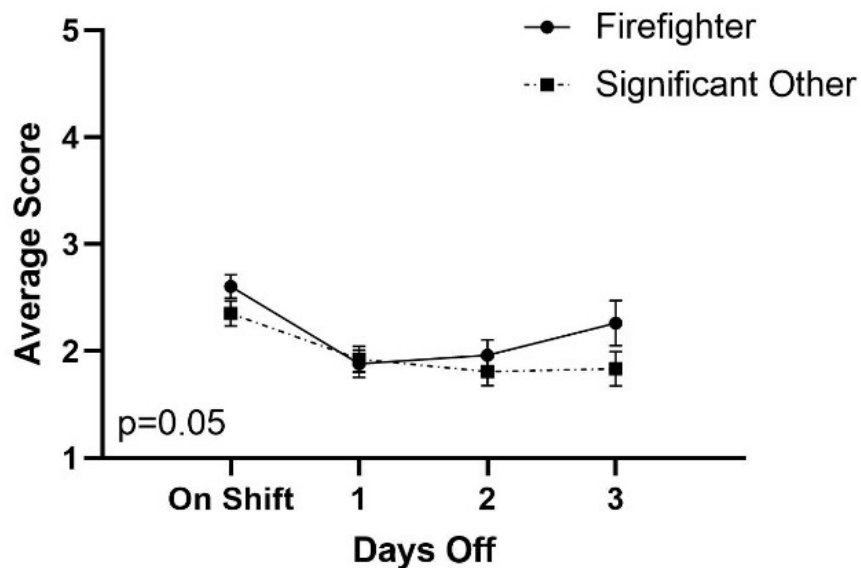
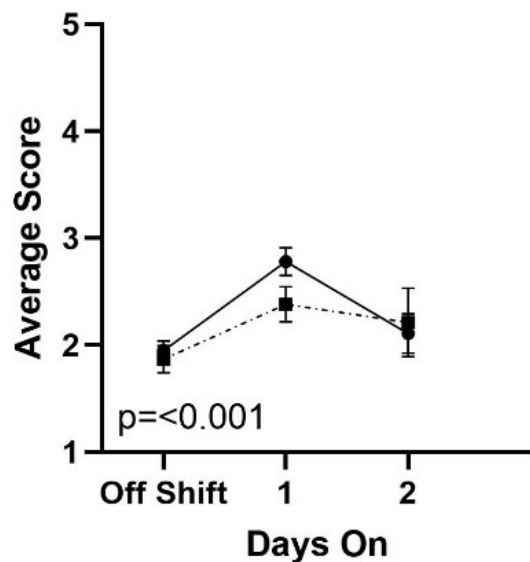


464 daily observations, n=16 firefighters and their respective significant other

Bowles et al. *In prep*



Overall what is the impact on firefighters' health?



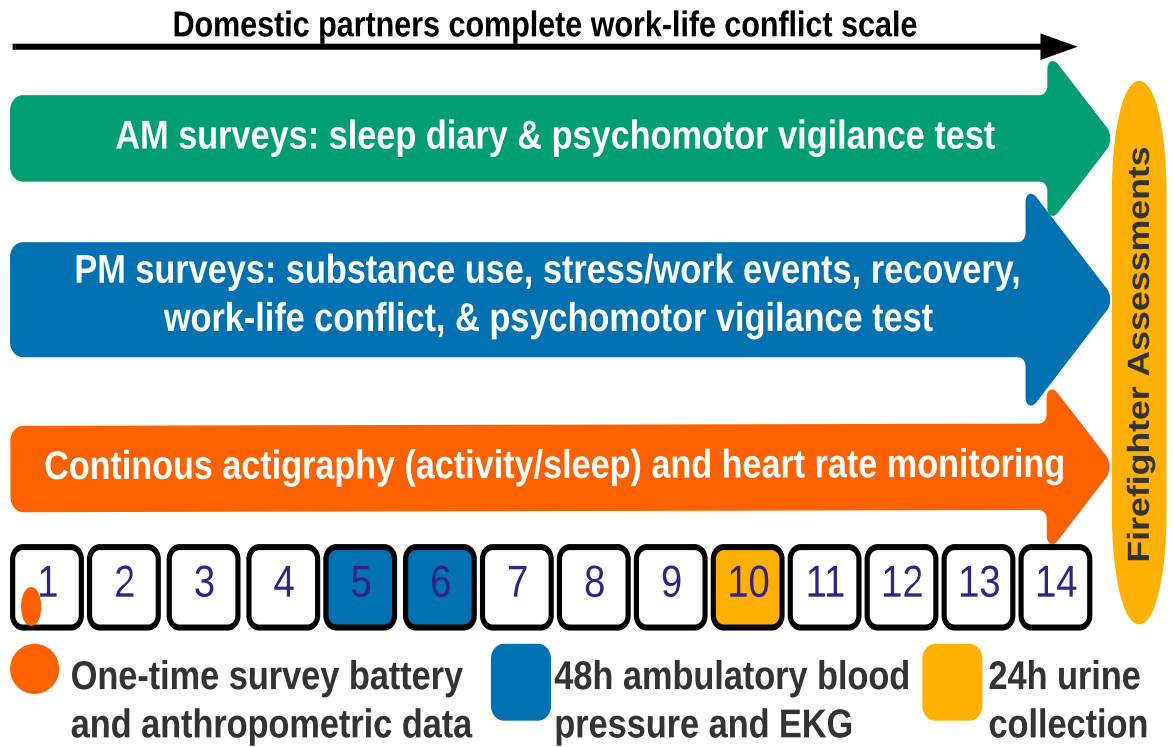
464 daily observations, n=16 firefighters and their respective significant other

Bowles et al. *In prep*



Methods to systematically examine the association between work schedule, sleep, safety and cardiovascular risk: a prospective and cross-sectional study

Methods to systematically examine the association between work schedule, sleep, safety and cardiovascular risk: a prospective and cross-sectional study



- Co-Investigators



Andrew McHill, Ph.D.
OHSU School of Nursing



David Hurtado, Sc.D.
OSU Occ Health Sci



Steven Shea, Ph.D.
OHSU Occ Health Sci



Todd Bodner,
Ph.D.
PSU

Thanks to my
study team!

- Research Coordinators and Support



Aanu Ayeni, MPH,
Research Associate
Occ Health Sci



LaTroy Robinson, B.A.
Senior Research Assistant
Occ Health Sci



Kaylyn Fukuji, B.A.
Student Volunteer
Occ Health Sci



Jon Emens, M.D., F.A.B.S.M.
Psychiatry, School of
Medicine
VA Portland Health Care
System



Shelby Watkins, MPH, CPH
Research Associate
Occ Health Sci



Walaa Abdelmoaty, M.D.
Senior Research Associate
Occ Health Sci

Past support





Thank You