

## Chapter 63

# Occupational Risk Factors and the Mental Health of Women Firefighters

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### **ABSTRACT**

*Firefighting is an inherently dangerous occupation, yet little is known about the mental health of firefighters, and even less is known about women firefighters specifically. The purpose of this chapter is to examine relevant literature pertaining to firefighters and mental health with a specific focus on behavioral health aspects that may impact the mental health of women firefighters. There are key issues women in the fire service face that are likely related to their mental health including bullying and harassment, substance use, job satisfaction, fitness, protective gear, and injury. By identifying issues related to the mental health of women firefighters, the authors provide direction for future research and guidance for policy guidelines for the fire service.*

### **INTRODUCTION**

Firefighting is an inherently dangerous occupation, yet little is known about the mental health of firefighters, and even less is known about female firefighters. The objective of this chapter is to examine relevant literature pertaining to firefighters and mental health with a specific focus on behavioral health issues that may impact the mental health of women firefighters.

### **BACKGROUND**

Firefighting is a dangerous and highly stressful occupation with high rates of injuries and line of duty deaths (Fahy, LeBlanc, & Molis, 2018; Evarts & Molis, 2018; Poplin, Harris, Pollack, Peate, & Burgess, 2011). The National Fire Protection Association (NFPA) estimated 58,835 firefighter injuries and 60

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firefighter fatalities occurred in the line of duty in 2017 (Evarts & Molis, 2018). Additionally, there were 7,345 documented exposures to infectious diseases and 44,530 exposures to hazardous conditions (Evarts & Molis, 2018). Despite public perception of the sexy, muscular firefighter, firefighters also struggle with poor physical health (Jahnke, Poston, Haddock, & Jitnarin, 2013; Soteriades et al., 2005), high rates of being overweight and obesity (Soteriades et al., 2005; Kales, Polyhronopoulos, Aldrich, Leitao, & Christiani, 1999; Poston et al., 2011) and low fitness levels (Poston et al., 2011; Tsismenakis et al., 2009). On average, firefighters experience significant weight gain over the course of their career, and may put on 29-85 additional pounds (i.e., 1.15-3.4 lbs/year) (Tsismenakis et al., 2009). As a firefighter's weight increases, their cardiorespiratory fitness plummets and their risk of cardiovascular disease (CVD) increases (Durand et al., 2011). Other diseases related to being overweight and obesity include heart disease, stroke, type 2 diabetes, and certain types of cancers which are highly prevalent among the firefighter population (Poston et al., 2011; CDC, 2015). In 2017, 29 firefighters died while on duty due to cardiovascular events (Fahy et al., 2018). While there is a wealth of research that examines firefighters' physical health, there is limited data concerning the psychological health of these important tactical athletes.

Recent studies demonstrate that first responders suffer from elevated rates of depression, post-traumatic stress disorder (PTSD; Heyman, Dill, & Douglas, 2018). According to the Firefighter Behavioral Health Alliance (FBHA), 79 firefighters and 19 emergency medical technicians (EMTs) and paramedics died as the result of suicide in 2018 which is a rate higher than on-duty deaths (Firefighter Behavioral Health Alliance, 2018). Large metro departments have seen a spike in clustered firefighter suicides in recent years (Gist, Taylor, & Raak, 2011). With a rise in behavioral health issues amongst firefighters, the fire service is trying to address these issues through national standards, behavioral health programs, peer support, and research focused on these issues. Yet, often, academic research in the field of firefighter health and safety is not translated into fire service training nor reflected in policies and procedures. Although NFPA 1500: Standard on Fire Department Occupational Safety and Health Programs requires access to a behavioral health program that proposes assessment, counseling and treatment for such issues as stress, anxiety, and depression (National Fire Protection Association, 2018), many departments lack the resources to adequately implement such programs. Additionally, little is known about the physical or mental health impacts of firefighting for women (Jahnke et al., 2012; Stanley, Hom, Spencer-Thomas, & Joiner, 2017).

Women represent an incredibly small proportion of the fire service, even lower than the U.S. Marine Corps, where all members are expected to be combat ready (Women in Military Service for America Memorial Foundation, Inc. 2010). Despite representing a small percentage, over 85,100 women are on the front lines protecting communities across the U.S. (Haynes & Stein, 2017). According to the NFPA, women represent approximately 8.9% of volunteer and 3.7% of career firefighters (Haynes & Stein, 2017). Due to the fact that women represent a small percentage of the fire service, they often are overlooked in studies and excluded from statistical analysis due to their small sample size (Jahnke et al., 2012; Hollerbach et al., 2017). While all firefighters face environmental and occupational stressors, women in the fire service face additional barriers adversely affecting their health and wellness. The goal of this chapter is to explore what is known regarding the mental health of women in the fire service and to identify important gaps in that knowledge. Guidance for changing policies and procedures to better protect and diversify the fire service as a whole also will be addressed.

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