

SOUND THE SIREN:  
EXPLORING THE RELATIONSHIP BETWEEN THE OCCUPATIONAL ENVIRONMENT  
AND MENTAL HEALTH AND WELL-BEING OF VOLUNTEER FIREFIGHTERS IN  
RURAL NOVA SCOTIA

By

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Dalhousie University is located in Mi'kma'ki, the ancestral and unceded territory of the  
Mi'kmaq. We are all treaty people.

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## **DEDICATION PAGE**

This work is dedicated to all the volunteer firefighters who risk their lives every day for communities in Nova Scotia and across Canada.

And my mother who lost her battle with cancer in March 2020.

## TABLE OF CONTENTS

ABSTRACT .....	vi
ACKNOWLEDGEMENTS.....	vii
<b>CHAPTER 1: INTRODUCTION .....</b>	<b>1</b>
1.1 Statement of the Issue and Research Purpose.....	2
1.2 Volunteer Firefighter Occupation and Culture .....	3
1.2.1 Occupational Culture and Structure.....	7
1.2.2 Gendered Culture.....	10
1.2.3 Fire Family Culture.....	11
1.3 Mental Health of Volunteer Firefighters .....	13
1.3.1 Operational Stress Injuries .....	14
1.3.2 Mental Health Needs.....	15
1.3.3 Occupational Stress.....	16
1.3.4 Occupational Resilience.....	18
1.4 Occupational Environment of Volunteer Firefighters.....	19
1.4.1 Rurality.....	20
1.5 Methodology .....	22
1.5.1 Social Constructionism .....	22
1.5.2 Narrative Case Studies .....	23
1.5.3 Visual Method: Photo-Elicitation.....	25
1.5.4 Recruitment and Participants.....	26
1.5.5 Data Collection .....	27
1.5.6 Data Analysis.....	29
1.5.7 Trustworthiness .....	30
1.5.8 Ethical Considerations .....	31
1.6 Researcher Position .....	32
1.7 Organization of the Thesis.....	33
References .....	35
<b>CHAPTER 2: THE “FIRE FAMILY”: A QUALITATIVE EXPLORATION OF THE VOLUNTEER FIREFIGHTER ORGANIZATIONAL CULTURE AND SOCIAL SUPPORT SYSTEMS IN RURAL COMMUNITIES .....</b>	<b>43</b>
2.0 Abstract.....	44
2.1 Introduction.....	44
2.1.1 Peer Support .....	47
2.2 Methods .....	48
2.3 Findings .....	50
2.3.1 The Fire Family Culture and Support System.....	50
2.3.2 Leadership .....	53
2.3.3 Dysfunction within the Fire Family Support System .....	56
2.4 Discussion and Conclusion.....	62
2.4.1 Mental Health Services and Support in Rural Nova Scotia .....	63
2.4.2 Recommendations.....	64
References .....	65

<b>CHAPTER 3: REFLECTIONS ON THE USE OF PHOTO-ELICITATION TO UNDERSTAND THE OCCUPATIONAL ENVIRONMENT OF RURAL, VOLUNTEER FIREFIGHTERS .....</b>	<b>69</b>
3.0 Abstract.....	70
3.1 Introduction.....	70
3.2 Photo-Elicitation: Key Characteristics and Challenges.....	72
3.2.1 Key Characteristics .....	73
3.2.2 Challenges .....	74
3.3 Working with Volunteer Firefighters.....	76
3.3.1 Insider Researcher.....	77
3.4 Methodological Process.....	78
3.4.1 Study Purpose.....	78
3.4.2 Participants .....	78
3.4.3 Series of Interviews.....	79
3.4.4 Photo-Elicitation Process .....	79
3.4.5 Data Analysis.....	81
3.4.6 Joint Theorizing Process with Research Participants .....	81
3.5 Discussion and Conclusion.....	83
3.5.1 Building Rapport and Therapeutic Value .....	83
3.5.2 Selection and Use of Photographs .....	85
3.5.3 Confidentiality and Trust .....	87
3.6 Summary.....	87
References .....	89

<b>CHAPTER 4: “FIT IN OR FUCK OFF”: EXAMINING VOLUNTEER FIREFIGHTER IDENTITY CONSTRUCTED WITHIN A MASCULINE CONTEST CULTURE OCCUPATIONAL ENVIRONMENT .....</b>	<b>93</b>
4.0 Abstract.....	94
4.1 Introduction.....	94
4.1.1 Gender Norms in the Fire Service .....	95
4.1.2 Masculine Contest Culture .....	97
4.2 Materials and Methods .....	99
4.3 Findings and Discussion.....	100
4.3.1 Show No Weakness .....	100
4.3.2 Put Work First .....	107
4.3.3 Strength and Stamina.....	110
4.3.4 Dog-Eat-Dog .....	113
4.4 Conclusion .....	117
References .....	119

<b>CHAPTER 5: SOCIAL MEDIA AS AN OCCUPATIONAL STRESSOR: THE IMPACT OF SOCIAL MEDIA ON THE MENTAL HEALTH AND OCCUPATIONAL PERFORMANCE OF VOLUNTEER FIREFIGHTERS AND OTHER FIRST RESPONDERS .....</b>	<b>122</b>
5.0 Abstract.....	123

5.1 Introduction.....	123
5.1.1 Public Perceptions.....	125
5.2 Social Media and Mental Health.....	127
5.3 Sound the Siren Research Study.....	129
5.3.1 Fear of Criticism.....	130
5.3.2 Image and Reputation.....	133
5.3.3 Perception and Misinterpretation.....	134
5.3.4 Moral Dilemma and Trauma Reminders.....	136
5.4 Conclusion.....	138
References.....	140
<b>CHAPTER 6: INTEGRATED DISCUSSION.....</b>	<b>145</b>
6.1 Introduction.....	146
6.2 Thesis Chapters.....	146
6.3 Occupational Environment.....	148
6.3.1 Gender.....	148
6.3.2 Rurality.....	151
6.3.3 Social Media.....	160
6.4 Recommendations.....	161
6.5 Strengths and Limitations.....	163
6.6 Recommendations for Future Research.....	164
6.7 Conclusion.....	165
References.....	166
<b>APPENDICES.....</b>	<b>167</b>
<b>Appendix A: Individual Interview #1 Guide.....</b>	<b>167</b>
<b>Appendix B: Photo-Elicitation Process.....</b>	<b>169</b>
<b>Appendix C: Individual Interview #2 Guide.....</b>	<b>170</b>
<b>Appendix D: Individual Interview #3 Guide.....</b>	<b>171</b>
<b>Appendix E: Focus Group Interview Guide.....</b>	<b>173</b>
<b>Appendix F: In-Person Research Recruitment Script.....</b>	<b>175</b>
<b>Appendix G: Focus Group Recruitment Email/Script.....</b>	<b>176</b>
<b>Appendix H: Individual Interview Informed Consent Form.....</b>	<b>179</b>
<b>Appendix I: Photographer’s Consent and Media Release.....</b>	<b>183</b>
<b>Appendix J: Focus Group Informed Consent Form.....</b>	<b>184</b>
<b>Appendix K: Photo Consent Form.....</b>	<b>189</b>
<b>Appendix L: Mental Health Resources List.....</b>	<b>192</b>
<b>Appendix M: Photo Release Consent- Other People’s Images.....</b>	<b>196</b>
<b>Appendix N: Photo Notes Worksheet.....</b>	<b>199</b>
<b>Appendix O: Research Ethics Approval.....</b>	<b>200</b>
<b>REFERENCES.....</b>	<b>202</b>

## ABSTRACT

Volunteer firefighters provide critical emergency response services in rural communities across Nova Scotia. Volunteer firefighters face unique challenges such as a high likelihood of responding to calls where they have a personal relationship with victims, the stress of being on-call 24/7, minimal funding for training and resources, and difficulty balancing personal and work commitments with firefighting. The unique organizational culture of the volunteer fire service, often referred to as the ‘fire family’, ‘brotherhood’, or ‘sisterhood’ is developed from the unique communal experience of responding to emergencies together and having to trust one another with their life. These unique challenges, the organizational culture, and responding to emergency situations put volunteer firefighters at an increased risk for mental health challenges such as post-traumatic stress disorder, burnout, depression, panic disorder, moral injury, and substance use issues to name a few. While there is an acknowledgment of some of the unique challenges faced by volunteer firefighters in rural communities and the implications for mental health, there has been little to no research to date on how the unique volunteer context and occupational environment impacts mental health and related services and support for volunteer firefighters in rural Nova Scotia.

The purpose of this study was to understand how the volunteer firefighter occupational environment impacts mental health and wellness of volunteer firefighters in rural Nova Scotia. This study attempted to answer the following questions: 1) How do rural volunteer firefighters understand and make sense of their occupational environment? And 2) How does the occupational environment create both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being? These research questions were explored by examining how volunteer firefighters interpret factors within their occupational environment that impact their mental health and well-being; and how leadership decisions influence mental health services and supports.

This social constructionist, qualitative study employed a narrative case study framework with the use of photo-elicitation to provide volunteer firefighters with the opportunity to share their experiences through image-sharing and storytelling. Three fire departments and thirty firefighters participated in this study. To answer the research questions, a series of three interviews were held with each of the nine frontline volunteer firefighters (five men and four women). Each interview built upon the previous with the second interview involving photo-elicitation where research participants selected photographs to share with the researcher. Additionally, twenty officers (eighteen men and two women) which included safety officers, lieutenants, captains, deputy chiefs, and chiefs were invited to participate in focus groups that explored leadership decision-making and perspectives on mental health and well-being. One officer participated in an individual interview since they were unavailable for the focus group.

The findings of the study highlighted three narrative case studies: the fire family; firefighter identity; and social media as an occupational stressor. Gender and rurality were present themes throughout all narrative case studies. This study provides a deeper understanding of the volunteer fire service in rural, Nova Scotia with a more thorough comprehension of the interconnected factors of the occupational environment and evidence to support the development of appropriate services and resources that address the unique needs and occupational realities of the volunteer fire service in Nova Scotia.

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CHAPTER 1

INTRODUCTION



**Sound the Siren**



## **1.1 Statement of the Issue and Research Purpose**

Volunteer firefighters respond to the most complex and critical emergency situations in their communities. The volunteer fire service in Nova Scotia is a central component of rural communities. Of the 7000 firefighters in Nova Scotia, 6300 (90%) of those are volunteers (Gorman, 2014). Volunteer firefighters respond to calls 24/7, meaning they are always on duty and face challenges not typically experienced by career or paid firefighters who work designated shifts with scheduled days off (Yarnal & Dowler, 2002; Wagner & O'Neill, 2012). These challenges can include: 1) a high likelihood of responding to calls in the rural communities where they live, serve, and have a personal relationship with victims; 2) stress of being on-call and responding to emergencies 24/7/365; 3) minimal funding for training and resources; and 4) difficulty balancing personal and work commitments with firefighting (Wagner & O'Neill, 2012; Brazil, 2017). Moreover, the occupational culture of the volunteer fire service is a family-like structure, often referred to as the 'fire family', 'brotherhood', or 'sisterhood', with both the culture and identity of the volunteer firefighter occupation grounded in masculine ideals (Javanbakht, 2021; Yarnal & Dowler, 2002). This culture is also developed from the unique communal experience of responding to emergencies together and having to trust one another with their lives. These unique challenges, the occupational culture, and responding to emergency situations put volunteer firefighters at an increased risk for mental health challenges such as post-traumatic stress disorder, burnout, depression, panic disorder, moral injury, and substance use issues to name a few (Beshai & Carleton, 2016; Brazil, 2017; Carleton, et al., 2020) While there is an acknowledgment of some of the unique challenges faced by volunteer firefighters in rural communities and the implications for mental health, there has been little to no research to date on how the unique volunteer context and occupational environment impacts the mental health and related services and support for volunteer firefighters in rural Nova Scotia.

The purpose of this research was to understand how the volunteer firefighter occupational environment impacts mental health and related services and support for volunteer firefighters in rural Nova Scotia. This study attempted to answer the following questions:

1. How do rural volunteer firefighters in Nova Scotia understand and make sense of their occupational environment?
2. How does the occupational environment create both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being?

These research questions were explored by examining:

1. How volunteer firefighters interpret factors within their occupational environment that impact their mental health and well-being; and
2. How leadership decisions influence mental health services and support.

This research has the potential to improve the mental health and well-being of the volunteer firefighters that communities rely upon so heavily to protect lives and properties across Nova Scotia. The findings of this research:

1. Provide a deeper understanding of the volunteer fire service in rural Nova Scotia by giving voice to volunteer firefighters' experiences that inform their occupational environment through visual methods.
2. Promote critical dialogue regarding the accessibility and appropriateness of mental health services and support within the occupational environment for volunteer firefighters.
3. Facilitate knowledge mobilization with information and evidence to support the development of appropriate policies and programs that address the unique cultural needs, and occupational realities of the volunteer fire service in Nova Scotia.

## **1.2 Volunteer Fire Occupation and Culture**

The Canadian volunteer fire service has an extensive history dating back to 1754 when the first volunteer fire company, the Union Fire Club, was established in Halifax, Nova Scotia (Parker, 2002). Over time the volunteer fire service has transformed and evolved with technological and social advances while maintaining permanence throughout North America and abroad (Greenberg, 1998). The history of volunteer firefighting is more than the organizations and equipment, it is an act of service from a group of dedicated individuals who risk their lives to serve and protect their communities (Parker, 2002). Greenberg (1998) acknowledges that the meaning of the volunteer fire department throughout history is of significance for this organization. A long-standing tradition of the firefighter as a strong symbol of the heroic, community savior, immersed in masculine identity and ideals, and shapes today's volunteer fire service (Greenberg, 1998; Yarnal, Dowler & Hutchinson, 2004).

Politicians and communities have long positioned the role of volunteer fire departments as crucial social capital and community assets while being heavily influenced by social, cultural, and political factors (Greenberg, 1998; Perkins & Benoit, 2004). Throughout the years, many

urban areas have moved to a paid fire service to meet the demands of their public safety needs; however, the volunteer fire service still dominates the fire service, especially in rural and remote communities. Currently, 126,500 of the 152,650 firefighters in Canada are volunteers (Haynes & Stein, 2018), and of the 7000 firefighters in Nova Scotia, 6300 of those are volunteers (Gorman, 2014). Volunteer firefighting has been, and continues to be, an integral and vital aspect of rural communities. The volunteer firefighting identity has been closely associated with ideals of citizenship, honor, obligation, and masculinity that have generally been held in high regard by the public (Greenberg, 1998; Yarnal & Dowler, 2002).

Given the extent of volunteerism in the fire service across Canada, there is a lack of understanding of the volunteer firefighter occupational experience (Jones, 2016; Brazil, 2019). Much of the literature to date has focused on firefighting from an employment perspective. Volunteer firefighting can be considered a form of serious leisure where an individual engages in a volunteer activity that requires acquiring special skills and knowledge that are career-like (Stebbins, 1982). The serious leisure perspective is distinguished by characteristics of the availability of a leisure career, the need and effort to gain skills and knowledge, a unique ethos and social world, and the social identity that comes with the serious leisure endeavour (Stebbins, 1982). Exploring volunteer firefighting as a serious leisure endeavour brings forward a different perspective of the unique factors influencing the occupational environment of the volunteer fire service and the occupational identity of volunteer firefighters.

The term occupation is understood in lay language as paid work or employment. In occupational science and occupational therapy, occupation is understood in a much broader sense where occupation includes the range of activities and tasks of everyday life that are given value and meaning by individuals, groups, and culture (Kielhofner, 2009). Occupation is all things people do to occupy themselves, including self-care, leisure, and contributions to their communities through social and economic productivity (Kielhofner, 2009). Molineux (2010) identifies five key characteristics of occupation: active engagement (physical and mental), purpose, meaning, contextual (occurring in physical, social, culture, institution, temporal, historical, and political contexts), and humans as occupational beings. This study considers volunteer firefighting as a serious leisure occupation.

### *Serious Leisure Occupation*

The idea of a serious leisure occupation comprises the concepts of engaging occupations and serious leisure (Taylor & Kay, 2015). The concept of engaging occupation was proposed by Jonsson, Josephsson, and Kielhofner (2001), where those individuals are engaged intensely in meaningful occupations and there is a clear set of tasks and activities. Engaging in the occupation goes beyond personal pleasure and involves membership within an occupational community. Engaging occupations can be seen as similar to work. The concept of serious leisure has extended features similar to engaging occupations. Stebbins (2015) goes on to define serious leisure as the “*systematic pursuit of an amateur, hobbyist, or volunteer core activity that people find so substantial, interesting, and fulfilling that, in the typical case, they launch themselves on a (leisure) career centered on acquiring and expressing a combination of its special skills, knowledge, and experience*” (p.5). Stebbins (2015) describes four dimensions of volunteering: free choice, remuneration, structure, and intended beneficiaries, and states the motivation behind volunteering is important. Through this perspective, volunteering is explored as volitional, not as unpaid work (Stebbins, 1982). From this volitional definition, “*volunteering is uncoerced help offered either formally or informally with no or, at most, token pay and done for the benefit of both other people (beyond the volunteer’s family) and the volunteer*” (Stebbins, 2015, p.9). Taylor and Kay (2015) point out that while it could be argued that any type of occupation can contribute to the construction of identity, serious leisure occupations have a powerful contribution due to the time commitment and investment that exists which gives special meaning. Serious leisure occupations demand a significant amount of time, energy, and other resources from individuals.

Volunteer firefighting fits within the concept of a serious leisure occupation as a volunteer core activity with the likeness of work, that goes beyond motivations related to personal pleasure to a level of obligation (Yarnal & Dowler, 2002) and involves a considerable amount of commitment and investment. There is a specific and unique ethos, social world, and social identity associated with volunteer firefighting (Yarnal & Dowler, 2002; Brazil, 2017; Brazil, 2019; Whitney, 2012). Taylor and Kay (2015) express the powerful significance and role that group affiliation and social identification play in shaping identity in occupations. They also state that the social value put on occupations (both negative and positive) has a critical impact on occupational identity, choices, and meaning.

### *Occupational Identity*

Occupational identity is informed by the relationship between occupations and their symbolic reasons (Christiansen, 1999 as cited in Taylor & Kay, 2015). Dedication, commitment, and sacrifice to achieve a social ideal of what it means to be a firefighter all contribute to occupational identity (Yarnal & Dowler, 2002; Brazil, 2017). Volunteer firefighters navigate two intersecting occupational identities; their paid employment and/or other everyday identity (i.e., student, parent) and their serious leisure occupation (volunteer firefighting). These can have diverse meanings and competing demands (Brazil, 2019). Social and cultural factors influence occupational identity for volunteer firefighters through teaching beliefs, norms, values, and traditions that can be difficult to decompress when needing to switch to a different identity for everyday life. Perhaps, for some, the most difficult aspect of volunteer firefighting occupational identity is the hero and macho mentality (Brazil, 2019; Brazil, 2017; Kitt, 2009; Jones, 2016). Driven by hyper-masculine traditions and heroic masculine ideals, this mentality establishes norms and values for coping with stressful incidents and maintenance of a public disguise (Brazil, 2017; Jones, 2016; Collison, 1988; Moran & Roth, 2013; Rowe & Regehr, 2010). Heroic masculine ideals can manifest in two ways. One version is companionate love, where caring, support, and compassion within the brotherhood and sisterhood are seen. The other version is the more toxic aspects of heroic masculine ideals where competition, aggression, strength, and stoicism are at the forefront.

Volunteer firefighter's connection to this identity is driven by the desire and need for connectedness to the volunteer fire service. This concept of organizational connectedness is defined as,

*“a positive state of well-being that results from an individual's strong sense of belonging with other workers and the recipients of one's service. It is manifested as a human striving for interpersonal attachments, as well as the need to be connected with one's work and to the values of an organization”* (Huynh, Xanthopoulou, & Winefield, 2014, p. 307).

This desire for belongingness and acceptance within an occupational setting is important. Examining the social meanings that occupations have and the societal contexts in which they occur can provide critical insights into the formation of identity within the occupational environment (Taylor & Kay, 2015).

### ***1.2.1 Occupational Culture and Structure***

Organizational sensemaking attributes meaning to organizational life and symbolism, and has properties of identity, retrospect, enactment, social contact, ongoing events, cues, and plausibility (Weick, 1995 as cited in Czarniawska, 1998). Firefighters are trained and taught to work like a machine to respond to emergency incidents through a rule-based structure (Warren, 2018; Archer, 1999; Whitney, 2012; Kitt, 2009). The training, equipment, and command structure of the volunteer fire service function this way to provide an essential service to the community. By unpacking the nuts and bolts that piece this machine together, it is evident that complex elements make the organization work. The purpose of the volunteer fire service organization is to save lives and property. Given the essential service that this organization provides, it must function in a routine, efficient, reliable, and predictable manner.

#### *Paramilitary Agency*

To achieve this, the volunteer fire service has been traditionally formatted as a paramilitary agency, with a hierarchical command structure that acts as a machine (Warren, 2018; Whitney, 2012; Kitt, 2009). Paramilitary organizations are typically dominated by masculine ideals and principles with a strong sense of tradition (Whitney, 2012; Thurnell-Read & Parker, 2008). Through the hierarchical command structure of the fire service, subordinates take direct orders from their superiors (Archer, 1999; Whitney 2012; Kitt, 2009). Using military principles, group identity and group think are formed through ranks, uniforms, specialization of tasks, standardized equipment, standardized regulations, and systemic training.

The principle of a command structure instills fear in the individuals to ensure obedience (Morgan, 1997). Evidence of this type of structure exists throughout the volunteer fire service. Within the ranks and specialization of tasks, there is a command structure with distinct roles and responsibilities. This structure has a top-down approach starting with chiefs, deputy chiefs (assistant chief, battalion chief), safety officers, captains, lieutenants, drivers, firefighters, radio operators, and probationary or rookie firefighters (Warren, 2018; Kruger, 2014; Jones, 2016). There is a clear process within this command structure that impacts planning, organization, coordination, and control. The volunteer fire service works in this mechanical way out of necessity as operations are executed within chaos at emergency scenes (Archer, 1999; Warren, 2018). There is a purpose to hierarchy and order for the operational needs of the fire service.

Given the life-or-death situations that firefighters face, there is no room for argument or negotiation on the fire ground (Warren, 2018; Whitney, 2012; Kitt, 2009). One of the ways to maintain control is to centralize the control, where concepts of command structures and authority figures make decisions on behalf of the whole organization (Archer, 1999; Warren, 2018). To move control from frontline workers (volunteer firefighters) to supervisors and managers (officers and chiefs), firefighters work through a pattern of authority by listening to orders and showing obedience (Warren, 2018; Archer, 1999; Whitney, 2012; Kitt, 2009). Operational decisions are made by fire officers for the volunteer firefighters both on and off the fire ground (Warren, 2018). This pattern of authority and control structure is achieved through the establishment of group identity and group think. Through this, an esprit de corps shapes and enforces this pattern of authority and control structure to ensure obedience.

The fire service occupational culture is deeply rooted in history and tradition established through a communal experience of community protection and responding to emergencies (Brazil, 2017; Brazil, 2019). There is a shared ethos, and social and historical context among the volunteer fire service that provides insight into the occupational culture (Brazil, 2019; Corneil et al., 1999; Greenberg, 1998). A culture of community is taught through social learning, informal learning, and group identity which is completely integrated into how the organization operates (Brazil, 2019). There is a social ideal of what it takes and means to be a volunteer firefighter where it is a complete way of life through moral obligation, high levels of commitment and dedication, and a level of sacrifice that is required to belong and fit in (Yarnal & Dowler, 2002; Brazil, 2017; Brazil 2019).

### *Group Identity*

While group identity brings forth an esprit de corps that helps volunteer firefighters work as a team and machine to accomplish the difficult tasks at emergency incidents, it also creates a group think mentality that can trap individuals in one way of thinking. Within this group identity is a culture of norms, beliefs, ideas, and social practices that locate volunteer firefighters in something that is bigger than themselves (Morgan, 1997). In Yarnal and Dowler's (2002) study, the concept of obligation was an important theme. Volunteer firefighters join to serve their community, and in rural communities understand that they are the sole fire protection and/or emergency response. The sense of obligation runs deep among volunteer firefighters with

feelings of personal responsibility to the community they serve, which is a shared common ideal. Haski-Leventhal and McLeigh (2009) describe obligation through organizational commitment as a way of life, and Yarnal et al. (2004) found that many volunteer firefighters center their lives around the fire service to ensure they can respond to emergencies. The moral, social, and ethical obligation has shown they feel a sense of duty, commitment, and dedication to the organization and their rural community (Alder-Tapia, 2013; Brazil, 2017; Jones, 2016; Yarnal et al., 2004). Yet, as volunteer firefighting becomes a way of life and part of their identity, individuals become trapped in this obligation and are not able to act differently because it is part of what makes them who they are and who they are required to be (Haski-Leventhal & McLeigh, 2009). The balance of this serious leisure occupation with all other personal commitments becomes troublesome for individuals with this sense of obligation to the volunteer fire service. Yarnal and Dowler's (2002) study showed when volunteer firefighters are not able to respond to fire calls, there are marks of shame that create serious issues of morality. Volunteer firefighters feel that they are not living up to the group ideal imposed on them.

Culture can be used as a manipulative tool of control (Morgan, 1997). The hierarchical structure of the volunteer fire service is used as a form of control, and the culture of the fire service reinforces the control through leadership. The fire chief plays a pivotal role in the culture of the fire service (Haski-Leventhal, & McLeigh, 2009). To sustain this structure, the fire service leadership (fire officers) and veteran firefighters enforce codes of behaviours and rituals (Archer, 1999; Haski-Leventhal, & McLeigh, 2009; Stanley et al., 2018; Warren, 2018; Brazil, 2017; Brazil, 2019; Morgan, 1997). Codes of behaviors emerge through expectations of how individuals in the occupational environment interact and behave. This shared idea of the fire service creates an occupational reality of obligation and commitment within the code of behaviors, which can be traced to the fact that this unique occupational group relies on each other for survival while placing their lives on the line to protect their communities and each other (Henderson, Leduc, Couwels, & Van Hasselt, 2015). To maintain this system and code of behaviors, Kitt (2009) describes the tradition and passing knowledge from veteran firefighters to new rookie firefighters through a testing system to see if new firefighters comply with the code before being granted social acceptance in the organization. This group testing becomes part of the cultural norm and is a powerful way of ensuring one conforms to the unwritten codes of behaviors. It enacts the everyday realities of the occupational culture and is achieved by fire



officers and veteran firefighters through this ritual (Archer, 1999; Whitney, 2012; Morgan, 1997).

### ***1.2.2 Gendered Culture***

Local society has a large influence on the culture of organizations (Morgan, 1997). The fire service was founded through male, working-class activity and the gendered nature of society at the time (Simpson, 1996; Desmond, 2006; Greenberg, 1998). In the past, men were responsible for fighting fires as a service to their community, and the fire services started as a form of community protection (Greenberg, 1998). The code of behaviors and rituals of the fire service are immersed in hyper-masculine and machismo values (Henderson et al., 2015). Drawing on Morgan's (1997) discussion of gender as a powerful cultural force, the volunteer fire service is fundamentally composed of traditional heroic masculine ideologies (Kitt, 2009). Another aspect of this masculine identity is the ability to conceal emotions and protect against uncertainty. This masculine values system continues to dominate the cultural environment of the volunteer fire service and creates significant barriers for female firefighters, minority men, and other genders that are not well understood (Brazil, 2019; Berdahl, Cooper, Glick, Livingston, & Williams, 2018). This value system can also form as a masculine contest culture where individuals within an organization must prove their masculinity by engaging in certain behaviours categorized into dimensions of 'showing no weakness', 'putting work first', 'strength and stamina', and 'dog-eat-dog' competition (Berdahl et al., 2018). Masculine contest culture can be incredibly toxic and lead to issues within an organization of misconduct, bullying, and harassment (Berdahl et al., 2018).

Organizations and their members become trapped through their constructed realities (Morgan, 1997). Firefighters respond routinely to emergency incidents and see these emergencies as realities of everyday life. For most people, these would be abnormal situations that are not seen on a regular basis, if ever. Within this constructed reality of emergency incidents, volunteer firefighters become confined by these constructions. Volunteer firefighters respond to traumatic incidents and try to shield themselves from the complexity of emotions that one might experience in these situations generally through dissociation (Stanley et al., 2018; Carleton et al., 2018; Alder-Tapia, 2013; Brazil, 2017; Jones, 2016; Yarnal et al., 2004). Morgan (1997) explains that the most basic concepts within organizations are making the complex

simple, and by doing so creates a powerful mechanism for maintaining control. Given the chaotic and unpredictable incidents that volunteer firefighters respond to, it makes sense that heroic masculine identity is used to control the situation. In maintaining this identity, it protects firefighters from showing emotional weakness and the emotional labour that is an integral part of this volunteer occupation. The type of emotional labour experienced by volunteer firefighters is the suppression of emotions that are felt but not expressed in the context of an occupation (Mastracci, Guy & Newman, 2012; Karabanow, 1999). Within these constructed realities, mechanisms are used to disguise the unconscious fear of factors that make volunteer firefighters vulnerable. Certain artifacts of culture are understood as defense mechanisms that create an illusion (Morgan, 1997). There are unconscious processes that overcome the identity of a firefighter in the ways in which they are trained or manufactured to deal with emotional aspects of emergency incidents. Within the ideas of group think and identity emerges group coping mechanisms that hide the realities of responding to trauma. Groups of people use various rituals or techniques to protect themselves in their everyday lives against the vulnerabilities of their unconsciousness (Morgan, 1997). The group expectation of stoicism masks these realities (Alder-Tapia, 2013; Brazil, 2017; Jones, 2016; Yarnal et al., 2004) and manifests itself in language of humor, coldness, and depersonalization to ensure the image of the uniform masks the realities of the harshness of responding to emergencies (Alder-Tapia, 2013; Brazil, 2017; Jones, 2016; Yarnal et al., 2004).

### ***1.2.3 Fire Family Culture***

The evolution of the brotherhood in the volunteer fire service can be seen as the firehouse family or a second family (Haski-Leventhal & McLeigh, 2009; Henderson et al., 2015; Alder-Tapia, 2013). The concept of a firehouse family moves beyond the trust and confidence needed to respond to emergency situations and extends to members' families. As a social environment, volunteer firefighter families spend time together outside of the firehall to help each other and provide social support as needed (Haski-Leventhal & McLeigh, 2009; Yarnal & Dowler, 2002; Chiaramonte, 2003). Simpson (1996) speaks to the second home and second family environment of the firehouse, and the social environment it gives to its members during all phases of their lives. For example, Christmas parties are held for children of the firefighters, it is routine for

newborn infants to be paraded around the firehouse as a new member of the firehouse family, and it is routine to include spouses in various firehouse functions (Simpson, 1996).

The idea of the firehouse family culture also brings forward more traditional feminine values of caring and nurturing behaviours, and support systems that are generally the opposite of the toxic masculine ideals that tend to dominate the fire service (Morgan, 1997). Greenberg (1998) describes the volunteer firehouse since its beginning as a space for men to explore alternative masculinities of intimacy, friendship, and domesticity outside of the public eye. As modern society evolves, more diversity is beginning to emerge in the firehouse, and these traditional male ideologies are being shaped and molded in different ways. There is much more awareness and evidence of the issues of post-traumatic stress and the stressful environment of firefighters (Beshai & Carleton, 2016; Carleton et al., 2018). These ideologies of femininity have always existed within the firehouse but are compounded by the strong heroic and hyper-masculine values needed to live up to the occupational identity. With more female firefighters and other genders joining the volunteer fire service, this juxtaposition creates even more confusion in the gendered culture. This is critical to understanding the power of gender as a cultural force within the firehouse, a male-dominated environment.

This firehouse family can also be dysfunctional. The family culture that creates visions of trust and confidence perpetuates the paternalistic and patriarchal family. Morgan (1997) explains that when an organization is viewed as a patriarchal family, it operates as a type of prison that gives dominance to masculine and authoritarian ideologies. Within this structure, there is an unhealthy dependence on authority to respond to problematic issues that mimic a child-to-parent relationship (Morgan, 1997). Through the hierarchal relations and masculine dimensions of the volunteer fire service, the parental figure (the fire chief and deputy chiefs) makes leadership decisions for all aspects of the organizational environment creating a dependency model and trapping members in these ways of thinking (Morgan, 1997). The concept of crazy calm is a complex type of emotional labour that emergency response leaders use to set the pace for how their teams respond to the chaos of emergency incidents (Mastracci et al., 2012). In the crazy calm technique, one suppresses their own emotional state into a state of calmness. In this state, a leader can mirror calm for their subordinates, similar to a parent role-modeling calm for their child. Within the volunteer fire service, members look to their leaders to understand the way in which they should be reacting in any incident. They look to their leaders not only for direction on

tasks but also for their emotional state. Another way the paternalistic family is demonstrated is when more seasoned firefighters or fire officers protect and shield newer members from traumatic incident exposures. For example, fire officers might not allow newer members around a fatality and have them do other tasks on the fire ground so they are not exposed to the traumatic incident. This defense mechanism is similar to the way in which a parent protects a child (Yarnal et al., 2004). While on the surface this seems to showcase more feminine ideologies that exist in the firehouse of a nurturing and supportive environment, the underlying unconscious reality is that of a patriarchal and authoritarian system.

The strengths and victories of organizations can lead to their downfall (Morgan, 1997). The entire purpose of the volunteer fire service is to respond to emergency incidents, to save lives, and to protect property; however, this is not always the case. Many times, lives are lost, and properties are not saved. The process of consciously suppressing the emotional aspects of the occupation through a variety of defense mechanisms can become all-consuming for volunteer firefighters. Firefighters share common ways of coping with the emotional aspects of the occupation. The concepts of group think, group identity, and unconscious coping processes are reinforced through the paternalistic and patriarchal family. If firefighters are not complying with or following the permitted group think and identity coping processes, they can find themselves excluded from the supportive and protective environment of the fire family. It is well established in the literature that peers and leadership have a profound impact on the mental health and wellness of volunteer firefighters given the second family and social support role they have (Brazil, 2019; Martin, Tran & Buser, 2017).

### **1.3 Mental Health of Volunteer Firefighters**

For volunteer firefighters to be able to carry out the tasks and responsibilities of their duties and maintain their mental wellness, an awareness of critical incident exposure is important (Brazil, 2017; Bryant & Harvey, 1996). Firefighters routinely respond to critical incidents that have a substantial risk of serious injury and death such as running into burning buildings, recovering dead bodies, and extracting car accident victims (Stanley et al., 2018). If left unaddressed, these experiences can become debilitating and deeply impact the mental health and well-being of firefighters (Brazil, 2017), resulting in significant mental health challenges that

have routinely been referred to interchangeably as *operational or occupational stress injuries* in the literature.

### ***1.3.1 Operational Stress Injuries***

The term *operational stress injuries* is widely used within public safety research to describe mental health challenges faced by various occupations such as police, fire, military, paramedics, and correctional officers (Adams, Davis, Brown, Filardo, & Thomson, 2013; Skogstad, Skorstad, Lie, Conradi, Heir, & Weisaeth, 2013; Carleton et al., 2018; Corneil et al., 1999; Oliphant, 2016). It has been regularly noted that exposure to trauma among public safety officers, including volunteer firefighters, can result in operational stress injuries (Adams et al., 2013; Skogstad et al., 2013; Carleton et al., 2018; Corneil et al., 1999; Oliphant, 2016). Operational stress injury is a broad umbrella term that is used to describe many different mental health issues including post-traumatic stress disorder (PTSD), depression, substance use, alcoholism, and moral injury, that result from operational duties (Oliphant, 2016). Lieutenant Colonel (Retired) Stéphane Grenier, coined the term ‘operational stress injuries’ in 2001, as a term to give mental health issues the legitimacy needed while reducing stigma that is associated with using terms such as disorder among military members (Grenier, 2018; Oliphant, 2016). Grenier (2018) recognized that using the term ‘disorder’ was not conducive to military organizational culture and stigmatized members to a point of making them feel powerless. He states, “*disorder is a medical term for medical professionals to utilize, and it does little good in military culture*” (Grenier, 2018, p. 122). He found the term injury had the same connotation as physical injury and may be more accepted, less stigmatizing, and have a tone of support. A similar context has been found among firefighters and other public safety personnel, which speaks to the occupational culture and the stigmatization of mental illness within.

Acceptance of terms such as operational or occupational stress injuries to describe mental health challenges or issues reveals a much deeper systemic issue of mental health and well-being among public safety occupations. Using this type of language provides some insight into the value systems, beliefs, and power dynamics regarding mental health issues among these occupations. The idea that mental health concerns are only ‘injuries’ becomes problematic and entrenched in stigma. Mental health literacy, language, and terminologies play an important role in understanding mental health within organizational culture. It is concerning that much of the

literature has narrowly focused on operational or occupational stress injuries and the impact that responding to critical incidents has on the mental health of firefighters. While responding to critical incidents is a crucial aspect of the volunteer firefighter occupation, there is much more to explore regarding mental health and trauma among volunteer firefighters beyond narrowly focusing on critical incident exposure and utilizing the limiting term of operational or occupational stress injuries.

### ***1.3.2 Mental Health Needs***

Awareness of the high risk of trauma exposure to firefighters has resulted in the need to develop interventions and strategies to assist individuals in managing stressors from potentially traumatic events (Carleton et al., 2018). Emergency service organizations have tried to establish different strategies to address the mental health needs of their personnel. The dominant strategies and interventions used include critical incident stress management and critical incident stress debriefings, psychological first aid, peer support programs, and resilience training and psychoeducation. There are substantial concerns regarding the overreliance on critical incident stress debriefings and its effectiveness in the prevention of post-traumatic stress disorder (Bryant & Harvey, 1996; Carleton et al., 2018; Sattler, Boyd, & Kirsch, 2014). Psychological first aid, peer support programs, resiliency training, and psychoeducation are all interventions and strategies being used sporadically to address several issues in relation to trauma and mental health among firefighters and other public safety personnel. One of the distinguishing theoretical differences between the critical incident stress debriefing and the other strategies are the underlying goals of preventing the onset of post-traumatic stress disorder. While the underlying theory behind critical incident stress debriefings is to prevent the onset of post-traumatic stress disorder; psychological first aid, peer support programs, resiliency training, and psychoeducation strategies encompass a broader approach to dealing with trauma rather than focusing on minimizing a disorder-specific outcome.

It is evident that exposure to trauma in this occupation can result in many different types of mental health injuries as previously discussed. However, there is a need to shift beyond focusing solely on post-traumatic stress disorder as a result from trauma exposure. Moving from disorder-specific prevention outcomes to broader outcomes including stigma reduction, increase in help-seeking behavior, and post-traumatic growth might be more meaningful goals for these

types of interventions. In exploring the dominant interventions and strategies, it was found that any program by itself is not sufficient to address trauma (Sattler et al., 2014; Ruzek, Brymer, Jacobs, Layne, Vernberg, & Watson, 2007; Richards, 2001; Ricciardelli, Carleton, Mooney, & Cramm, 2018; Pack, 2012). Strategies and interventions must be used as a comprehensive set of services rather than as stand-alone interventions. Before employing any type of intervention or strategy for volunteer firefighters, this serious leisure occupation, and how this impacts mental health, must be better understood.

### ***1.3.3 Occupational Stress***

There is no one definition of occupational stress, and the term is used interchangeably with work stress and job stress. There is also considerable debate as to whether stress is defined in terms of the person, the environment, or both (Hart & Cotton, 2003). The literature on occupational stress continues to grow, with many different concepts and theoretical models emerging. Lazarus and Folkman (1984) have had a substantial impact on understanding occupational stress with their transaction process approach model that examines the transaction between the personal and the environment. This theory focuses on the environment in which a stressful event or incident occurs and is evaluated based on a process of environmental appraisal and individualized coping mechanisms. Hurrell (1995) states that occupational stress research greatly benefits from this model, but stress needs to be examined in the greater concept of life and occupational stress. Perhaps the largest issue with this paradigm of thought is that it limits the interaction to an individual-level phenomenon and does not necessarily provide insight into occupational environment stressors (Hurrell, 1995).

There is substantial debate about using models that were originally developed for paid employment in the context of volunteerism (Huynh et al., 2014). The context of volunteerism creates a further divide from the traditional occupational stress research theories and frameworks due to specific variables associated with volunteering (Metzer, 2003). Metzer (2003) used Karasek and Theorell's (1990) demand/control-supports (D/C-S) model to study occupational stress among Australian volunteers and states that this model has been considered an appropriate theoretical approach to understanding stress in volunteers. This model emphasizes the causal effects of the organizational structure and properties of the job, rather than focusing on the individual (Karasek & Theorell, 1990). This model assumes that high demands in jobs cause low

control, and vice versa. With the added variable of supports in this model, it can be considered a stress moderator. The focus of this model is to determine employee (or volunteer) satisfaction.

Huynh et al. (2014) used the job demands-resources (JD-R) model, that categorizes work-related factors as job demands or job resources to study well-being among emergency services volunteers. In this model job demands are associated with physical or psychological effort, while job resources are aspects that reduce job demands and encourage personal growth, learning, and development (Bakker & Demerouti, 2007). This model assesses both health-related and motivational factors of work-related well-being. While Huynh et al. (2014) studies organizational support and training within the context of the JD-R model, these factors are not generally explored in this model. Of interest from this study was the exploration of organizational connectedness within the JD-R model. The introduction or adaptation of the model to include more organizational factors is important. The issue with all the models and frameworks discussed is the main focus on individual factors rather than occupational or environmental factors.

There is agreement throughout the literature that public safety occupations (i.e. police, paramedics, firefighters) have an added level of work-related stress due to their exposure to critical incidents (Beshai & Carleton, 2016; Oliphant, 2016). A widespread approach used to research stressors within this population has been the stressors and strain approach (Hart & Cotton, 2003). The issue with this approach is it is an overly simplistic framework that again places the phenomenon on an individual level, focuses on adverse work experiences, and does not consider both positive and negative responses to the environment (Hart & Cotton, 2003). Hurrell (1995) reinforces the idea that this type of approach addresses the problem at the individual level rather than at the organizational or systemic level. Hart & Cotton (2003) believe this type of approach may explain why occupational stress is seen only as an occupational health and safety issue, rather than a fundamental issue among leadership practices within an organization. An organizational health framework developed by Hart & Cooper (2001) is a guide for occupational stress that is more focused on the organizational climate and management practices. The framework includes individual and organizational characteristics that impact occupational well-being and organizational performance with external influences of community, stakeholders, government, and the department.



McCreary & Thompson (2006) developed measures for evaluating occupational stress among police and divided occupational stress into two categories: organizational stressors and operational stressors. This binary construct has been used significantly to explore the issues of occupational stress among public safety occupations. Operational stressors are related to operational duties, and for firefighters these would include extinguishing fires, extracting car accident victims from vehicles, emergency medical care, and operating fire apparatus. These are inherent aspects of the job that can result in risks such as firefighter safety, exposure to suffering, injuries, and death, and making decisions in emergency situations (Acquadro, Zedda, & Varetto, 2018). Organizational stressors are related to organizational tasks or environments such as leadership and management, training, bureaucratic procedures, and organizational culture. Sources of stress for firefighters in this category can be from inactivity, boredom, relationships with colleagues and supervisors, and the public's perception of firefighting (Acquadro et al., 2018). Questions exist in the literature as to whether it is the operational or organizational factors that are the main causes of stress for individuals. In the context of volunteer firefighting and using the ecological systems theory approach for understanding the occupational environment, the binary construct of operational and organizational stressors is too narrow of a focus and needs to be expanded. It does not take into consideration the volunteer context or social factors such as gender, race, and sexual orientation to name a few.

### ***1.3.4 Occupational Resilience***

The somewhat newer term of occupational resilience within the field of occupational therapy and occupational science refers to an individual's ability to navigate and negotiate stressors in their daily life that might be associated with challenging events or environments (Brown, 2021). Through occupational resilience, modifications to participation in the occupation are required. Characteristics of occupational resilience include four capacities: being adaptive with the ability to respond to traumatic incidents; being absorptive with the ability to cope with adverse circumstances; being anticipatory, with the ability to reduce trauma; and being transformative with the ability to develop routines or practices that are more appropriate (Brown, 2021). The concept of occupational resilience is important when heavily exploring issues of occupational stress. Occupational resilience could be an opportunity within the struggles of

occupational stress. Both concepts of occupational stress and occupational resilience are important factors of the occupational environment when looking at mental health and well-being.

#### **1.4 Occupational Environment of Volunteer Firefighters**

The foundational aim of this study was to better understand the intersecting components of the occupational environment for volunteer firefighters. This occupational environment can be complicated and goes well beyond the fire department itself and the emergency scenes to which firefighters respond. What are all the settings and intersecting components that encompass the volunteer firefighter occupational environment? *“It is impossible to understand human conduct by ignoring its intentions, and it is impossible to understand human intentions by ignoring the settings in which they make sense,”* (Schütz, 1973 as cited in Czarniawska, 1997, p.12). Types of settings include institutions and organizations (Czarniawska, 1997). Berger and Luckmann (1967) state that, *“secondary socialization is the internalization of institutions or institutional based ‘subworlds’”* (p. 127). In this perspective, one could consider the volunteer fire service as an institution, and volunteer fire departments as institutional-based subworlds, called organizations. Volunteer firefighters become members of their organization and institution through social interaction and secondary socialization (Brazil, 2019; Berger & Luckmann, 1997; Czarniawska, 1997). Additionally, *“the social channeling of activity is the essence of institutionalization, which is the foundation for the social construction of reality”* (Berger & Luckmann, 1967, p. 182). Cultural traditions and norms that dominate the volunteer fire service are learned through secondary socialization and social channeling. These traditions build the foundation for social construction of reality. Berger and Luckmann (1967) also state,

*“It is important to keep in mind that the objectivity of the institutional world . . . is a humanly produced, constructed objectivity. The process by which the externalized products of human activity attain the character of objectivity is objectivation. The institutional world is objectivated human activity, and so is every single institution”* (p. 60).

From this perspective, volunteer fire departments are objectivated organizations and the volunteer fire service is an objectivated institution. This provides an important conceptualization of the institution and organization within the occupational environment.

Due to the concept of obligation, it is difficult for volunteer firefighters to remove themselves from firefighting duties even if it impedes employment, family life, or other personal commitments when the pager goes off (Yarnal & Dowler, 2002). Yarnal et al. (2004) found firefighters felt trapped and powerless in this sense of obligation to their volunteer role and found it difficult to remove themselves from the “*complex web of social, emotional, and moral issues*” (p. 692) of volunteering. This shows that the volunteer firefighter occupational environment is much more than the institution and organization. Regehr & Bober (2005) explored theories of stress, trauma, and crisis that impact first responders and proposed that the ecological framework as a useful approach for understanding the complex interactions between first responders and their environment. This framework is built from ecological and system theories and recognizes the interrelatedness and context of the entire physical, social, and cultural environment (Regehr & Bober, 2005).

This framework is concerned with the social determinants of health and well-being (Evans, Barer, & Marmor, 1994) and recognizes that community values, culture, and other structures can create both opportunities and barriers to health. The ecological systems framework is an effective conceptualization for comprehending the interrelated aspects of the occupational environment of volunteer firefighters. In this framework, while the organization (the volunteer fire department) and the institution (the volunteer fire service) may be the collective social connection between volunteer firefighters, there is more to the occupational environment including community, family, workplaces, the individual themselves, and societal influences (including politics, the value placed on volunteer firefighting, social media, policies, etc.).

#### ***1.4.1 Rurality***

The influence of rurality plays a key component in the volunteer firefighter occupational environment with the interdependence of the individuals who live in rural societies and a strong sense of belonging (Jones, 2016; Stanley et al., 2018). Fire departments in rural communities are different from those in urban areas because they rely almost completely on volunteers. Most are non-profit organizations that rely on fundraising and are represented by a board of directors or fire commission that own the property, firefighting apparatus, and firefighting equipment (Perkins & Benoit, 2004). One of the values of fire departments in rural communities is their contribution to community life (Perkins & Benoit, 2004). Rural fire departments contribute to

their community by assisting with community events and hosting community meetings or events at their fire halls. Volunteer firefighters' jobs are multi-dimensional. Volunteer firefighters in rural communities carry pagers or have a cellphone app to be dispatched to emergency calls. Often volunteers will travel from home or work to the fire department, board the truck, and go to the fire scene. In addition to responding to fire calls, they engage in fire prevention, fundraising, and community events.

The volunteer fire service is generally a non-profit or charity organization that is contracted by the local municipal government to provide fire services. However, Perkins and Benoit (2004) point out that the relationship between fire departments and the local governments tend to be weak and can seem as intruding on one another. Many fire departments wish to have autonomy from the government and to be at arms-length (Perkins & Benoit, 2004). Most local governments oblige without considering the legal risks in doing so. Brazil (2019) found in their study of volunteer firefighters in Prince Edward Island that many of them felt their communities did not necessarily understand the work they do.

There are significant economic gains for rural communities in having volunteer firefighters. Most rural areas have a small tax base and modest fire taxes making paying for firefighting services difficult, which is the reason many need to rely on fundraising to provide fire services. However, these economic gains for municipalities may be at the expense of volunteer firefighters. Concerns of exploitation exist with issues of invisible labour and treatment of volunteers by external agencies such as local governments (Hatton, 2017). One example of this is that volunteer firefighters must fundraise for essential firefighting equipment such as bunker gear and fire trucks (Yarnal & Dowler, 2002; Yarnal et al., 2004). Another example is that not all volunteer firefighters are covered by worker's compensation if they were to be injured during their volunteer occupation (Draus, 2018). Yarnal et al. (2004) stated that many volunteer firefighters expressed frustration with the devaluation of their roles by society whereby they are expected to respond to an emergency at a moment's notice but are taken for granted by society leaving feelings of invisibility, relative powerlessness, and vulnerability. Even though volunteer firefighters are expected to respond and act in the same way as if they were employed to do so, there are hidden realities of volunteer firefighting that exploit their services by society. The way in which society consumes and even exploits volunteer firefighters is important for understanding occupational stress and well-being.

Expanding knowledge of the occupational environment provides deeper insight into the occupational stressors and supports, mental health needs, and unique factors impacting the mental health of volunteer firefighters. Occupational culture, gender, rurality, and moral obligation are critical in this study. The information presented in this thesis can directly impact how mental health policies and programs are developed for volunteer firefighters and contributes to the gaps in the research literature on the impact of the occupational environment on the mental health and well-being of volunteer firefighters in rural Nova Scotia.

## **1.5 Methodology**

A social constructionist paradigm was used with the epistemological view that, *“all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world and developed and transmitted within an essentially social context”* (Crotty, 1998, p. 42). The methodological framework merged two qualitative methodologies, narrative inquiry and case studies, called narrative case studies. Together this epistemology and methodological framework explored how the occupational environment impacts the mental health and well-being of volunteer firefighters in rural Nova Scotia within a historical, social, and cultural context. A key principle of social constructionism is action-research, wherein collaboration exists between the researcher and the research participants to better understand the social and cultural context (Czarniawska, 1997; Galbin, 2014).

### ***1.5.1 Social Constructionism***

This paradigm views reality as a social construct that is complex and ever-changing (Crotty, 1998; Czarniawska, 1997). Berger and Luckmann (1967) who are recognized for establishing social constructionism state that,

*“Social reality of everyday life is thus apprehended in a continuum of typifications...social structure is the sum total of these typifications and is the recurrent patterns of interaction established by means of them. As such, social structure is an essential element in the reality of everyday life.”* (p. 33).

The authors argue that the foundations of our knowledge of everyday life are embedded in social interaction and language. Burr (1995) states, *“social constructionism denies that our*

*knowledge is a direct perception of reality. In fact, it might be said that we construct our own versions of reality (as a culture or society) between us”* (p. 4). Social constructionism emphasizes the cultural and institutional origins of meaning, as well as language and interaction as mediators of meaning (Galbin, 2014). Knowledge is constructed through an individual’s relationship with the world around them beyond consciousness; therefore, it is both culturally and historically situated (Gergen, 2003; Berger & Luckmann, 1967). It is through social constructionism that processes are viewed as means of social interaction, and individuals become members of a society and institutions are constructed through this interaction (Brazil, 2019; Berger & Luckmann, 1967; Galbin, 2014).

To characterize social constructionism, there is an interplay between society, culture, and language for meaning-making and structuring experience (Czarniawska, 1997). The focus is on the collective generation of meaning rather than the individual mind (Galbin, 2014; Crotty, 1998). Principles of this paradigm include that realities are socially constructed; realities are founded through language; and that knowledge is sustained by social processes (Gergen & Davis, 1985; McNamee & Gergen, 1992 as cited in Galbin, 2014). Of emphasis is the process of construction rather than the structures themselves (Czarniawka, 1997). In this perspective, society exists as a subjective and objective reality (Galbin, 2014; Crotty, 1998). *“Culture is best seen as the source rather than the result of human thought and behavior”* (Crotty, 1998, p. 53). From this perspective, culture provides the lens of how individuals’ view phenomena. By using this paradigm, the study focuses on power and meaning as the product of the cultural frame of social, linguistic, discursive, and symbolic practices (Cojocaru & Bragaru, 2012 as cited in Galbin, 2014). Social constructionism places an emphasis on the complexity and interrelatedness of individuals within their communities and environments (Galbin, 2014). A social constructionist lens provides the opportunity to explore the volunteer firefighter occupational environment as an institutional, historical, cultural, and social construct.

### ***1.5.2 Narrative Case Studies***

Two traditional qualitative approaches were combined to provide the methodological framework for this study: narrative research and case studies (Creswell, 2013). Narrative case studies are used to, *“understand stages of phases in processes, and to investigate a phenomenon within its environmental context”* (Brandell & Varkas, 2001, p. 293). Within narrative case

studies, multiple units can be used such as whole communities and it has been argued that a defining characteristic is the focus on the environmental context (Brandell & Varkas, 2001; Creswell, 2013). Narrative case studies provide an opportunity to deepen understanding of the given phenomenon from information that may be otherwise difficult to obtain (Creswell, 2013). Narrative case studies have been used in various fields such as social work, medicine, nursing, law, and organizational studies. This methodology uses a comparative structure to ensure that the researcher considers more than a singular explanation for facts and meanings of the case unit being examined (Brandell & Varkas, 2001).

Narrative has been recognized as the main means of both human knowledge and communication (Bruner, 1986, 1990, & Fisher, 1984, 1987, as cited in Czarniawska, 1998). According to Czarniawska (1998) the philosophy is that social life is best perceived as an enacted narrative, where narrative approaches create an awareness of how stories rule our lives and how our societies are constructed (Czarniawka, 1997). One characteristic of narrative research is embeddedness, where the story lies within a particular social, historical, and organizational context (Greenhalgh, Russell & Swinglehurst, 2005). This brings deeper insight into organizational life by gathering information from the collective actors (Czarniawka, 1997). Narrative research in organizational settings explores many kinds of messages that are expressed through stories, legends, myths, jokes, documentation, and the organization's history. These messages reveal meanings, histories and contexts of the organization and its environment. Narrative research serves to identify important areas of understanding within an organizational culture and environment through storytelling (Josephsson & Alsaker, 2015). In the process of socialization, to attribute meaning in one's life, the narrative of the community or society in which one belongs is crucial (Czarniawka, 1997). Therefore, to produce a societal narrative, a repertoire of narratives must be heard. The characteristics of narrative fit well with the purpose of this study to better understand and make sense of the volunteer firefighter occupational environment.

The concept of a narrative case study broadens the idea of what is considered a case. Fundamentally case studies are stories told for the purpose of understanding and learning. They are concentrated and rigorous exploration of a unit or site that look at factors influencing environmental contexts (Brandell & Varkas, 2001) and provide a more holistic understanding of social contexts and situations. In defining what a case is for this study, Ragin and Becker (1992)

state case-oriented research may include multiple differing cases and should be determined through the research process. In this study, the defining boundaries of what encompasses the occupational environment were determined through the information shared by volunteer firefighters. The themes of gender and rurality are present through the three narrative case studies in chapters 2, 4, and 5 of the fire family, firefighter identity, and social media. These narrative case studies helped to formulate an understanding of the intersecting components of the occupational environment identified by the central actors of this study, the volunteer firefighters. They provided perspectives for understanding and sensemaking of how the occupational environment impacts their mental health, and related services and supports through the narrative case studies.

Within social constructionism, narrative case studies look for meaning through sense-making, with the goal of interpreting experiences, searching for purpose, and understanding the significance of events and scenarios (Brandell & Varkas, 2001; Czarniawska, 1997). Narrative case studies allowed the researcher to capture complex factors with a high degree of detail and richness (Brandell & Varkas, 2001). The narrative case study is an effective strategy for examining the impact of the occupational environment on rural, volunteer firefighter's mental health and well-being.

### ***1.5.3 Visual Method: Photo-Elicitation***

An integral component of this research study was to gain a deeper understanding of the volunteer fire service in rural Nova Scotia by giving voice to volunteer firefighters' experiences that define their occupational environment through visual methods. Visual methods have, "*a transformative potential for modern thought, culture and society, self-identity and memory and social science itself*" (Pink, 2001, p. 13). When participants take or choose the photographs, as opposed to the researcher, the focus of the research remains on the participants' perspectives and their responses to their environments (Harper, 2002). Photo-elicitation provided a collaborative and participatory approach to data collection and interpretation.

There are distinct benefits of using photo-elicitation as a data collection method including having a visual representation of an individual's experience which elicits rich, complex, and informative understandings (Van Auken, Frisvoll, & Stewart, 2010; Harper, 2002). Photos can enhance a participant's recollection of memories that may be difficult to verbalize and bring



these to the forefront. The symbolic representations and layers of meaning in photographs provide invaluable information (Harper, 2002). Furthermore, photography has been traditionally used in the fire service as an effective review tool for critiques, investigations, historical records, and mementos (Browne, 2006). Therefore, photo-elicitation was an appropriate data collection tool for this population and provided a unique way of exploring the social contexts and realities of the occupational environment of volunteer firefighters.

#### ***1.5.4 Recruitment and Participants***

Purposive and convenience sampling was used in this study to recruit the three participating fire departments, their fire officers, and frontline firefighters (Creswell, 2013).

##### *Criteria to Participate*

The three fire departments recruited for the study had to meet the following requirements: 1) they had to be considered rural, volunteer fire departments, and 2) they had to have at least one active female firefighter in their department. Frontline volunteer firefighters who participated had to meet the following criteria: 1) must be frontline, active firefighters (radio-operators are not considered frontline, active firefighters for the purpose of this study); 2) did not hold an officer ranking at the time of data collection (i.e. safety officer, lieutenant, captain, deputy chief, chief); 3) must have at least one year's experience as a volunteer firefighter, and 4) must be 18 years of age or older (cannot currently be a junior firefighter). For fire officers, in order to participate, had to hold an officer ranking during data collection (i.e. safety officer, lieutenant, captain, deputy chief, chief).

##### *Sample*

A total of thirty firefighters participated in this study from the three rural fire departments. There were nine frontline firefighters (five men and four women) and twenty-one fire officers (nineteen men and two women) who participated in this study. The age of participants ranged from 19 to 70 years old. The years of service of the firefighters ranged from 3 years to over 40 years. The breakdown from each fire department is below.

### *Fire Department A*

Fire Department A had three frontline firefighters participate, two men and one woman. They had eight fire officers participate in the focus group. One woman and seven men.

### *Fire Department B*

Fire Department B had two frontline firefighters participate, both identified as women. They had six fire officers participate in the focus group. One woman and five men.

### *Fire Department C*

Fire Department C had four frontline firefighters participate, three men and one woman. They had six fire officers participate in the focus group, all identified as men. One officer from this department participated in an interview since they were not available for the focus group.

## **1.5.5 Data Collection**

A combination of photo-elicitation, interviews, and focus groups were used as data collection methods for this study. Frontline firefighters participated in a series of three interviews, while fire officers participated in focus groups. One fire officer participated in a one-to-one interview due to not being available for the focus group. All interviews and focus groups were audio-recorded and transcribed.

### *COVID-19*

Data collection for this study began in February 2020 but was halted due to the COVID-19 pandemic in March 2020. The researcher was able to restart data collection in July 2020 and followed all public safety guidelines for the province of Nova Scotia. While there was the potential for COVID-19 to be a significant narrative in the research process, the impact was more on the logistics of completing interviews rather than a significant aspect of the findings. This is likely due to the nature of emergency services and the requirement to still conduct the role of a volunteer firefighter during COVID-19 lockdowns.

### *Interviews with frontline firefighters*

Interviews with frontline volunteer firefighters provided insight into their experiences within the occupational environment and how it impacts mental health. Each volunteer firefighter participated in three separate interviews. The sequence of interviews generally took place two-to-three weeks after the previous making a six-to-eight-week data collection time period (outside of the COVID-19 lockdown issues). The average interview took 45-60 minutes. Frontline firefighters were recruited through in-person presentations at each fire department and through word of mouth.

#### *Interview 1*

The purpose of the first interview was to learn about the individual's experience as a volunteer firefighter. This was an opportunity to start building rapport between the researcher and frontline firefighter while also learning about aspects of their experience as a volunteer firefighter.

#### *Interview 2*

It was during interview 2 that photo elicitation was used. The frontline firefighters shared their chosen photographs with the researcher during this interview. This process is detailed in Chapter 3. During this interview frontline firefighters shared experiences and stories related to the images they selected for this interview that document their experience and identity of being a rural volunteer firefighter. This interview was research participant-driven based on the narrative of the images. Joint theorizing and member checking was used during this interview. Additionally, this interview helped develop any clarifying questions or areas to explore further with participants during the final interview.

#### *Interview 3*

The final interview was an opportunity for the researcher to ask more specific questions based on the information gathered during the second interview. This was also the time that the researcher asked more in-depth and specific questions related to mental health and well-being.

### *Focus Groups*

One focus group was held at each of the three fire departments and fire officers from that respective fire department were invited to participate in the focus group. Focus groups averaged 1.5-2 hours. Recruitment of fire officers for the focus group was through the fire chief or deputy chief. The purpose of the focus groups was to gain the perspective of senior management and decision-makers within the organization. The goal was to learn more about how mental health is managed in the organization. While this was the original intent, the focus groups naturally drifted to an exploration of the added layers of stress and responsibilities of officers in the volunteer fire service.

### **1.5.6 Data Analysis**

The transcribed information was imported into *NVivo* qualitative software for analysis. Three approaches were used for data analysis: narrative mapping, thematic analysis, and discourse analysis. While gender is an important aspect of this study, a specific gender analysis was not conducted. Rather a gender lens was used throughout the thematic analysis using discourse analysis to identify gendered norms within the volunteer fire service.

### *Narrative mapping exercise*

Patton (2002) states that “*the central idea of narrative analysis is that stories and narratives offer special translucent windows into cultural and social meanings*” (p.116). According to Creswell (2013), narrative analysis is one of the least structured analytical approaches; however, there are phases of the analysis that are similar to many other qualitative methods including transcription, coding, and interpretation (Whiffin, Bailey, Ellis-Hill, & Jarrett, 2014). Rather than a specific series of steps, there is a three-dimensional space of inquiry to provide a guide for analysis including temporal, personal/social, and place (Dewey, 1938 as cited in Harper, 2002). Whiffin et al. (2014) state that in narrative case studies, a mapping exercise can be helpful in conceptualizing the process and relationships at the different levels of analysis. This type of guide allowed for preliminary categorizing of information and identifying themes. As part of the analysis for this study, narrative theme mapping was initially used by the researcher to establish preliminary themes based on the interview and focus group process.

### *Thematic analysis with participants*

Additionally, during the second interview, the photo-elicitation process provided a collaborative effort between the researcher and the research participants, where theorizing occurred during the interview and provided an opportunity for member checking as well (Harper, 2002). Using the preliminary themes identified through the elicitation process as well as through the narrative mapping exercise provided the initial guide and details for using *NVivo* qualitative software for final thematic analysis coding to identify patterns and related themes through the different sources.

### *Thematic discourse analysis*

Discourse analysis was also used with both actual and latent content analysis. Through discourse analysis, the language used within the transcripts and texts highlighted social relationships and cultural values, which is in line with social constructionism (Czarniawska, 1997; Souto-Manning, 2014). Coding and notes were used in the *NVivo* analysis software to assist with capturing the discourse analysis. Souto-Manning (2014) states that this type of critical analytical approach, “*is an important contribution because personal narratives are constructed and situated in social and institutional realms – yet by and large, they are analyzed apart from issues of power and/or institutional discourses*” (p.163).

The data analysis strategies used in this study provided opportunities to examine and reflect upon silences, attend to disruptions and contradictions, and interpret metaphors as a rich source of multiple meanings (Czarniawska, 1997).

### **1.5.7 Trustworthiness**

Establishing trustworthiness in qualitative research requires credibility, transferability, confirmability, and dependability as alternatives to traditional concepts of reliability, validity, and generalization of quantitative research (Lincoln & Guba, 1985). One method to establish trustworthiness is triangulation, which uses multiple points of view to improve accuracy (Newman, 2006). In this research study, multiple data collection techniques were used for triangulation: interviews, photographs, and focus groups. Rigor and trustworthiness are established through the photo-elicitation process where the meaning and emerging themes are discussed between the research participant and researcher (Harper, 2002). According to Glaw, Inder, Kable, and Hazleton (2017) this type of common understanding can add validity and depth

to the research study by ensuring accuracy of description. Additionally, the involvement and oversight of my supervisor throughout the research process established trustworthiness.

The following strategies were also used to establish trustworthiness:

1. As an insider researcher, it was important not to impose previous experiences within the volunteer fire service on research participants. Reflexivity is an important criterion for narrative case studies and many other forms of qualitative research (Tsoukas & Hatch, 2001; Greenhalgh et al., 2005). Reflexivity was used at each stage of the research process by using a reflective journal for critical reflection and deliberating with my supervisor (Creswell, 2013). The photo-elicitation process and joint-theorizing opportunity with participants assisted with reflexivity as well.
2. A key component of using photo-elicitation during interviews is that it provides member-checking by having the participant interpret images in collaboration with the researcher. This collective interpretation process lessens researcher bias.

### ***1.5.8 Ethical Considerations***

#### *Potential harms/risks*

There were minimal risks associated with this study. Given the difficult topic of mental health and the knowledge of the occupational culture of this population, some questions and discussions did cause emotional reactions, discomfort, and possibly even a level of distress for some of the research participants. Throughout the study and data collection process, research participants discussed in detail the traumatic events they had experienced. For many participants, this might have been the first time they had discussed the event, and for some, it provoked an unanticipated emotional response. While the sessions were to collect data, they also in many ways had therapeutic value with the researcher as a peer and listening ear. To mitigate any potential harm or risk, a list of mental health resources was given to research participants. Further insights are provided in Chapter 3.

#### *Ethics Approval*

Ethics approval for this thesis was obtained from the Health Sciences Research Ethics Board at Dalhousie University.

### *Organizational Permissions*

The three rural fire departments that participated in this study signed letters of support and were included in the ethics approval. To protect the fire departments and firefighters, the names of the fire departments involved in this study will not be released.

### *Ownership and Dissemination of Photographs*

The use of photo-elicitation raises ethical considerations regarding the ownership of visual data (Kaplan, Miles, & Howes, 2011). For this study, the ownership of photographs stays with the research participant. The researcher gained permission from the research participants to use their photographs for the purposes of this study. Additionally, due to the nature of photo-elicitation, participants were able to share with the researcher images taken by other people. Ownership of these photos belongs to those individuals. For reasons of privacy and confidentiality, photographs will not be shared publicly.

## **1.6 Researcher Position**

The researcher is a former volunteer firefighter which situated them as an insider researcher for this study. While primarily an asset in this study for ease of access to the study population and having a communal understanding of language and cultural norms, certain processes were determined to limit bias based on the researcher's own experiences as a volunteer firefighter. The first action taken was to establish an information advisory committee made up of three rural volunteer firefighters. These individuals assisted in the design of the study and recruitment of participants. They were not participants in the research study, but one individual was a firefighter in a participating fire department. This collaborative approach assisted in limiting the researcher's bias in the research design. Reflexivity was also a tool used in each stage of the research process.

An additional consideration was the researcher's identity as a cisgender female. The researcher recognized that their experience as a former female volunteer firefighter is different than those who identify as male. This required continual critical reflection throughout the study. As a female researcher there were initial concerns, given the hyper-masculine culture within the volunteer fire service, that their gender might impact this research such as men being less open about experiences of mental health with a female researcher. This concern was also deeply

rooted in the researcher's experience of being a former female firefighter. The experience throughout this study showed that the gender of the researcher may have been beneficial. Six female firefighters participated in this study, which might have been due to the researcher's gender identity. Additionally, building rapport and the therapeutic value of the research design may have been better suited to a female-identifying insider researcher. The concern of male firefighters not being able to express issues related to mental health with the researcher did not seem to be of concern. This may have been due to the gendered nature of viewing females in support or nurturing roles.

There was a level of familiarity with the researcher and the study population due to the nature of the interconnectedness of the volunteer fire service and rural communities. When the study participants told their narratives about traumatic events or individuals involved, the researcher generally had some connection to either the individuals, the community, or the traumatic incident. While beneficial in many ways, it also had an emotional impact on the researcher. Steps taken to protect both the firefighters and the researcher's mental health included providing a list of mental health resources to firefighters, and the researcher maintained open communication with their supervisor and connected to mental health resources available to them when needed.

## **1.7 Organization of the Thesis**

This thesis uses a manuscript or paper-format to explore three narrative case studies and the research methodology through separate research papers that align with the research purpose. The chapters are organized as papers to inform the overall discussion, recommendations, and integrated discussion (Chapter 6).

This first chapter introduces the reader to the overall purpose and process used for the research study as well as provides a detailed background of the literature related to the volunteer fire service. The second chapter provides a narrative case study that explores the culture and social support system of the fire family within the rural volunteer fire service. This was a concept heavily discussed by research participants, particularly during joint theorizing in the second interview. The third chapter provides a detailed overview of the visual method used to collect data for this thesis. The fourth paper delves into the narrative case study of gender and firefighter identity. The fifth chapter describes a critical finding of the occupational environment, the



narrative case study of social media as an occupational stressor. The final section pulls the narrative case study themes together into a discussion with further insights from the research study. Recommendations for addressing the mental health and wellness needs of the volunteer fire service in Nova Scotia, and recommendations for future research are also included in this final chapter.

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## CHAPTER 2

### THE “FIRE FAMILY”: A QUALITATIVE EXPLORATION OF THE VOLUNTEER FIREFIGHTER ORGANIZATIONAL CULTURE AND SOCIAL SUPPORT SYSTEM IN RURAL COMMUNITIES



**Sound the Siren**

Chapter 2 is formatted for publication in the *International Fire Service Journal of Leadership and Management*. This work has not yet been submitted for publication.

## **2.0 Abstract**

The organizational culture and social support system of the fire family provides an opportunity to explore internal strengths within the volunteer fire service to address the unique mental health needs of volunteer firefighters. Nine frontline firefighters from three rural fire departments in Nova Scotia, Canada participated in a series of three interviews that included photo-elicitation as part of this qualitative study. Twenty fire officers from the participating fire departments also participated in three separate focus groups. One fire officer participated in an individual interview. The study sought to examine features within the volunteer fire service's occupational environment that create either opportunities or barriers to mental wellness. One of the prevalent themes that emerged was the concept of the fire family as an integral aspect of the organizational culture as well as a significant social support system for morale and wellness.

This paper starts with a review of the existing literature on the volunteer fire service organizational culture and social support systems including peer support. The paper moves to a qualitative exploration and understanding of both the opportunities and barriers of the fire family structure. It concludes with a discussion on the need to increase existing social support capacity and mental health knowledge through the fire family structure within the rural volunteer fire service to better address the mental health needs of this population.

## **2.1 Introduction**

*“We're related in the fact that we live the firefighting world.” - Firefighter G*

Volunteer firefighters make up the majority of the volunteer fire service across Canada where their work is dangerous and an essential element of emergency services in the remote and rural communities they serve (Wagner & O'Neill, 2012). Volunteer firefighters in rural communities face unique challenges not typically experienced by paid or career firefighters (Wagner & O'Neill, 2012). These include an increased likelihood that there will be a personal connection or relationship with the victims; being on call and wearing a pager to respond to emergencies 24/7/365; needing to fundraise for essential firefighting equipment; and a lack of

resources and support (Wagner & O'Neill, 2012). Volunteer firefighters in rural communities engage in this occupation as a form of serious leisure not employment. Stebbins (1982) defines serious leisure as the pursuit of an amateur, hobbyist, or volunteer activity in which individuals center on acquiring special skills, knowledge, and experience that they deem substantial and interesting, which can seem career-centered. Even though these firefighters are volunteers and spend their leisure time engaged in this occupation, they respond to the same types of high-risk emergency incidents as those who are paid or career firefighters and are exposed to a variety of potentially traumatic incidents such as structure fires, motor vehicle accidents, and medical emergencies (Wagner & O'Neill, 2012). It is well documented that responding to these types of emergency incidents puts firefighters at a higher risk for developing mental health issues such as post-traumatic stress injuries (PTSI), post-traumatic stress disorder (PTSD), anxiety, depression, suicidal thoughts and ideation, as well as moral distress and injury to name a few (Beshai & Carleton, 2016). Volunteer firefighters also face significant barriers to addressing mental health concerns. Most volunteer firefighters are geographically situated in rural or remote communities where access to mental health services, in general, is scarce. Additionally, the affordability of mental health services creates barriers for volunteer firefighters who must fundraise for essential fire equipment, leaving little to no funding within the organization for mental health services. Additionally, there is the stigma associated with an organizational culture entrenched in masculinity that can impact willingness to seek help (Johnson et al., 2020; Brazil, 2017; Yarnal & Dowler, 2002; O'Neill & Alonso, 2018; Stanley, Boffa, Hom, Kimbrel, & Jointer, 2017).

Despite these challenges, there are many positive aspects of the volunteer firefighter occupational environment and culture, including camaraderie and social support networks that act as protective factors when it comes to volunteer firefighter mental health outcomes. Since volunteer firefighters spend a large amount of their leisure time engaged in firefighter activities as a team, this creates a special bond normally referred to as 'brotherhood'/'sisterhood', or 'fire family' (Javanbakht, 2021; Yarnal & Dowler, 2002). Firefighter identity and culture are deeply rooted in the ideals of heroic masculinity, and this can appear in different ways. While this is commonly viewed from the more toxic and problematic perspective of hypermasculinity, such as stoicism, competition, and not showing emotions that contribute to the stigma surrounding mental health struggles; another way heroic masculinity ideals can be shown is through a culture of 'companionate love' where ideals of caring, compassion, and trust are at the forefront (O'Neill

& Alonso, 2018). Historically, volunteer firehouses have provided a space for men from different occupational backgrounds to form a community of respect, brotherhood, solidarity, and shared group identity (Greenberg, 1998). Many volunteer firefighters actively rely on this social network to mitigate the negative impacts of responding to potentially traumatic events through social support, or even peer support programs if they are available and have been developed in the volunteer fire department (Price et al., 2022). There is a wide range and spectrum of peer support programs, but these generally refer to emotional or social assistance provided by individuals with shared, lived experiences in areas of mental health (Price et al., 2022; Wagner & O'Neill, 2012). Firefighters throughout this study discussed the 'fire family' as an integral aspect of the organizational culture and a critical social support system and internal peer network within the volunteer fire service to address mental health concerns.

The fire service has an overarching culture that has been created and established throughout history through language, rules, images, and themes that emerge in the day-to-day realities of being part of a fire department and responding to emergency calls (Brazil, 2017; Brazil, 2019). This shared ethos and history among the fire service sheds light on the foundational elements of the organizational culture (Brazil, 2017; Corneil, Beaton, Murphy, Johnson, & Pi, 1999; Greenberg, 1998). Brazil (2019) highlights that informal learning is a large contributor to group identity and joint values within the fire department as a shared community of practice. Through working together and sharing work activities, the culture of the community is integrated into the ways of operating. Within the realm of volunteer firefighting, dedication, commitment, and sacrifice are required to achieve a social ideal of what it means to be a firefighter, as well as a sense of identity and accomplishment; all factors that contribute to being a volunteer firefighter (Yarnal & Dowler, 2002; Brazil, 2017). Simpson (1996) adds another layer to the understanding of the culture through the male-dominated aspects of the volunteer fire service and speaks to the firehouse fraternity or more commonly referred to as the firehouse brotherhood. According to Simpson (1996) this fraternity grows during non-competitive interactions at the firehall, such as maintaining equipment. The firehouse space itself lends to the idea of a fraternity (Simpson, 1996). Other studies refer to this sense of camaraderie and friendship as the brotherhood/sisterhood, or second family within the fire service (Yarnal & Dowler, 2002; Jones, 2016; Whitney, 2012). Yarnal, Dowler, and Hutchinson (2004) argue that the brotherhood is cemented in a sharing ritual of masculine identity. The brotherhood is

considered universal to firefighters, not just to those in rural locations with strong community connections (Jones, 2016). Yarnal and Dowler (2002) found the brotherhood is more than just friendship, it is group behaviour that builds trust and confidence among the fire team which is vital when responding to emergency situations and allows colleagues to lean on each other in difficult times (Alder-Tapia, 2013; Yarnal & Dowler, 2002; Kronenberg, Osofsky, Osofsky, Many, Hardy, & Arey 2008; Corneil et al., 1999). In recent years the idea of the brotherhood has been expanded to include the sisterhood or just referred to as the fire family with the introduction of female firefighters and other identifying genders within the fire service. However, the culture is still entrenched in masculine ideals and values. The culture of the brotherhood/sisterhood makes formalized peer support a natural approach to mental wellness that can be implemented in fire departments as many firefighters are already supporting one another in informal ways (Alder-Tapia, 2013; Yarnal & Dowler, 2002; Kronenberg et al., 2008; Price et al., 2022).

### **2.1.1 Peer Support**

There are two types of peer support, informal and formal. Informal peer support has been defined as, “*less structured support provided by participants who are drawn together by what they have in common, with none more experienced or better prepared to offer support than the other*” (Sunderland & Mishkin, 2013, p. 45). These types of interactions are often related to a variety of stressors and not necessarily just about mental health. Formal peer support is defined as, “*support that is offered by trained and/or experienced peer support workers within a structured setting*” (Sunderland & Mishkin, 2013, p. 45). Peer support programs are designed to provide emotional support between two people through their shared experiences (Beshai & Carleton, 2016; Carleton et al., 2020; Price et al., 2022). By engaging peers rather than mental health professionals, there is evidence to show that peer support helps increase rapport, normalize experiences, reduce stigma, and reduce barriers to seeking treatment (Carleton et al., 2018; Beshai & Carleton, 2016; Hundt, Robinson, Arney, Stanley, & Cully, 2015; Corneil et al., 1999). There is also evidence that social connectedness through peer support is vital for suicide prevention (Stanley, Hom, Gai, & Joiner, 2018). The shared experiences and understandings of the unique situations in which volunteer firefighters respond allows the facilitation of empathy and trust from others of the same community (Kemp & Henderson, 2012; Brazil, 2017; Carleton et al., 2018).

Formalized peer support is different from friends who may provide informal support. Peer supporters are generally trained and supervised in providing this type of emotional and social support (Carleton et al., 2018; Beshai & Carleton, 2016; Grenier et al., 2007). There are a growing number of programs to train firefighters and other first responders to be peer supporters and provide emotional support to their peers (Price et al., 2022; Carleton et al., 2018). Price et al. (2022) developed a framework and typology for understanding the various models within the formalized peer support structure. There has been a significant push to advance formalized peer support programs and to focus solely on formal peer support to address mental health concerns, with the goal of reducing stigma and building resilience (Price et al., 2022). However, due to issues of affordability and capacity, formal peer support programs are not necessarily a viable option for rural, volunteer fire departments. With peer support training only available to selected individuals in formalized peer support structures, this leaves a gap in knowledge and training for individuals who find themselves in a more informal or organic peer support role or who might be providing emotional support to peers who have not been selected for specific peer support roles (if such formalized structure even exists within that volunteer fire department). A study by Dangermond, Weewer, Duyndam, and Machielse (2022) provided evidence to support informal peer support among firefighters to cope with critical incidents and that many firefighters preferred this over formal sessions. Informal peer support helped firefighters process critical incident exposure and promoted unit cohesion.

This paper explores both barriers and opportunities within the fire family organizational culture and concludes with a discussion on how to leverage this social and peer support system to better address the mental health needs of the volunteer firefighter population in rural communities.

## **2.2 Methods**

The qualitative data presented in this paper was collected as part of the lead author's PhD dissertation research study, *Sound the Siren*, which explored the relationship between the occupational environment of volunteer fire service in rural Nova Scotia and the mental health and well-being of volunteer firefighters. The lead author was positioned as an insider researcher, having been a former volunteer firefighter in rural Nova Scotia. This position helped to ease

interactions and access to working with the volunteer fire service. Research ethics approval was received from the Health Sciences Research Ethics Board at Dalhousie University.

The study sought to answer the following questions: 1) How do rural volunteer firefighters understand and make sense of their occupational environment? 2) How does the occupational environment create both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being?

Thirty volunteer firefighters (24 men and 6 women) from three rural fire departments in Nova Scotia participated in this social constructionist study. Using purposive and convenience sampling (Creswell, 2013), data collection included a series of three interviews that included photo-elicitation, with each of nine frontline firefighters and three focus groups with a total of twenty officers. One officer participated in an interview due to not being available for the focus group. Photo-elicitation in the second interview with frontline firefighters was used to further explore aspects within the occupational environment that impact mental health and well-being. Focus groups with senior officers explored leadership decision-making around mental health services and support within the occupational environment.

COVID-19 lockdown and public health measures occurred in the middle of data collection for this study. Data collection began in February 2020, but was halted until July 2020 when in-person data collection could resume. All in-person data collection was done in accordance with Nova Scotia public health guidelines. All information was recorded and transcribed with the research participants' consent.

Data analysis was conducted using thematic mapping, joint theorizing with participants, and thematic analysis with discourse analysis. Thematic mapping was used initially to provide a guide for analysis that focused on the cultural and social meanings within the data and provided a conceptualization of the related themes. Joint theorizing with participants was used during the second interview with photo-elicitation, a key component of the data analysis, and member checking by discussing emerging themes with research participants. Finally, discourse analysis was used to highlight cultural and social factors identified through the language used by research participants (Czarniawska, 1997; Souto-Manning, 2014).



## 2.3 Findings

Every firefighter in this study mentioned the organizational culture and social support system of what they called the “fire family.” They are referring to a familial culture and support system within the organizational environment. Chiaramonte (2003) speaks to the concept of the brotherhood/sisterhood within the fire service as the steadying force needed to depend on one another while in life or death situations, creating a natural familial bond without bloodlines. The concept of the fire family was evident throughout this study from both frontline firefighters and fire officers. In many ways, this fire family structure can be observed in a simplistic view where the fire officers are the “parents” and the frontline firefighters are the “children.” The firefighters interact with each other like “brothers and sisters.” The terminology of acting like brothers and sisters was language frequently used by participating firefighters. The officer/firefighter relationship equivalency to a parent/child relationship is an interpretation by the researcher but backed up by Firefighter B speaking about one of the photos they chose to share, *“That’s a group picture. It’s like a family picture right because we’re all family here, brothers and sisters... That’s the family right there. Ma and pa and all the kids.”* The narratives expressed about the fire family speak to a unique aspect of the organizational culture and internal support system that creates both opportunities and barriers to dealing with and managing difficult issues such as mental health.

### 2.3.1 The Fire Family Culture and Support System

The fire family was described as a cohesive structure by all firefighters in this study, developed because of the deep relationships built through shared experiences of responding to emergency incidents and the dangerous realities of that work. As Firefighter G explains,

*“We’ve had... group togetherness as a family. Even though we’re not blood, it’s a family. So we get to do other stuff that’s not all the gruesome and take that side of the fire service with you...When it comes to the fire service, it can’t just be all the gruesome. It has to be more than that to make you want to be here and do this. So it doesn’t have to be just the actual fire instances, [it’s] that you having an extended family behind you that will do the same thing you do for a perfect stranger, you do for your fellow firefighters. You go that extra mile when they need it and not think about it...It’s quite an awesome feeling, really, when you think about it that way and...it’s quite an organization we’re in. And like I said,*

*it's commonly referred to as your fire family. It's not a group. It's not a club. You're part of a family. So when somebody has issues with mentally, we try to do the exact same thing and help how we can. To help them with the with the mental side of things. And, you know, we have to lean on each other."*

There are multiple layers of the fire family explained in this quote. First is group togetherness. A key element of volunteer firefighting is the social network and social environment. As a social environment, volunteer firefighters spend time together inside and outside of the fire department to help each other and provide social support as needed (Haski-Leventhal & McLeigh, 2009; Yarnal & Dowler, 2002; Chiaramonte, 2003). Getting together for morning coffee or having barbeques together is a common social activity for firefighters. Since volunteer firefighters engage in this occupation as a serious leisure endeavor, it is not surprising that the social aspect with fellow firefighters is an important aspect of the occupation. This social element builds and strengthens group camaraderie and togetherness.

The second layer is the need to have something beyond the gruesomeness and potentially traumatic nature of their work to keep firefighters connected. Volunteer firefighters respond to some of the most traumatic and hazardous emergency incidents that exist, and it was well noted in this study that firefighting is much more than just responding to those incidents. Firefighter C describes,

*"It's a second family that you get and there's just something about it. Like you just can't find that connection with anybody. I mean, you're risking your life with the person that's standing next to you as you run into the burning building or you get off the highway on one hundred [series] highway and you're walking in the road and you know that cars are whipping past you, like you put yourself in danger with these people. And there's just this connection that you have with them that you're always gonna have with them...And I think that's just because when you do something as inherently dangerous as we do, you just learn to value people in your life a little bit more."*

The danger that firefighters face together creates a special bond and connection that does not normally occur in most organizational settings. This relates to the final layer described in the previous quote, the need to lean on one another, look out for each other, and most importantly, trust one another. Firefighter B states, *"Inside the department is, you know, it's a fellowship or brotherhood or sisterhood...And you have to trust the people in here, if you don't, then*

*somebody's life could be on the line.*” Volunteer firefighters are potentially risking their lives every day when responding to emergency incidents and to be able to do that with confidence, firefighters must be able to trust their fellow firefighters with their life and know they can lean on them both on and off the fire ground. Trust was a common theme threaded throughout the study when discussing the strengths of the fire family and how this organizational culture creates stability for volunteer firefighters within an occupational setting that can be potentially traumatic and even chaotic at times.

Within the fire family culture and support system, firefighters spoke to the comfort of feeling like there is always someone to support them and help whenever it is needed. Firefighter C shared,

*“I think of everybody there as a friend or even closer than that as a brother or sister...It's almost like everyone has each other's back, like it's an unwritten rule. You walk through that door, and you know that you have forty five people looking out for you...there's just an instant friendship. Like you totally feel like you joined a family...we've always been close, tight knit, got each other's back...willing to help you out if you're struggling with something like whether it's fire department related or personal life...there's no shortage of people willing to help you.”*

The unwritten rule is a commitment to something bigger than oneself and a commitment to the fire family. There is a strong level of dedication, confidence, trust, and even dependency on the fire family that presents as a form of peer support and social support within itself. Firefighters described how the fire family was available and supported them in whatever way they needed. Firefighter A described,

*“If there's times that I get down or frustrated about something in my life, I have somebody I can talk to all the time. And regardless of what, what it might be...You know, there are times that we're gonna have to call in, you know somebody more professional than each other. But for us, there's enough of us here that we can seek any kind of comfort we need in one another to handle the vast majority of the situations.”*

This internal strength of support through the fire family structure was described as the preferred method to handle most difficult situations which exemplifies the desire to manage needs internally. However, the downside of this was described by Firefighter D, *“it's just balancing because I know I can't dedicate the time if that person needs someone to lean on a lot.*

*I don't have the time and you feel guilty about that. I have a tendency to put other people over myself.*” However, leaning on the internal support of the fire family can place an undue burden on volunteer firefighters who are not able for many reasons to support a fellow firefighter. If a firefighter requires a lot of support, fellow firefighters may not have the capacity to support them. This is when more formalized peer support programs or external services are needed.

An officer from Focus Group A stated:

*“I had a conversation yesterday...all of the issues that some of our firefighters’ face don't go to the top. They can be intercepted in the middle. And we try to find someone who can relate to that person better to talk to them because sometimes there's the personality thing or the way people deal with each other. So sometimes even without going to the top level, we talk about how we can help these people before it gets to that point.”*

For officers, there is a desire to manage issues on the lower level without things needing to come to the top level. This informal process connects firefighters with those they are most comfortable with. The three participating fire departments in this study do not have formalized peer support programs, so their management of issues is structured in this informal way. Within the fire family structure, officers are at a different level for support. Frontline firefighters might not want to reach out to higher levels of leadership for help. Firefighter I mentioned, *“That’s the downside...The higher up you go in leadership, the less sometimes some of them will talk to you about a problem. I think for the most part they just don't want to bother you. Most of them realize, you know, the higher you go that you're busy, but you're never too busy.”*

This firefighter who was previously a fire officer provides the perspective that leadership is never too busy to listen to the needs of a firefighter but there is a different type of support that is given by fire officers to frontline firefighters due to their levels of responsibility and authority within the organization and the fire family.

### **2.3.2 Leadership**

Officers feel the responsibility to take care of and support all the firefighters and are continually responding to the needs of firefighters in ways they believe will make a difference. As parental figures within the organizational culture, one of the strategies used to manage firefighter wellness is to protect and shield firefighters from the harms of the job, particularly on the fire ground. This approach can be seen as similar to that of a parent shielding a child from

something bad. As a learned behaviour in the fire service, passed down through generations, this approach is highly promoted and accepted as an internal strength of the fire family among fire officers. The officers protect and shield the firefighters, particularly new firefighters. All officers saw this as a strength and were proud of this. An officer from Focus Group B explains,

*“We had a fatal accident and the officers looked at who their crew were and they realized that if they had placed that crew down in the ditch to do the recovery, they could have significantly impacted the mental health of those individuals. So, they quickly searched around as to who else was there, who would have had, not that it's a pleasant experience, but who would have had experience in moving the body and seeing those sites. And they chose who was going to do that. It's an unpleasant task, but they truly put their members' mental health first.”*

The officers make those decisions about the firefighter's well-being in those moments. However, in that process, the officer is putting themselves or other senior firefighters in the line of fire or trauma so to speak. They take on the emotional labour and burden as more experienced firefighters to protect the fire family. There is this idea that officers or more senior firefighters are better able to manage their emotional responses due to previous experiences. However, those who adopt this strategy may do so without a full understanding of how cumulative traumatic experiences can be a detriment to their own mental well-being.

An officer from Focus Group A shared,

*“Well, actually, our last fatal...I took it upon myself. We had to do an extrication at the end, myself [and a couple officers], we didn't pull any of our crew off because they weren't involved with it at all...But we took our senior people and we went did the cut and we left our...when you don't have to put your younger members in that situation. Why do you?...I guess I'm just saying, if you come across an accident, we have a fatality and you've got a new person on the truck and other people to do the job. Why would you take someone who's 18 years old and expose them to that when they don't have to?”*

This officer shares the perspective of putting the younger or newer firefighter in that situation, if you do not have to, why would an officer do so? It's an interesting perspective shared across the fire departments participating in this study because it begs the question, when is a firefighter old enough or experienced enough to do the more intensive emotional work and labour of firefighting? In Western society, we know that once a child hits age four, they can start

school, or when they turn sixteen, they are allowed to learn to drive a car. In this situation, the parents are willing to take the older children to help with the fire scene but when are the younger children ready? At what age or years of experience is a firefighter ready to handle the emotional aspects of seeing a dead body or removing the body from an emergency incident? Furthermore, who decides this? The concern is that officers are not sure how younger or newer firefighters are going to react, so they shield them away from these scenes. At what age or years of service do the officers start to trust the firefighters to do this work? When do you know they are ready? How do you prepare them? Given the nature of the volunteer fire service and the members that are available to respond to an emergency incident, shielding may not be possible or attainable. What potential harmful outcomes could occur from being shielded for so long when they are eventually exposed to a fatality, or the fire officers have no choice but to expose them due to firefighter availability?

This approach by officers to protect the younger and newer members of the fire family is also relative to the nature of serving in a small, rural community where there are limited mental health resources and services available. The fire family depends on their internal capacity and strength to manage mental health concerns and make decisions about mental health and well-being without necessarily having formal training or education in this area. The officers believe they are helping their family.

Within the literature there is substantive evidence showing the impact of repeated and cumulative exposure to traumatic incidents among this population, but how can this be changed when it is seen with such pride by officers to protect the younger and newer firefighters? One officer from Focus Group A started to see the problematic nature of this strategy as they discussed it as a group and stated, *“It is a good opportunity for us to bring people up through more severe accidents. Shouldn't just leave it to...a couple of the guys. You should be slowly exposing your younger people who, as [officer] said, have the mental toughness and hopefully at that point you know them well enough so eventually it's not going to be fresh when they see people die.”*

This officer acknowledges that the strategy of having the same firefighters continually doing this type of emotional labour and traumatic work is creating more strain on the officers and senior firefighters while also not allowing younger people to be exposed slowly to more severe incidents. They also allude to the issues of trust with newer or younger firefighters. By not

knowing them as well as other members of the fire family, they have not necessarily built that trust with newer firefighters. Once again, trust is vital to how mental health concerns are managed within the fire family.

Firefighter G shared an experience,

*“We were asked to cut the roof off [the car] and that was our job. I took the guys off to the side and said this is what we're going to do. Who's good for it? If you're not, let me know. There's no shame. But you're going to be right beside the [dead] fellow. Are you OK? And they were all, yeah, no, we're good. We're good. Are you sure? We're good. They did their job and I said, we're going to go in, do the job, [and] back out. We're not lingering around. I got enough people in there with the medics and everything, I said we're just gonna take the roof off. Simple as that. So that's what we did...I was trying to look out...I put myself between him and them so they couldn't see [the dead person]. And that's the thing that is quite, sometimes it's hard to do. I never knew, even after we get the guy out of the car, I never looked at his face. Didn't need to. I knew it wasn't good. But why am I putting myself in that position?”*

Other times, depending on the crew, the officer or senior firefighter might give some choice to the fire crew on how they want to participate in the severe incident. However, this is likely when some of the level of trust has been established. Even with that small level of choice, the senior firefighter is still taking on the emotional burden and labor of the potentially traumatic incident. When Firefighter G shared their experience standing between the firefighters and the deceased individual, they even questioned why they were putting themselves in that situation and taking on that emotional burden. Perhaps a strategy is to bring people up through severe incidents and allow them to do more once they have had more training and experience. However, once again that leaves the question of when will officers know that a firefighter is ready? Overall, fire officers and firefighters need more mental health training and resources for managing exposure to trauma.

### ***2.3.3 Dysfunction within the Fire Family Support System***

The fire family culture and support system are described as one big happy family, until it isn't. While much of the focus by participants was on the positive aspect of the fire family, it can also be dysfunctional and cause distress to its members in a variety of ways. Dysfunction occurs

when there is internal conflict or misbehaviour. Firefighter G explains, *“We're a family, we're an odd fellow family, but family nonetheless... We fight together... it's just what we do.”*

Members of the fire family fight and can be at odds with one another at times. There are many reasons why fighting within the fire family might occur. Firefighter D explains one reason, *“It's a private organization but it's definitely a family culture. So you will certainly come across those family dynamics where there's he said, she said of course... you see competition. A lot of competition... those dynamics. Just the typical fire-related stuff.”* Competition, one of the more potentially toxic heroic masculinity ideals can lead to conflict and fighting. When firefighters are competing with one another for attention within the fire family, competing to move up the ranks, or competing to hold a certain role or position within the fire department, this can cause in-fighting. There is also a level of favoritism that was explored heavily in this study, where certain individuals within a fire department who might be well-liked or more popular is given more opportunity by the fire officers and members of the fire family, and those left behind feel a level of jealousy. Another firefighter explained that the dysfunctional family situation arises when the firefighters are bored from a lack of fire calls. Firefighter I explains, *“Fires are simple, it's the babysitting when things slow down, I don't know how fire departments survive only with 20 calls a year. You know, they have time to think and bitch... He's got a newer hat than I got... That's when they have time to dwell on the little things... if you're busy, you haven't got time to worry about the little things.”*

As volunteer firefighters in rural communities, there may be weeks or potentially even months that go by without an emergency call. Firefighters still maintain training and administration work, but the main reason for being there is not being tended to. As Firefighter I describes, they dwell on some of the smaller intricacies of the fire organization and focus on things that are wrong which impacts morale. Firefighter B stated,

*“You have to survive, it's give and take in every relationship. So here, your ideas may not get passed at a meeting... so we got shot down but that doesn't mean that you're out of the family, it just means that everybody else didn't think it was a good idea... and you get that at home too. I mean, you're talking to your spouse about something, and it may turn out that it's not a good idea or it's not affordable at the time or whatever, it's not justifiable or something right. But I think it's just, in comparison, I mean, you got your spouses back, she has yours or he has yours or whatever. And in here you have your partners.”*



*You know, if you're going into an interior [fire] attack situation with a partner, you better hope that you're both on the same page and you're both going to protect each other so you both come out...leave as one, return as one."*

Firefighter B explains an aspect of the fire service that might lead to fighting when a firefighter is not being heard by the fire family or having their ideas shot down in meetings. However, the firefighter shed light on the fact that the fire family still needs to have each other's back, trust, and protect one another, even if they are not getting along. However, what happens if the fire family doesn't have your back, or a firefighter feels left out? Having a dedicated social support network and social environment is one of the motivations for continued service as a volunteer firefighter. However, when issues arise in the fire service, some firefighters will question why they are there. Firefighter G explains, *"You can get some bad feelings, bad taste in your mouth of things and why you want to be here and why you don't want to be here."* What happens is that volunteer firefighters stop showing up for periods of time or if it is bad enough, will leave the fire service altogether. Firefighter D mentioned,

*"Internal politics...it can be very challenging, very stressful...some of that stress can come from the leadership. Because of communication or lack of communication. I discovered...you can be on the inside or the outside. And that's always kind of frustrated me from a retention part because still as a new person with fresh eyes, you see that. And kind of hear it once in a while from some of the members. But there's that underlying dedication and drive. You know, that's still there, that keeps them here."*

When firefighters are stressed and decide to take a step back, the reason firefighters stop showing up rather than quit may be due to the underlying dedication to the fire family, the fire service, and their community. The shared ethos and esprit de corps of the volunteer fire service through group identity is most likely a contributing factor to the dedication to the fire family (Haski-Leventhal & McLeigh, 2009). This also coincides with the concept of moral obligation and commitment many firefighters have to the fire service (Yarnal & Dowler, 2002). The deep connection to the fire family support system and social environment was mentioned a few times as reasons to stay in the volunteer fire service showing the importance of this structure.

Firefighter D also mentioned that firefighters can be on the inside or on the outside. When a firefighter is on the "inside" they belong and are an ingrained part of the fire family. However, when they are on the "outside" of the family, this has the potential to cause distress.

As a key part of the social environment and network for firefighters, the fire department provides an outlet and getaway amongst the fire family. However, the strengths and victories of this fire family also lead to the downfall of the organization. The concepts of trust, dedication, and a sense of belonging and connection to the fire family is an important internal support structure that while mostly positive can also pose potentially significant harm to the mental health of volunteer firefighters who do not feel supported or protected by the fire family.

Firefighter J mentioned, *“We don't hide anything from each other, so we always talk about stuff...which I think is great for this place because if we didn't work that way, I don't know how the place would ever work.”* With the knowledge of the critical role of social support that exists through the fire family, the opposite occurs when a firefighter is not getting along with their fire family, does not feel supported, or does not feel like they have anyone to talk to from within. The need to always talk about things and have that safe space is critical to the functionality of the fire department. However, firefighters discussed issues of bullying, belittling, harassment, microaggressions, feeling left out of the fire family, or even shunned because of something that happened. An officer from Focus Group A shared, *“If they feel shunned because of whatever purpose...They're going to and that call does come on. That it's a traumatic call like a bad crash or something like that. They're going to feel that they don't have that capacity to go to anybody or to the right [person]...because they may not know that they can go to [a certain officer] or the chief or a captain. They don't know that process. So then they'll bottle up.”*

This shunning generates a sense of betrayal. The betrayal is the family leaving you behind and shunning you. A support system that is normally depended upon to help when a firefighter is struggling. Now the firefighter is bottling up their experiences from the fire department and the fire family, a place that is normally an escape from other aspects of their life. Furthermore, when mental health concerns arise, the person does not feel like they can turn to their fire family.

Firefighter D shared,

*“We have one member that there's this assumption of drug use, [they] have a lot of personal problems...but no proof...I stand back and say well yes, this particular person has a lot of issues and problems, but when he comes here, he does his job...I haven't seen any problem...[and] he can be shunned...Is there the support that he needs and that should come from leadership...But at the same time you know as a family we should be*

*there checking in and...I'm not...I haven't been the best person for that either, so I've been busy with my own life and what's going on. I don't have a very close relationship with this particular person. But yeah, maybe I should be checking in....Maybe it should be my responsibility as a team member, as this part of the family. And then...sometimes I don't want to be caught up in somebody else's drama or issues as well when I have my own.”*

The firefighter from their department is being shunned by the fire family due to their issues with potential drug use. The fire family does not have the internal tools and mechanisms to manage this, so they turn to shunning the firefighter rather than working with them. As the firefighter describes from their own personal experience is that they feel like maybe they should be checking in but at the same time, they do not want to be caught up in the drama and they have their own issues. The repercussions are that the firefighter has lost their support network and may stop showing up. An officer from Focus Group A shared: *“You know we do have to do our due diligence with people because people do have off days and things like that...But a lot of these people that we do weed out, you know, if we've ever done an exit interview and is it you know, do they feel is it because of the way we treat them? Is it because of our culture? What is it? What caused you to not show up?”*

This comment by the officer is insightful because the fire family knows they have taken measures to “weed out” someone but are questioning the reason the individual left the volunteer fire service, was it the culture, or was it the way they treated them? They wonder what caused the volunteer firefighter to stop showing up when in fact the officer already alluded to why- the fire family took measures to “weed them out” for whatever reason. A different officer from Focus Group A shared,

*“There are some people that will tolerate it because this is literally, as sad as this may seem, this is all [they] got. So when we shut this station down for COVID restrictions, you could really, really tell who, like this is all people had. They didn't have friends. They didn't have a network of buddies or...Their anxiety went up, you know...Their temperament was changed. They didn't have that same level of calm because they use this as a safe space...if they're coming here and getting bullied...but if they feel like they're being belittled...”*

Even if firefighters are facing issues of bullying or belittling from their fire family, they

might stay because the fire service is such an integral and essential part of their life for social support. As the officer mentioned, this issue was magnified during COVID-19 lockdowns when access to the social network and environment was lost.

COVID-19 was a collective trauma experienced around the world, but the impact of this collective trauma was experienced differently in subgroups, with volunteer firefighters having a unique experience related to this collective trauma. Bloom (2010) describes collective trauma as, *“A blow to the basic tissues of social life that damages the bonds attaching people together and impairs the prevailing sense of communality...it is a form of shock all the same, a gradual realization that the community no longer exists as an effective source of support and that an important part of the self has disappeared... ‘we’ no longer exist as a connected pair or as linked cells in a larger communal body”* (Erikson, 1994, p.233 as cited in Bloom, 2010).

This study was conducted in the middle of the COVID-19 pandemic, and the impact of the pandemic on the fire family was substantial and provided insight into how much volunteer firefighters depend on this structure. One of the officers mentioned previously how shutting down the fire department due to COVID-19 restrictions really showed the reliance on the fire department and social network within. During this time, volunteer firefighters were still responding to emergencies, but the social aspect of the fire department was shut down. Firefighters went for emergencies and immediately had to leave once it was over. No lingering or hanging out. As the officer described, anxiety went up and the level of calm subsided because firefighters no longer had access to their safe space. The separation from the fire family was a major shock. Firefighter A described,

*“It was hell...Because you couldn't be around the people...we would text and we would Facetime like sometimes. So that was...the best you could hope for. And then we had record turnouts when there was fire calls...when the pager goes off, you're allowed to go. You get the green light to go out and it's okay to be out...and people were...they were just craving that and missing everybody so much because this is a family. People consider this another family. And it was like the family was broken.”*

There was a feeling that the family was ‘broken’ and that was a blow to the bonds that attached people together. Firefighter C further expressed,

*“You don't realize how much you need to be at the station with your fellow firefighters*

*until you're not there. And it was not so much a want. It was like a need. Like these people know what we go through. They know...the crappiness of the call...Just there's so much of your life that when they're not there, I felt a huge hole...I just feel like a whole part of my life is missing right now because I'm not at that station. I'm not hanging out with them...I felt totally disconnected from them and it was terrible...Like, these guys are like my life...And that's how I mean, I have friends outside of the fire service, but the majority of my friends are in [this fire department].”*

Perhaps, unlike ever before, this collective experience and collective trauma brought to the forefront the need and reliance on the fire family. There is a peer element to the fire family that only exists among those with the same occupational experiences, that outside of the occupation would not understand. The internal strength of the fire family support network creates a critical opportunity within the volunteer fire occupational environment to address mental health needs, but it has its hazardous side. If more volunteer firefighters were trained to provide emotional support to one another, and fire officers were given more tools to manage the mental health of members, perhaps when dysfunction occurs, they might be more capable and ready to handle distress, and perhaps there could be room to improve support or avoid issues such as bullying and shunning.

## **2.4 Discussion and Conclusion**

While the fire family is both a culture and support system within the volunteer fire service, it predominated as an important internal occupational structure throughout this study. Collective trauma experienced during COVID-19 magnified the reliance on the fire family structure for many volunteer firefighters. This knowledge and understanding of the significance of this structure are critical to better address the mental health needs of volunteer firefighters, particularly those in rural communities where internal resources through the fire department might be the only way, or certainly is the preferred way, to access mental health support and services.

While this study showed that the fire family structure has many positive aspects, it also presented negative aspects and potentially harmful aspects which can be attributed to a lack of mental health literacy as well as the knowledge and skills to provide proper emotional support to fellow firefighters. There is a significant opportunity to leverage the internal strength and

positive aspects of the fire family to help better address the mental health needs of volunteer firefighters.

#### ***2.4.1 Mental Health Services and Support in Rural Nova Scotia***

The fire departments that participated in this study did not have formal peer support programs and within rural Nova Scotia there are little to no formalized peer support programs based on the knowledge of the firefighters who participated in this study. There were two mental health resources that were mentioned by firefighters in this study, the Critical Incident Stress Management (CISM) Team of the Fire Service of Nova Scotia, and the fire chaplain or padre. The critical incident stress management team provides critical incident stress debriefings to fire departments when needed. Firefighters primarily mentioned certain individuals on the CISM team who were internal members of their fire department. They viewed these individuals as a critical part of their internal support network and because these individuals were veteran firefighters, they were part of the fire family. The fire chaplain or padre role was also discussed. In some fire departments, if a fire chaplain was also an active firefighter or former active firefighter, they were considered part of the fire family. There needed to be a level of trust for this role to work. If the chaplain or padre was not seen as part of the fire family, the role was shunned and excluded, and not seen as an internal strength or resource.

With the lack of mental health resources available to firefighters in rural communities in Nova Scotia, it makes sense why there is such a commitment and dependency on the fire family as the place to turn when one might be struggling with a variety of issues. There was a substantial desire to manage issues internally.

Formalized peer support programs are out of reach for many volunteer fire services in rural Nova Scotia. The formalized peer support program structure has an associated cost that might be inaccessible for an organization that has to fundraise for basic firefighting equipment, let alone a mental health resource. Additionally, formalized peer support might not be appropriate for some volunteer fire departments as an internal resource due to the small size of the organization where anonymity and confidentiality might not be maintained. One of the reasons the Critical Incident Stress Management Team of the Fire Service of Nova Scotia has been a successful mental health resource is that they have a foundation of peer support within

their critical incident stress model so this external resource is available if the issue is outside of the capabilities of the volunteer fire service organization.

#### ***2.4.2 Recommendations***

The lack of mental health services, systems, and resources that are typical of rural communities creates a tendency to look inward to internal sources for support. The fire family provides a unique strength and opportunity to address mental health concerns by working with the informal peer support system that already exists by building the tools and capacities of firefighters to help each other. Rural, volunteer fire services likely do not have the capacity or funding for formalized peer support. Formalized peer support should certainly continue to be built and made accessible to volunteer firefighters across Canada; however, it was evident throughout this study in rural volunteer firefighter settings, firefighters and officers are leaning on each other and seeking out the person they are most comfortable speaking to within their fire family in informal ways. Therefore, only having training opportunities for a select few to provide formalized peer support may not address the needs of the volunteer fire service.

When asked about ways to improve mental health structures and systems within the volunteer fire service, both officers and firefighters want more tools, knowledge, and capabilities of how to respond to the emotional support needs of their fire family. This shows that there needs to be certain tools, resources, and training for all firefighters and fire officers, not just a select few. Firefighters want and need more knowledge and tools such as active listening, communication, and mental health literacy to better respond to their peers who may need emotional or social support. All firefighters and officers need the tools to support each other and are truly the first line of support and help for one another.

Volunteer firefighters lean on each other and depend on one another through a deeply rooted sense of trust due to their shared experience in a high-risk volunteer occupation where they risk their lives with their fellow firefighters each time they step on the fire truck. This internal strength of the volunteer fire service through the fire family structure showcases an exceptional opportunity to invest in training that will build on the knowledge and skills for all volunteer firefighters to support one another.

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## CHAPTER 3

REFLECTIONS ON THE USE OF PHOTO-ELICITATION TO UNDERSTAND THE  
OCCUPATIONAL ENVIRONMENT OF RURAL, VOLUNTEER FIREFIGHTERS



**Sound the Siren**

Chapter 3 is formatted for publication in *Qualitative Research*. This work has not yet been submitted for publication.

### **3.0 Abstract**

Photo-elicitation has been shown to be an effective visual research method that provides a mechanism to produce a rich recollection of memories and meaning through imagery on topics that might be otherwise difficult to convey. With its foundations in anthropology, this method has evolved and emerged as a research methodology across many fields, including mental health research. This article provides a detailed account of the use of photo-elicitation as part of the Sound the Siren research study, which explored the relationship between the occupational environment and the mental health and well-being of volunteer firefighters in rural Nova Scotia. This paper provides reflections on the strengths and lessons learned from using this method to explore mental health and occupational stress with volunteer firefighters, with particular attention to building rapport, therapeutic value, confidentiality, and trust.

### **3.1 Introduction**

Photo-elicitation is a collaborative and participatory approach to data collection and interpretation, involving photographs in the research interview process. There are distinct benefits of using photo-elicitation as a data collection method including having a visual representation of an individual's experience that stimulates rich, complex, and informative understandings (Van Auken, Frisvoll, & Stewart, 2010; Harper, 2002). Photos can enhance a participant's recollection of memories that may be difficult to verbalize and bring these to the forefront. Photographs' symbolic representations and layers of meaning provide invaluable information (Harper, 2002). When photo-elicitation is participant-generated, the participant selects or takes the photographs themselves. This empowers the research participant to choose what they want to talk about in the interview, creates a level of comfortability with knowing what they will discuss, and creates a more collaborative opportunity for analyzing information (Glaw, Inder, Kable, & Hazleton, 2017; Noland, 2006).

Photo-elicitation has been used to research complex topics ranging from ageism to chronic illness, homelessness, and victims of violence to name a few (Bukowski & Buetow, 2011; Chozinski & Gonzalez, 2022; Dam, 2022; Guillemin & Drew, 2010; Harper, 2002; Slutskaya & Simpson, 2012; Glaw et al., 2017). There has been an uptake in recent years for

researchers using this method to conduct mental health research (Glaw et al., 2017). This method has been found to be particularly effective for capturing lived experience as individuals are able to discuss and reflect on the photographs and the meaning behind their narratives (Glaw et al., 2017). In general, it was found that photo-elicitation provides an opportunity for research participants to share a story that they would normally try to hide or minimize (Glaw et al., 2017). Balmer, Griffiths, and Dunn (2015) found in their research study that photo-elicitation in mental health research had the unexpected outcome of being a research tool with a therapeutic value. The very act of taking photographs provides a platform for sharing and discussing difficult topics with a more multi-faceted and meaningful approach.

For volunteer firefighters, photography is an integral part of their organizational culture. Photography has been traditionally used in the fire service as an effective review tool for critiques, investigations, historical records, and mementos (Browne, 2006). Photographs of historic and significant fires, and photographs of current and past firefighters, are found throughout the walls of fire departments. Visual methods have rarely been used with volunteer firefighters to research any subject, let alone sensitive topics such as mental health. With photography being part of the daily occupation for firefighters, it is a fitting data collection method to discuss difficult matters such as mental health, trauma, and occupational stress. Photo-elicitation provides an opportunity to explore these topics in a more comfortable, familiar, and meaningful way that elicits deeper reflection and discussion than traditional interviews. Therefore, photo-elicitation was selected as an appropriate data collection tool for this study population. Using photo-elicitation methods with volunteer firefighters provided insight into their world in a way that might not have been possible with traditional methods.

This article has two purposes. The first is to provide a framework for researchers looking to use photo-elicitation methods with volunteer firefighters on difficult topics, such as mental health. The second is to reflect on the strengths and lessons learned from using photo-elicitation with this population. The article provides background on photo-elicitation and its use within health research, then outlines how the method was used with the volunteer firefighter population on the topics of mental health and occupational stress. It concludes with a reflection on the strengths and lessons learned from using photo-elicitation in this study with recommendations for future use.

### 3.2 Photo-Elicitation: Key Characteristics and Challenges

As a visual research method, photo-elicitation uses photographs as part of an interview that prompts more information and meaning-making on the given phenomenon due to imagery and representation (Van Auken et al., 2010; Mitchell, De Lange, & Moletsane, 2017; Higgins, 2016). Photo-elicitation has also been referred to as photo interviewing or photo feedback (Oliffe & Bottorff, 2007). With this methodology, photos are inserted into research interviews and the process of how photographs are selected and incorporated can vary (Oliffe & Bottorff, 2007; Bukowski & Buetow, 2011; Harper, 2002; Clark-Ibanez, 2004). Photographs can be researcher-created (provided by the researcher), participant-created (participants take photos), or participant-found (participants find photos) (Dam, 2022). This study incorporated participant-generated photographs where participants had the choice to find or take photographs.

Photo-elicitation has often been confused with a similar method referred to as photovoice. Photovoice is a participatory action research method conducted in qualitative research using visual images (MacDonald, 2012; Liebenberg, 2018; Wang & Burris, 1997). Photovoice is defined as, “*a process by which people can identify, represent, and enhance their community through a specific photographic technique*” (Wang & Burris, 1997, p. 369). Three main goals of photovoice are, “*to enable people to record and reflect their community’s strengths and concerns, to promote critical dialogue and knowledge about important issues through large and small group discussion of photographs, and to reach policy makers*” (Wang & Burris, 1997, p. 369). While photo-elicitation shares some similarities, photo-elicitation is not founded within an action-oriented agenda and is more targeted toward stimulating meaning and understanding of complex topics (Padgett, Smith, Derejko, Henwood, & Tiderington, 2013; Harper, 2002). A key outcome and goal of photovoice is to share images publicly to create change or action around a social issue whereas the goal of photo-elicitation is more centered around dialogue and meaning-making. Unlike photovoice, photo-elicitation does not typically happen in a group setting. The purpose of photo-elicitation is to use or find photos that are individualized to the particular study area due to the potentially sensitive or uncomfortable nature of the topics that might not be easy to speak to in a group setting (Harper, 2002). Furthermore, photovoice has been centered around giving voice to traditionally marginalized groups in society. While photo-elicitation might also have a similar outcome, giving voice to a

marginalized population is not necessarily a fundamental goal (Harper, 2002; Liebenberg, 2018; Wang & Burris, 1997).

### **3.2.1 Key Characteristics**

Visual methods have, *“a transformative potential for modern thought, culture and society, self-identity and memory and social science itself”* (Pink, 2001, p. 13). There are three main uses of photo-elicitation according to Harper (2002). The first is the use of photos as a catalog of objects, people, and artifacts. The second is that photographs depict events that are aspects of a collective or institutional path. And finally, photos are intimate elements of social constructs that connect to society, culture, and/or history.

The conceptual foundations of photo-elicitation make the “invisible visible” (Bukowski & Buetow, 2011, p. 739). Photo-elicitation originates in anthropological research and was first used by Collier (1957) to understand the impact of environmental stressors on neighborhoods and families. The use of photo-elicitation has grown and expanded into many other disciplines and fields since that time (Harper, 2002; Oliffe & Bottorff, 2007; Padgett et al., 2013). Despite this, the methodology does not have a defined standard and it has been used in a variety of ways (Padgett et al., 2013; Harper, 2002; Lapenta, 2011; Clark-Ibanez, 2004). The variations include deciding whether photographs are taken or found, who does this, and who interprets them- the participants, the researcher, or a collaborative effort of the two (Padgett et al., 2013). When the researcher selects the photographs, this provides an opportunity to conduct theory-driven research but in doing so might miss an essential aspect of the research (Clark-Ibanez, 2004). When the selection of photographs is participant-driven, this can be referred to as auto-driven or reflexive photography (Padgett et al., 2013; Prosser, 1998; Clark, 1999). In this situation, the selection of photographs is at the discretion of the research participant with some instruction from the researcher, and during the subsequent interview, joint theorizing and mean-making occur.

When participants take or choose the photographs, rather than the researcher, the focus of the research remains on the participants’ perspectives and their responses to their environments (Harper, 2002). The key difference between traditional semi-structured interviews and photo-elicitation is the way research participants respond to the visual stimuli which can evoke certain memories, emotions, and knowledge that might not be expressed in a traditional interview



(Harper, 2002). In photo-elicitation, the photos act as a mechanism for communication between the researcher and the research participant (Clark-Ibanez, 2004; Harper, 2002). Therefore, photographs have a dual purpose. For the researcher, photographs are a tool to ask further questions or expand on a topic; while for the research participant, the photographs are a tool to communicate the facets of their lives (Harper, 2002; Clark-Ibanez, 2004). Using photo-elicitation and visual stimuli in research interviews has been found to change the tone of the interview and prompt more meaningful conversations (Bates, McCann, Kaye, & Taylor, 2017). An important characteristic of photo-elicitation is that while the photograph might stimulate memories, the information conveyed might not be within the image (Padgett et al., 2013; Harper, 2002). The image acts as a prompt and evokes feelings, memories, and thoughts that go beyond the contents of the photograph (Harper, 2002).

Photo-elicitation has been shown to ease rapport between the researcher and research participant by lessening some of the discomfort that can occur in traditional interview processes because there is a central focus within the interview- the photograph (Clark-Ibanez, 2004; Oliffe & Bottorff, 2007). Additionally, when the method is participant-driven this can disrupt some of the power dynamics that are typically associated with traditional interviews (Harper, 2002; Clark-Ibanez, 2004). As a research technique, photo-elicitation is more of a process than simply a data collection tool (Harper, 2002; Creighton, Brussoni, Oliffe, & Han, 2017). Due to this, photo-elicitation has grown in popularity as a research technique to provide insights and deeper reflection on topics that might be difficult to talk about (Creighton et al., 2017). In research with volunteer firefighters, topics related to mental health and trauma can be particularly difficult to discuss, and there is an added layer of masculinity and stoicism that creates further complexity.

### ***3.2.2 Challenges***

Clark-Ibanez (2004) points out that there is a delicate balance within photo-elicitation interviewing where photographs let a researcher into the lives of the research participant in a much more intimate way than traditional interviews. When using a visual methodology such as photo-elicitation, the visual materials presented can be interpreted differently by researchers and participants (Guillemin & Drew, 2010; Chozinski & Gonzalez, 2022). The role of the researcher is more than an observer which can have both direct and indirect effects on the research process and interpretation of the materials (Guillemin & Drew, 2010). In this process, the researcher will

ask certain questions about situations to further engage in reflection on the images. Those questions can shape or influence the way the research participant thinks about the image and experience. This is particularly important in the joint theorizing component of the process where member checking needs to occur to ensure that the researcher's interpretation of the photograph and the information shared by the research participant does not overshadow the perspective of the participant (Guillemin & Drew, 2010; Harper, 2002). The role of reflexivity is critical and required for the researcher to ensure their bias, perspectives, and interpretations do not become more prominent than those of the research participant (Guillemin & Drew, 2010; Dam, 2022; Harper, 2002; Clark-Ibanez, 2004).

One of the limitations noted about photo-elicitation was the research participants level of comfortability with taking photographs and their access to camera equipment (Clark-Ibanez, 2004; Harper, 2002; Padgett et al., 2013; Oliffe & Bottorff, 2007). To address this challenge in this study, research participants were given the choice to find or take images. Additionally, advances in technology and access to cameras through one's smartphone makes this constraint less of an issue than in the past (Nowak, 2018; McDonnell, 2009; Chozinski & Gonzalez, 2022).

When using photographs within research studies, issues of confidentiality and ethics arise, particularly if photos are going to be shared publicly (Clark-Ibanez, 2004; Harper, 2002; Padgett et al., 2013). Of particular concern is gaining consent from individuals photographed (Chozinski & Gonzalez, 2022; Padgett et al., 2013). In some studies, researchers have directed individuals to avoid taking photographs with individuals' faces to control concerns about consent. However, this tactic can impede the ability to portray the full experience of the research topic area (Chozinski & Gonzalez, 2022). In this study, multiple consent forms and instructions were given to the research participants to avoid these concerns and the decision not to share images publicly also addresses this concern.

Finally, there is the potential, depending on the research topic area, that photographs might trigger a negative emotional response (Padgett et al., 2013). While there is also the potential for this in traditional interviews, it is well noted that researchers using photo-elicitation methods, especially those in health research, should be prepared for images to result in emotionally difficult experiences which is significant because images can induce feelings that might not otherwise be expressed verbally (Guillemin & Drew, 2010). However, it is important to note that while images of potentially traumatic or distressing events may trigger negative

emotions, it is not unusual for the process of sharing and detailing these experiences to be somewhat helpful or even provide therapeutic value (Guillemin & Drew, 2010; Oliffe & Bottorff, 2007). Guillemin & Drew (2010) note that for some research participants, this might be the first time someone has asked about, and listened to, their experience. Regardless, researchers have an ethical responsibility to ensure strategies are in place in case research participants become distressed during this process. In working with volunteer firefighters who regularly respond and are exposed to traumatic incidents that can lead to mental health challenges, this issue was of the utmost concern for this study.

### **3.3 Working with Volunteer Firefighters**

It is suggested through multiple studies that visual methods are quite useful in exploring social phenomena that are otherwise difficult to verbalize or articulate (Chozinski & Gonzalez, 2022; Sweetman, 2009). For volunteer firefighters, where firefighter identity is entrenched in masculine ideals of stoicism and heroism, discussions of certain topics such as mental health and trauma are particularly difficult. A long-standing tradition of the firefighter occupation is a strong symbol of the heroic, community savior, immersed in masculine identity that still shapes today's volunteer fire service (Greenberg, 1998; Yarnal, Dowler, & Hutchinson, 2004). Masculine ideals of bravery, loyalty, duty, physical strength, emotional control, aggression, courage, independence, and adrenaline are displayed and glamorized throughout the fire service (Archer, 1999; Kitt, 2009; Thurnell-Read & Parker, 2008; Yarnal et al., 2004). Perhaps the most difficult aspect of the firefighter image is the hero and macho mentality (Brazil, 2017; Jones, 2016). Driven by hyper-masculine traditions, this mentality establishes norms and values for coping with stressful incidents and maintenance of a public disguise (Brazil, 2017; Jones, 2016; Collinson, 1988; Moran & Roth, 2013; Rowe & Regehr, 2010). Upon closer examination, the masculine elements of heroism and bravery reveal hidden protective mechanisms to shield from the emotional elements of the job. A hero is invincible and does not show weakness. The expectation of stoicism has perpetuated the culture of the volunteer fire service and has manifested in language of humor, coldness, depersonalization, and derealization to ensure the image of the uniform masks the realities of the harshness of responding to emergencies (Brazil, 2019; Jones, 2016; Yarnal et al., 2004; Alder-Tapia, 2013). Therefore, it can be incredibly difficult for volunteer firefighters to openly discuss issues related to mental health and trauma

due to their organizational culture. Discussing these issues might provoke emotional responses or convey unmasculine traits that are often avoided (Alder-Tapia, 2013; Brazil, 2017; Jones, 2016; Yarnal et al., 2004).

In the exploration of gender issues using photo-elicitation, Slutskaya & Simpson (2012) found that this method was helpful in breaking adherence to gender norms in occupational settings. Their study population, working-class men in the butcher occupation, found that the use of photo-elicitation allowed their participants to discuss and reflect upon topics that might challenge traditional notions of masculine ideals and identity, and provide space for reflection and emotions. Oliffe & Bottorff (2007) studied men's health with research participants who had prostate cancer and challenged the notion that men don't talk about health. In their experience using photo-elicitation, they disrupted many of the major social constructions of masculinity and showed the effectiveness of photographs to produce rich qualitative data. Overall, there is a consensus in the literature that photo-elicitation is a valuable method for exploring research areas with hyper-masculine environments that might otherwise be inaccessible through verbal discussion or textual engagement (Slutskaya & Simpson, 2012; Padgett et al., 2013; Dam, 2022; Bukowski & Buetow, 2011; Harper, 2002; Oliffe & Bottorff, 2007; Creighton et al., 2017).

### ***3.3.1 Insider Researcher***

In some instances, researchers who use photo-elicitation have reported that there must be institutional support, and in some instances, insider connections are prerequisites to gain access to the research population (Clark-Ibanez, 2004). The principal researcher for this study was a former volunteer firefighter in rural, Nova Scotia which situated them as an insider researcher (Unluer, 2012). As an insider researcher, the researcher was given unparalleled access to the participating fire departments and their members. One firefighter told the researcher that if the researcher had not been a firefighter, there would have been no way the firefighters would have let them into the fire department to do this research. This privilege cannot be understated. The level of trust and confidence given to the researcher allowed for the depth of information provided in this study. The researcher was able to relate to the volunteer firefighters through common occupational experiences, being from rural Nova Scotia, speaking a similar language, and understanding cultural norms that are necessary to study this population and environment. Additionally, this knowledge and understanding of the volunteer firefighter culture and context,

gave the researcher confidence to employ the photo-elicitation method with this population. The researcher engaged in reflexivity to counter bias and critically reflect on their role and position within the research.

Being an insider researcher did not come without challenges, one being the level of familiarity the researcher had with the study population and some of the traumatic experiences they shared. The researcher tended to have a direct connection to the people or community that research participants described, or they had experienced a similar traumatic experience during their time as a volunteer firefighter. This did take an emotional toll on the researcher at times. The researcher sought support to manage their reactions to information shared by research participants. This allowed them to continue this work while attending to their own mental health needs.

### **3.4 Methodological Process**

#### ***3.4.1 Study Purpose***

The purpose of this research was to understand how the volunteer firefighter occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia. This study attempted to answer the following questions: 1) How do rural volunteer firefighters understand and make sense of their occupational environment? And 2) How does the occupational environment create both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being? To gain a deeper understanding of the volunteer fire service in rural, Nova Scotia, photo-elicitation was used to explore volunteer firefighters' experiences that define and characterize their occupational environment. Research ethics approval was obtained from the Health Sciences Research Ethics Board at Dalhousie University.

#### ***3.4.2 Participants***

Purposive and convenience sampling was used in this study (Creswell, 2013). Three rural volunteer fire departments in Nova Scotia participated. Nine frontline volunteer firefighters participated in a series of interviews. The nine firefighters, consisting of four women and five men, were active, frontline firefighters and did not hold an officer rank at the time of data collection. The firefighter's years of service ranged from three to forty years.

### ***3.4.3 Series of Interviews***

The nine frontline firefighters participated in a series of three interviews occurring approximately two weeks apart from one another. The second interview incorporated photo-elicitation. Data collection took place from February 2020-October 2020. There was a large break in data collection from March 2020-July 2020 due to COVID-19 pandemic lockdowns. All Nova Scotia public health guidelines were adhered to during in-person data collection.

The series of interviews provided insight into the realities and experiences of being a volunteer firefighter. The intent of the first interview was to learn more about the individual firefighter and build rapport. The interview focused on highlights and experiences in the fire service. During the second interview research participants engaged in a discussion of photographs they selected that documented their experience and identity of being a rural volunteer firefighter and factors impacting their mental health. During the final interview, the researcher asked questions based on themes arising from the first and second interviews.

### ***3.4.4 Photo-Elicitation Process***

At the end of the first interview, the researcher instructed the firefighters on the process for the next interview, which would include photographs. The researcher gave each participant a folder with documents and instructions on what to bring for the next interview. These documents included a photo-elicitation process sheet, a photo note worksheet, and photo consent forms. The photo-elicitation process sheet was a written instruction that was verbally conveyed to participants. The researcher asked each firefighter to document their experience and identity of being a rural volunteer firefighter in Nova Scotia by taking or finding photographs. The following questions were communicated to help firefighters take or find photographs: What are the most important aspects of the work you do as a volunteer firefighter? What would you want people to understand about being a volunteer firefighter? And what aspects of volunteer firefighting have an impact on your mental health? The instructions included the following steps:

1. Take or collect as many pictures as you want. There are no right or wrong pictures. You can also choose photos that have been taken in the past by yourself or others.
2. At the end of the two weeks, choose up to ten images that you want to share with the researcher at the next interview.

3. Bring the photos to the next interview (on your phone, computer, or printed).
4. At the next interview, I will ask you to tell me about the photographs.

Additionally, issues of consent were mentioned. Participants were asked to use the photo consent forms for other individuals in the photographs and for permission to share photographs taken by other individuals. The consent forms were driven by the original concept that the photographs might be shared as part of knowledge dissemination at the end of the study. This intent was abandoned and is further explained later in the discussion section of this paper. Firefighters were also reminded to follow their fire department's policies on taking pictures at any fire calls. Finally, each firefighter was given a photo note worksheet to keep track of their photos and document why they selected them. This was an optional activity that two firefighters participated in.

At the second interview, the firefighters were asked to share the photographs with the researcher. This interview was research participant driven and the firefighter primarily led the interview. The firefighter told the story behind each photograph presented to the researcher. Firefighters engaged in a dialogue about the photos which led to more in-depth stories and memories of their experiences being a firefighter. All firefighters selected images that had already been taken (they did not take new photographs for this study). There are a few reasons this could have occurred. First, many fire departments have strict organizational policies on taking photos on the fire ground and this could have been a reason to avoid taking new photos. Second, many of the firefighters expressed the desire to share old stories; therefore, using existing photos made more sense.

The use of existing and/or older photographs allowed historical context to be explored and helped participants talk through their experiences. The focus of this interview was the photo and stories, and the researcher would ask further questions, as needed, to understand the photograph. Once the firefighter had shared the story of each image, the researcher asked the same three questions that were listed on the photo-elicitation process sheet. This provided further clarification on how the firefighter interpreted these questions and how they selected the photographs. After this, the researcher and firefighter collaborated and explored themes that emerged from the photographs. This provided the researcher with an initial thematic analysis from the perspective of the firefighter.

### ***3.4.5 Data Analysis***

Thematic analysis and discourse analysis were used in this study to analyze the findings. Thematic analysis occurred during the photo-elicitation process as a collaborative effort between the researcher and the research participants, where joint theorizing happened during the second interview. Joint theorizing also provided member checking (Harper, 2002). In addition to the thematic analysis during the second interview, the researcher analyzed the transcripts from all three interviews. This involved identifying themes that emerged from the data by finding repeated patterns of meaning. Coding was used to break up the data and find the themes. The emerging themes and patterns were linked between the different data sources. Discourse analysis was used in this study with both actual and latent content analysis. Through discourse analysis, the language used within the transcripts and texts was used to highlight social relationships and cultural values (Czarniawska, 1997).

The series of three interviews ensured trustworthiness and rigor. Joint theorizing and member checking were used in the second interview, and the third interview provided further checks and clarifications by asking questions based on themes arising from the first and second interviews. A common understanding between participants and the researcher developed due to the use of different information sources through the three interviews and the more in-depth discussion of the photos. These different data sources provide varied insight to the research and provide rigor to the research through triangulation (Bigante, 2010; Creswell, 2013).

### ***3.4.6 Joint Theorizing Process with Research Participants***

The process of joint theorizing with the research participants occurred towards the end of the second interview. After the research participants had finished sharing their stories, experiences, and answering questions, the researcher asked them about any themes or patterns they noticed. The researcher always asked the research participant first and then shared their thoughts as well. All themes and patterns noticed by both individuals were documented.

Once the researcher started asking more questions about the photographs and the themes emerging, this is when deeper discussions occurred of stories or experiences that might not have been directly related to what was seen in the photograph. The questions along with the photographs prompted a broad range of responses. The discussion of themes or patterns also



created further discussion of experiences for firefighters. The process of joint theorizing within itself provided a deeper understanding of the content being shared.

Through joint theorizing with research participants, the central emerging theme was the “fire family.” All firefighters shared many photographs of fellow firefighters and discussed themes of camaraderie, support, trust, and community. Many sub-themes also emerged throughout this process. Sub-themes discussed in relation to the photographs included teamwork, collaboration, mutual aid, way of life, pride, reputation, stress on family, commitment, a sense of belonging, and dedication. The themes and patterns emerging from the selected photographs focused heavily on the fire family, how firefighting is a way of life, and the pride they feel in giving back to their communities. Some firefighters shared their experiences of responding to traumatic fire calls during this interview, but the emerging themes focused on more positive aspects of being a volunteer firefighter. The only negative theme discussed as a direct result of the photographs was stress on family members. The themes that emerged or were discussed during this interview were directly related to the photographs, even though much more information was delved into during this interview.

This process was the only time that the photographs were analyzed for themes and patterns. It was evident throughout this process through discussions and comments from some firefighters that they were hesitant to share photos publicly. As the process unfolded, it became clear to the researcher that the goal behind using photographs was to have deeper discussions during the interview rather than sharing photographs publicly. Some firefighters mentioned not selecting photographs to share with the researcher out of concern for it being shared publicly, even though it had been explained that no photo would be shared publicly without their consent. Additionally, many photographs had multiple firefighters in them, and the process of gaining consent from everyone in the photo would have been difficult or near impossible in some cases. Out of respect for the firefighters and to maintain trust, as well as privacy and confidentiality of research participants, the researcher decided not to share the photographs publicly for this study.

An observation made by the researcher during this process was how some firefighters discussed their emotions or how the photographs made them feel. Firefighter C shared,

*“I mean, [a photographer’s] got some pictures of me that I actually asked him to delete [from social media] because I was...there was one, we were at an accident and I was doing traffic, so I wasn’t even close but it was the fact that I was there. I shouldn’t have*

*been there. And I was crying, and he took a picture and you could tell that I was upset in the picture. And I'm like, can you please just delete that? Like, I don't need people to know that I'm struggling. So just recognizing that it wasn't a good day. So [I] don't need that reminder.”*

Another firefighter shared their internal struggle with having their image taken on the fire ground. Firefighter A shared,

*“But then it's like we're here and somebody's over in the corner on the phone with the insurance company or on the phone with the wife and saying, my shop just burnt down. And there's all these people here taking pictures and doing selfies and laughing and smiling and we haven't seen this person in awhile. Oh hey [firefighter] great to see you. What's happening, how's [the wife]? You know, all this sort of stuff. So that part of it I struggle with. And I catch myself coming back and thinking, did I just do that? Did I just really say that? Did I really smile for the camera? What does that look like? And so that, that part of it I struggle with.”*

During the second interview, the researcher also noted that many firefighters were selecting photographs from social media. This created an opportunity to discuss social media further during the third interview. Additionally, the third interview with firefighters delved into more difficult topics even further. The second interview laid the groundwork for the researcher to ask more difficult questions about occupational stressors and mental health in the third interview.

### **3.5 Discussion & Conclusion**

The use of photo-elicitation within a series of three interviews with frontline volunteer firefighters provided a depth of insight and information into their unique occupational experiences and how this impacts their mental health. There were some strengths, unexpected outcomes, and lessons learned throughout this process.

#### **3.5.1 Building Rapport and Therapeutic Value**

Of importance to the researcher and the data collection process was to build trust and rapport with the firefighters. As an insider researcher, the principal researcher understood that gaining enough trust from the firefighters to be able to speak about the difficult topic of mental

health would take time. This was one of the reasons for selecting just three fire departments and only working with those departments for this study. This allowed the time and focus to establish a relationship with the department and its members. While the researcher, being a former firefighter opened the door, it did not necessarily provide an initial safe environment for firefighters to discuss difficult topics. With this knowledge, the decision to conduct a series of three interviews over a period of weeks was primarily to get to know the firefighter and give time for establishing trust. The researcher designed the series of interviews as rapport building, with each interview building on the last. As expected, during each interview, the firefighters became more comfortable interacting with the researcher. Waiting to use photo-elicitation in the second interview allowed the researcher and firefighter to get to know each other first. This design was effective. One firefighter even brought a scrapbook of newspaper clippings and photographs their mother had made for them to share with the researcher during the third interview. The series of interviews proved to be an effective strategy for building relationships and providing space for sharing. It allowed the researcher and participant to explore the topics in a collaborative way. While the data collection process was time-consuming, it was a critical aspect of doing valuable and collaborative research with this population.

An unexpected outcome of the rapport-building strategy was the therapeutic direction of the discussions with an insider researcher. It was evident throughout the data collection process that this research technique provided therapeutic value and for firefighters, sharing their stories and experiences of volunteer firefighting was a form of emotional release. Some firefighters mentioned they had never openly discussed the traumatic incidents that they shared with the researcher. Some firefighters felt a range of emotions they did not expect to feel speaking about their experiences. For example, one firefighter shared an experience with a motor vehicle accident death and the process for body removal. They became emotional talking about the incident and until that moment, did not realize how much it had impacted them. It was the first time they openly shared their experience, and a flood of emotions came over them. There were many difficult situations discussed by firefighters and they shared with the researcher how beneficial it was to have someone listen. The way in which the researcher designed the interview process gave the individual space to share. It is important to note that while the researcher provided space for firefighters to share their experiences, they acted solely in the role of a researcher and listening ear. The researcher did not provide any type of formalized peer support

or any form of therapy. The researcher did not share their own experience or share advice during the interview. The researcher did ask further clarifying questions to gain a deeper understanding of the situation if it was appropriate to do so.

The outcome of the therapeutic value gave further insight into the general coping skills used by firefighters to forget or not talk about an incident, and to try to move on. This also showed a potential lack of mental health resources or opportunities for firefighters to share their experiences and emotions about traumatic incidents. The researcher listened and provided space for the firefighters to talk. It is important to note that each firefighter was also given a list of mental health resources. The emotional response and therapeutic value of the research process was not necessarily surprising given the information in the literature, but it was the added layer and context of having an insider researcher that leveraged a different type of therapeutic value, a peer connection which may have given firefighters the feeling of permission to discuss their experiences with an insider.

### ***3.5.2 Selection and Use of Photographs***

The collaborative nature of the photo-elicitation process proved to be valuable in this study. The photographs provided a central focus for sharing. Many times, the photograph would lead to memories and stories not directly related to the photograph. For example, only a handful of photographs from all nine firefighters were of emergency scenes or traumatic incidents. However, once the firefighters began speaking about their photographs, they almost always led to descriptions or stories of emergency incidents. The photographs provided a place for being grounded. The firefighters were given the option to take or find photographs based on the questions posed by the researcher in the first interview. Interestingly, all firefighters selected photographs that already existed, and no new photographs were introduced. The researcher also noted that most photographs were taken from social media pages such as Facebook and Instagram. Social media emerged as a major theme and source of occupational stress for volunteer firefighters in this study. Firefighters discussed the stress they experience after viewing photographs and comments on photographs on social media where they might experience trauma reminders and harsh criticism from the public. A possible reason for the emergence of social media as a major theme in this study might have been due to the nature of the methodology chosen and how firefighters went to social media to collect images for the interview. Due to this,

social media was an integral part of the data collection process and emerged as an important factor throughout the second and third interviews.

During the joint theorizing portion of the second interview, many common themes emerged such as trust, fire family/the people in the fire department, community, camaraderie, and pride. All themes had a noticeably positive focus. As mentioned, the researcher also observed that very few photographs showed emergency scenes or traumatic incidents but rather they focused more on people and community. When the researcher asked the three questions, it was noticeable that firefighters decided to focus on the first two questions: What are the most important aspects of the work you do as a volunteer firefighter? And what would you want people to understand about being a volunteer firefighter? It is hard to know if this was due to looking at the instruction sheet and seeing those as the first questions or if there was purposeful avoidance of the final question: what aspects of volunteer firefighting have an impact on your mental health? When the researcher asked the final question, it did open the doors for sharing difficult fire calls or experiences, but they were not necessarily directly related to the photographs. Most of the discussion of traumatic or difficult calls happened in the third interview. A lesson learned is that three questions for finding or producing photographs were too many. While the goal of the second interview was to be primarily participant-driven, having more than one question allowed a complete avoidance of one of the questions when selecting photographs. The questions are important because they are the way the researcher can give some direction for the second interview. The use of more than one question might have confused the direction of the photo-elicitation interview.

One firefighter specifically mentioned purposely avoiding the last question and only selecting photos to share with the researcher that did not elicit emotions. They mentioned the reason for this is that they wanted to focus on the positive aspects of firefighting and did not want to look at the pictures that reminded them of negative memories. This firefighter provided further insight for the researcher on how image selection, not just discussing the image, can be emotionally triggering. For this firefighter, the process of selecting an image had an emotional impact due to issues of potential trauma reminders. Viewing certain photographs reminded them of a traumatic incident and it brought back a flood of emotions they felt from that experience. However, throughout the interviews it was clear that even with the avoidance of selecting photographs that might elicit emotions, sometimes recalling stories and experiences still

provoked unexpected emotional responses. Additionally, this avoidance of certain photographs that might elicit emotional responses provides further insight into the firefighter culture of stoicism. While at the same time, revealing the desire to show the positive and great aspects of being a volunteer firefighter. The desire to have the public better understand firefighting beyond only dealing with bad calls and trauma was evident throughout this process. This entire experience with photo-elicitation shows the powerful nature of the selection of photographs before even getting to the point of sharing the photograph with the researcher.

### ***3.5.3 Confidentiality and Trust***

Another consideration and lesson learned in this study was confidentiality and anonymity. During the initial plan for the design of this study, it was thought that the images produced and shared could be significant for knowledge dissemination at the completion of the study, similar to the process used in photovoice. However, as the data collection and interview process began to unfold, it was evident that the purpose of the photographs should solely be to create dialogue and not for the purpose of sharing publicly. The use of images should have always been for only the interview and having firefighters know that the images might be shared publicly affected the photographs selected. Had the researcher only focused on images for dialogue and ensured that photographs would not be shared, this may have expanded the photographs selected and created even further dialogue and insight. Confidentiality and trust are needed in research with this population. While photographs are an effective data collection tool with this population, the issues of confidentiality and trust should have been considered more thoroughly. Some firefighters mentioned wanting to share photographs with the researcher but chose not to because they did not want them shared publicly, even though the researcher explicitly explained that photographs would not be shared without their permission. The sensitivity regarding issues of confidentiality and anonymity is at the forefront for firefighters and is an important lesson learned with this population.

### **3.6 Summary**

Photo-elicitation proved to be an effective method to explore the difficult topic of mental health within the occupational environment of volunteer firefighting in rural Nova Scotia. The design of a series of three interviews provided the researcher an opportunity to build rapport

leading to the photo-elicitation interview and an opportunity for further clarification of information shared in the final interview. A key element of photo-elicitation in this study was giving power and autonomy back to the firefighter for the study. This provided a space to share information. An unexpected outcome of the photo-elicitation process with this population was the therapeutic value, giving evidence to a perceived lack of mental health support and resources for volunteer firefighters. Additionally, how photographs were selected provided a window to explore the topic of social media as a significant stressor for volunteer firefighters. Lessons learned in this process included instructions for selecting photographs, questions about photographs, and issues of confidentiality as important for future research with volunteer firefighters using this method.

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## CHAPTER 4

### “FIT IN OR FUCK OFF”: EXAMINING VOLUNTEER FIREFIGHTER IDENTITY CONSTRUCTED WITHIN A MASCULINE CONTEST CULTURE OCCUPATIONAL ENVIRONMENT



**Sound the Siren**

Chapter 4 is formatted as an original article for publication in *Gender, Work, & Organization*. This work has not yet been submitted for publication.

#### **4.0 Abstract**

Firefighter identity and culture are entrenched in masculine ideals and values such as strength, toughness, dominance, and stoicism. Hyper-masculine firefighting occupational environments demand conformity to these types of masculine ideals. This qualitative study used interviews that included photo-elicitation with nine frontline firefighters, and three focus groups with a total of twenty-one officers from three rural fire departments in Nova Scotia. The study explored aspects of the occupational environment that create both opportunities and barriers to mental health and well-being. One of the dominant narratives that emerged was gendered masculine ideals within firefighter identity. This paper uses the masculine contest culture framework (show no weakness, put work first, strength and stamina, and dog-eat-dog) to explore and identify masculine gender norms associated with the volunteer firefighter identity. Joking culture, obligation, commitment, competition for leadership roles, and emotional restraint were identified within these dimensions as critical aspects of the masculine contest culture that impacts volunteer firefighter mental health coping and help-seeking.

#### **4.1 Introduction**

*“I never saw gender as an issue. Only if you let it be an issue.”* - Firefighter A

The firefighter occupation is male-dominated, with an organizational culture that is entrenched in masculine identity that values masculine ideals such as rationality, physical dominance, competition, and control (Yarnal, Dowler, & Hutchinson, 2004; Ainsworth, Batty, & Burchielli, 2014; Richardson & James, 2017). Furthermore, occupational prestige for firefighters is associated with popular culture and media that perpetuates a particular firefighter symbol representing masculine heroism and heterosexuality (Ainsworth et al., 2014). The role of a firefighter is deeply rooted in the ideals of heroic masculinity and can manifest in different ways. The first is a culture of “companionate love” (O’Neill & Alonso, 2018). Many firefighters talk about the brotherhood or camaraderie of the fire service that brings forward ideals of caring, compassion, and trust. However, a darker, more toxic side of masculine culture tends to

dominate the fire service where the ideals of physical and mental strength, bravery, risk-taking, dominance, and stoicism are valued above all else. When these ideals of masculinity are associated with occupational performance this perpetuates masculine contest culture (O'Neill & Alonso, 2018; Berdahl, Cooper, Glick, Livingston, & Williams, 2018). Berdahl et al. (2018) found factors within masculine contest culture require members of all genders to prove their masculinity by engaging in behaviours categorized into four dimensions: show no weakness, put work first, strength and stamina, and dog-eat-dog. This paper uses the four dimensions of masculine contest culture that define manhood and masculine identities, and tensions in contemporary western cultures and organizations to better understand the hyper-masculine construct within firefighter identity. It explores how masculine contest culture influences and impacts mental health coping, support, and care within the volunteer fire service.

#### ***4.1.1 Gender Norms in the Fire Service***

The fire service was founded through male, working-class activity and the gendered nature of society at the time (Simpson, 1996; Desmond, 2006; Greenberg, 1998). Those threads still exist today but society has significantly shifted. In the past, men were responsible for fighting fires as a service to their community, and the fire service started as a form of community protection (Greenberg, 1998). Volunteer firefighters still provide essential emergency services to communities across Canada and each time they respond to a fire call, they are exposed to potentially toxic or traumatic events, and occupational stress (McKearney & MacKenzie, 2021; Johnson et al., 2020; Stanley, Boffa, Hom, Kimbrel, & Jointer, 2017). They face greater barriers to seeking support for mental health concerns due to issues of affordability, availability of services, stigma, and an organizational culture grounded in masculinity (Johnson, et al., 2020; Brazil, 2017; Yarnal & Dowler, 2002; O'Neill & Alonso, 2018; Stanley et al., 2017). The code of behaviors and rituals of the fire service are immersed in hyper-masculine values (Henderson, Leduc, Couwels, & Van Hasselt, 2015).

Gender is a powerful cultural force and the volunteer fire service at its core is comprised of traditional masculine ideologies (Morgan, 1997; Kitt, 2009). Masculine ideals of bravery, loyalty, duty, physical strength, emotional control, aggression, courage, independence, and adrenaline are displayed throughout the organizational environment (Archer, 1999; Kitt, 2009; Yarnal, Dowler, & Hutchinson, 2004; Thurnell-Read & Parker, 2008). The distinctive mark of a

good firefighter is their ability to use aggression, courage, and confidence to control situations and view risk as something that can be tamed or even avoided (Desmond, 2011). Morgan (1997) states that traditional forms of organizations are dominated and shaped by a masculine value system while becoming trapped in the male archetype. This is apparent in the occupational identity of firefighters throughout history with the hero identity playing a vital role within the masculine distinction of firefighters. The public image of a 'fireman' as a 'hero' reinforces the powerful gender ideal in the volunteer fire service and plays a critical role in the culture.

Throughout history, the public identity and images of firemen and the idea of the firehouse have been the faces of ideal masculinity (Greenberg, 1998). Yarnal et al. (2004) describe how the images of firefighters from the 9/11 attacks in the United States of America illustrated ideals of heroism, self-sacrifice, and stoicism by male firefighters. This has been a lasting image and perception of firefighter occupational identity in recent years (Brazil, 2019; Jones, 2016). Upon closer examination, the masculine elements of heroism and bravery reveal hidden protective mechanisms to shield from the emotional elements of the job. A hero is invincible and does not show weakness. Maintaining this identity and way of life in the volunteer fire service is not questioned. The ability to conceal emotions and protect against uncertainty dominates the cultural environment of the volunteer fire service and creates significant barriers for female firefighters that are not well understood (Brazil, 2019).

Firefighters have an underlying moral obligation to the communities they serve (Yarnal, et al., 2004). Within this obligation is the idea that if a volunteer firefighter is not responding to fire calls, they are not living up to their public image of a hero (Yarnal et al., 2004). With hero identity and culture being derived from the ideals and principles of masculinity, volunteer firefighters are trapped in the desire to live up to this identity as a group and for the public. The group expectation of stoicism has displayed itself through dark or gallows humor, coldness, and depersonalization (Alder-Tapia, 2013; Brazil, 2017; Jones, 2016; Yarnal et al., 2004). Dark humor is one of the cultural languages of the volunteer fire service (Moran & Roth, 2013; Thurnell-Read & Parker, 2008; Rowe & Regehr, 2010). Joke culture is often associated with high-risk or dangerous, male-dominated organizational environments; and the volunteer fire service is part of this (Moran & Roth, 2013; Thurnell-Read & Parker, 2008; Rowe & Regehr, 2010). As part of social identity theory, the language of humor is used to reinforce group cohesion, occupational identity, and coping; and is formed as an unwritten code of behavior

(Collinson, 1988; Moran & Roth, 2013; Rowe & Regehr, 2010). In the volunteer fire service, it is common to use different forms of humor to establish cultural norms. Nicknames are common as symbols of acceptance, rejection, admiration, cynicism, superiority, and inferiority (Moran & Roth, 2013). Collinson (1988) describes masculine ideals of certain humor as collective solidarity, control, and conformity to these ideals. There is a hidden significance and messaging within the joke culture of the volunteer fire service. It is often dark or gallows humor and it masks the emotional pain of coping with emergency incidents which helps maintain control (Collinson, 1988; Moran & Roth, 2013). This type of humor makes fun of life-threatening and dangerous situations and can appear inappropriate to outsiders (Rowe & Regehr, 2010). Volunteer firefighters become trapped in this constructed reality of coping and the fears of showcasing emotion about stressful incidents (Collinson, 1988). It is often easier to joke about it as a group and allows firefighters to exert control over their emotions (Collinson, 1988; Moran & Roth, 2013; Morgan, 1997). The defense mechanism of depersonalization or dehumanization involves the detachment of any personal feelings from the emergency incident (Mastracci, Guy, & Newman, 2012). To be able to function with the stressful incident, volunteer firefighters must put their emotions aside and compartmentalize these incidents so they can continue to respond to future incidents (Thurnell-Read & Parker, 2008). This defense mechanism has both unconscious and bureaucratic importance (Morgan, 1997). It can sometimes assist firefighters to do their job efficiently and effectively but can also numb firefighter empathy for emergency situations. There are long-term cumulative effects of continuing to use these types of defense mechanisms.

Given the challenges faced by the volunteer fire service with regard to mental health and other issues, such as recruitment and retention, there have been various statements throughout the literature such as, “the culture has to change” or “change the toxic environment” but it is never clear what this actually means (Bryant, 2009; Thompson, 2016; Stacey, 2018). Perhaps it is the deep-rooted darker and toxic side of masculinity that is perpetuated through masculine contest culture that they are speaking of.

#### ***4.1.2 Masculine Contest Culture***

Berdahl et al. (2018) have proposed that a key reason workplace gender reform has stalled is due to the fact that workplaces remain a place for masculinity contests among men, particularly in male-dominated occupations. Berdahl et al. (2018) developed the dimensions of



masculine contest culture, based on the areas of physical, emotional, behavioral, and social dimensions that define manhood in contemporary Western cultures. They used Brannon's (1976) rules of masculinity to support the development of the masculine contest culture framework. Brannon (1976) described four areas that are rules or requirements to achieve the ideals of masculinity: "no sissy stuff" (express no weaknesses or feminine emotions), "be a big wheel" (level of status, success, power), "be a sturdy oak" (toughness, stoicism, strength), and "give 'em hell" (crush the competition). Studies around masculine norms and values have validated the rules laid out by Brannon (1976). Within specific organizational settings, masculine ideals and norms have the undertones of these areas. It is found that masculinity contest norms are most likely to emerge in traditionally male-dominated occupations. The subcategories of masculine contest culture are divided into four areas: show no weakness, put work first, strength and stamina, and dog-eat-dog (Berdahl et al., 2018).

Show no weakness aligns with the rule of "no sissy stuff" where masculine norms such as stoicism, bravery, and brash confidence are idolized while any emotions, fondness, tenderness, or other more feminine-associated emotions are expected to be suppressed. Put work first is associated with the "big wheel" where any outside interference is seen as a sign of weakness. Taking breaks or personal leave due to family obligations is completely discouraged. Strength and stamina align with the rule of "sturdy oak" and show that respect and status are associated with endurance, physical strength, and the ability to work long hours. Finally, the dog-eat-dog dimension, perhaps the most extreme, aligns with the "give 'em hell" rule. In this dimension, the organizational environment or workplace becomes a highly competitive atmosphere where the "winners" dominate, and the "losers" are exploited or oppressed. There is a concept that any competitors must be defeated and that outsiders cannot be trusted.

When minority men, women, or genders other than men enter this hyper-masculine or masculine contest environment, they must fight and play by the same rules to survive, they must conform to this social norm (Berdahl et al., 2018). In organizational cultures and environments, these masculine norms foster a great dislike for dominant behavior by women and minority men (Berdahl et al., 2018). In doing so conformity to masculine contest culture norms is perpetuated among all members who may suffer from the negative consequences of this type of organizational environment. This paper explores the four areas of masculine contest culture that

coincide with Brannon's (1976) rules of masculinity: show no weakness, put work first, strength and stamina, and dog-eat-dog.

## **4.2 Materials & Methods**

This qualitative data was collected as part of the Sound the Siren research study for the lead author's PhD dissertation that explored how the occupational environment impacts the mental health and well-being of volunteer firefighters in rural Nova Scotia. This study endeavored to answer the following questions: 1) How do rural volunteer firefighters understand and make sense of their occupational environment? 2) How does the occupational environment create both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being? The lead author held a unique position as an insider researcher, having been a volunteer firefighter in rural Nova Scotia. An insider-researcher conducts research among populations to which they belong which can ease interactions and access to the study population. Reflexivity was used throughout the research process to reduce bias. Research ethics approval was obtained from the Health Sciences Research Ethics Board at Dalhousie University.

A total of 30 volunteer firefighters (24 men and 6 women) participated in this study. Both purposive and convenience sampling were used to recruit participants (Creswell, 2013). The age of participants ranged from 19 to 70 years old. The years of service of the firefighters ranged from 3 years to over 40 years. Data was collected from February to October 2020 for this study, with the majority collected between July to October 2020 due to the COVID-19 lockdown and all Nova Scotia public health measures were followed. All data was collected in person and was recorded and transcribed with participants' consent.

A series of three interviews were held with each of 9 frontline firefighters (5 men and 4 women) from three fire departments in rural Nova Scotia. Photo-elicitation was used during the second interview as a tool to enhance information on the difficult topic of mental health and to jointly theorize with research participants on emerging themes in the study (Harper, 2002). Participants were asked to select photos to share with the researcher, which answered the questions: What are the most important aspects of the work you do as a volunteer firefighter? What would you want people to understand about being a volunteer firefighter? What aspects of volunteer firefighting have an impact on your mental health? Three focus groups were held with

a total of 20 fire officers (18 men, 2 women) from each participating fire department. One officer participated in an individual interview because they were not available for the focus group.

In addition to joint-theorizing during the photo-elicitation interview, thematic analysis was used to identify patterns and themes. Thematic discourse analysis was also used to highlight cultural and social factors through the language used (Souto-Manning, 2014; Czarniawska, 1997). Themes emerged across the different data sources.

### **4.3 Findings & Discussion**

The four dimensions of masculine contest culture are used to provide a framework to understand the masculine culture of the volunteer fire service that demands conformity to the firefighter identity. Within the masculine contest culture framework, the findings intersect with each other and while the categories are used to describe the findings of this study, the factors do not necessarily fit into just one category. They are interconnected and have the tendency to overlap with one another.

#### **4.3.1 Show No Weakness**

There was a staggering number of firefighters who discussed topics related to showing no weakness. The need for emotion management was evident throughout this study with much of the focus on how the use of joking culture is a mechanism to control emotional responses. The coping strategy of joking culture is developed through socialization in the fire service. This learned behaviour was widespread throughout the participating fire departments. While many firefighters discussed the benefits of the joking culture, they also discussed how it can very easily cross the line and become problematic. Joking culture was described as a way to maintain stoicism and fit in with the expected behavioral actions of the fire department. Joking culture is rooted in masculinity and within a masculine contest culture can be seen as a device to bolster manhood, which is readily associated with firefighter identity (Collinson, 1988; Moran & Roth, 2013; Berdahl et al., 2018). Firefighter B shared, *“I think that’s how...some people cope with situations, a bad situation. You know a lot of us, especially men, they don’t want to talk about it, they’re having a problem. But, you know, they’ll tell a dark joke about something...And it’s just maybe their way of releasing the situation.”*

Firefighters described the joking culture, particularly that of dark humor, as a release or coping strategy and how it is a largely accepted and encouraged part of the firefighter identity. In a culture where showing certain emotions can be seen as a weakness, the use of humor can help control those emotions. Firefighter C described, *“It was suck it up. We don't cry here. It's part of the job. Get over it.”* This ingrained, learned behaviour can become problematic. A fire officer from Focus Group A stated,

*“Even the jokes sometimes, I've had a firefighter come to me and sometimes people think they're joking with them and having fun and they're putting on this smile because they feel they have to take it. But it is eating them away inside. And I'd had a firefighter come to me in tears because they didn't know what to do about it. And I know that some people think that you have to have that mental toughness. You have to get that over. You have to put that over your shoulder. But when you bottle that up forever because people think it's funny, like and they don't, they didn't feel confident enough to look someone in the face and say fuck off.”*

There is a tendency to put up with or give in to the joking culture even if it is bothering a firefighter. The desire to belong and be part of the team establishes a need to conform. Firefighters are expected to put up with joking culture, even if it is harming them, and mask their feelings. There is this idea that firefighters need to be mentally tough, not just in dealing with the traumatic events they are exposed to but also a toughness when it comes to the joking culture. Another fire officer from the same fire department stated,

*“Mentally...so if somebody has a...I'm going to use the term weaker, but it's not the right term, but a weaker mindset or a weaker personality. When you get experienced to the stressors and the stuff that this, I'm going to call it a job, puts you in. Is that right for you? Like or you know what I mean, like there's a level of the joking culture and...getting on people at trainings and doing those things that, you know, those people that don't have that, that mental strength, you know, maybe this isn't right for them. You know what I mean? I guess it's like the kid playing, the kid going in to play soccer. Well, you're the fat kid playing soccer and probably not going to be very good. He's gonna realize really quick that I don't like soccer. But if you keep that fat kid, you keep dragging him along. I'm using the term fat because I was, not the right term. I know, whatever [people laughing]. But it's illustrating my point here...”*

There is a perspective that dealing with or toughing out the joking culture will make someone a better firefighter. When a firefighter does not condone joking culture, then it is questioned if the firefighter has what it takes to be in that occupation. It has nothing to do with their skillset or occupational performance, the concern is if they are adhering to a prescribed version of what it means to be a firefighter, which is to show no weakness, particularly emotions that might be perceived as emotionally weak, such as crying. The joking culture described by participants in this study included everything from light-hearted jokes, teasing, nicknames, and dark humor but firefighters admitted that it bordered on the edge of inappropriateness and that some firefighters cross the line where joking culture becomes a greater issue for those not conforming to the cultural masculine norms. Firefighter A shared their experience,

*“I can tell you exactly...we get to this single vehicle MVA [motor vehicle accident]...And I knew the driver and I knew the passenger...these people were younger than me...passenger was hurt...and I was in the front seat driver’s side, talking to him the whole time...I can tell you everything about that call. There’s nothing I can’t tell you about that...And when we’re done...and I was starting to pack up. And this other guy in the fire department...had said to me, he made a joke trying to make light of the situation because he could see that I was affected by it...And I just fucking snapped right...I can’t remember exactly what I said, but it wasn’t pleasant. And he was trying to diffuse the situation because he recognized that I was struggling with this call because of knowing the patients...And he was trying to help. And it backfired...I mean, I came back to the station. I threw my helmet and I said, I’m not doing this anymore. This is horrible...”*

In trying to make light of the horrible situation, this firefighter crossed the line and caused harm without necessarily intending to do so. Trying to diffuse situations through jokes or humor can backfire because suppressing emotions in this way can be damaging to one’s moral compass. The firefighter knew the victims of this motor vehicle accident, adding a layer to the situation, where a joke is risky given that personal connection.

A fire officer from Focus Group A shared another problematic aspect of joking culture, *“We might have some jokes while that person’s not there and that might, we have a group think situation. Now, all of a sudden, we’re all subconsciously treating that one person, one way. And this other person we might show favoritism to or kind of coaching them. Where maybe if we coach the other person...they would show just as much potential.”* In group situations where

joking or making fun of a firefighter might create a situation where a majority of the firefighters are all treating an individual in a negative way. The group think situation and targeting of certain firefighters through joking culture crosses the line into bullying by, not just one firefighter, but a group of firefighters.

For one firefighter, their experience with joking culture in the fire service crossed into issues of sexual harassment. They shared,

*“I think because I'm a woman a lot of the joking gets turned sexual. Like I noticed that when there's joking, it turns more sexual toward, when it's towards one of the girls than if they were joking to each other kind of thing...I didn't complain, but it was other people complaining to the upper heads of the inappropriate comments that the guys would make. And it would be something as simple as, you know, you're connecting two ends of the hose together. Well you have a male and female end. Well, here, let me screw you, like those kind of things. And I'm guilty of it, too, because I think in my early years, I just kind of picked it up as that's kind of the humor and the attitude that is the fire service. And I get that a lot of people use that dark humor to cope, which is fine. But there are times when it does go a bit far. Like I've had, I've had to tell...I mean, recently a firefighter...I had to tell him, like, you can't text me those things. Like, that's not appropriate.”*

This female firefighter sharing their experience provides greater insight into how this ingrained joking culture can cross the line, but also how firefighters feel the need to adopt the joking culture, especially early in their career, with the assumption that this is the attitude and way it is in the fire service. Joking culture and dark humor are considered the norm, but as the firefighter stated, it can go too far leading to significant issues such as sexual harassment. The firefighter shared an example of a joke they heard before, and to some firefighters, this might seem normal or not that bad of a joke. However, there needs to be more education and training for firefighters to understand how those types of jokes can be harmful, offend individuals, and perpetuate permission to push further with sexual harassment, such as moving towards texting inappropriate sexual comments to fellow firefighters. This firefighter's story is also a good example of what Berdahl et al. (2018) discussed regarding how women, minority men, and other genders feel the need within masculine contest culture to conform or condone these types of behaviours and actions to fit within the culture. This firefighter describes it further,

*“...you don't want to rattle the boat per say and you don't want to turn into one of those people that is running to the chief's office to complain about everybody all the time because you don't want to be one of them females...So it's kind of I mean, I kind of had some warning ahead of time that there might be some problem children. And it kind of helped that I knew a lot of people in [the department]...So that made it a little bit easier. But, yeah...it was confusing the first little bit, of are they joking? Are they being inappropriate? What should I do with that? In [this department] we have an [individual we go to about personnel issues], so I would go to him quite often and be like, is this something I should be worried about? And he could kind of guide you as to like, no, no, no, he's just kidding. That's just how he is. He's just a joker. OK, perfect. Thanks. Or no, let's keep an eye on this kind of thing. So that was good. That was good to have him kind of guide me.”* Throughout their interview, they further explained, *“And there's some people that are way more inappropriate than others and half of that I think it's just that their personality and it's how do you, how do you balance...joking around with them without it turning, you know, without it going way off the deep end kind of thing? Like there's some people you know that you can joke to a certain point and then you have to stop. And then there's other people that you're like, oh, I know this is like they're just being funny and hilarious. And then there are other people that you're like this could turn into a bad situation and especially being a female. And it's happened recently that, you know, if you deny someone's advances, then they turn it around and they take it to the [officers]. And now you're the subject of an investigation because you were the inappropriate one.”*

There are many layers within the narrative shared by this firefighter. The first was that they did not want to be “one of those females” complaining to the fire chief or other fire officers. Once again feeling the need to conform to the joking culture and the harms that come with it. They also described in detail how the joking culture can be confusing because it can be a good part of the camaraderie and being part of the team, but when the jokes go too far, how does one complain and still be part of the team?

The joking culture within the volunteer fire service is a key strategy of the masculine contest culture to show no weakness. There is still the mentality to keep emotions on the inside and not show how one might be feeling after a fire call. One of the female firefighters mentioned

that a challenge they feel as a woman in the fire service is, *“I would say just because my emotions are different from the guy's emotions.”* This is an interesting perspective because perhaps it is not that their emotions are different, but it is the outward emotional response that differs due to masculine norms and the desire for men within the fire service to suppress emotions and the expectation that all members of the fire service conform to that behaviour. It's okay to not be okay but only in the way that conforms to the firefighter identity. An officer from Focus Group A stated, *“Firefighting as a whole, you have to have a certain personality to do it. Is it the department's responsibility to make everybody feel comfortable? Or is it [the] department's responsibility to weed out those that are potentially going to get hurt in the longer run?”*

This fire officer provides further insight into the mentality that it is not the culture that needs to change. If a firefighter does not conform or fit into the culture, the idea is to get rid of them. The other concern is that it leads to further issues of how that firefighter is treated. If the firefighter who joins does not end up having the “right personality”, how are they treated and what does the process of weeding them out look like? This can lead to issues of bullying, belittling, and harassment, and much of this behavior is embedded within the joking culture.

This damaging aspect of the joking culture and making fun of or teasing each other is that sometimes firefighter's actions or behaviours are symptoms of a much bigger mental health issue. Firefighter D shared,

*“That it's not...going out and answering the call and then returning back to work or going back home...it takes a real emotional toll on people, on their mental health. Not everyone but there's a lot of people that it affects, and they don't see that...I look back at some of our membership...whether they're veterans or you know they've been in 18 or 10 years...and I see through them...some people look at their behaviors and make fun of their behaviors and whatnot but there's a reason they're acting that way...”*

The emotional toll of the work of firefighters and the need to suppress emotions can manifest in other behaviours or actions. As Firefighter D states, there is a reason they are acting that way and by leaning into joking culture rather than other more caring or compassionate approaches, fire departments might be missing signs from their firefighters that they are not okay and struggling. There is a common saying in the fire service and other first responder communities when it comes to mental health, “it's okay to not be okay” but only if a firefighter



responds in a way that conforms to not showing weakness. It was mentioned by one fire officer from Focus Group A that they need to help their fellow firefighters, *“But the same time, we have to be careful that we don't coddle.”* How mental health issues are handled is still in the realm and undertones of masculine contest culture, even if someone is struggling, show no weakness. Do not coddle. An officer from Focus Group B mentioned, *“But we also still live in a culture where you're supposed to suck it up I think...there's still a lot of people in that department that will hold stuff in just like they did 30 years ago.”* While some firefighters mentioned that there have been great strides in moving away from the suck it up mentality, it was evident in this study that it still very much exists, it has just manifested in a different way, through the joking culture. If you are not fitting into the box of accepted types of incidents to struggle with, suck it up.

The idea of changing the joking culture in the fire service would be met with resistance by many firefighters. One fire officer from Focus Group A stated, *“We could say we're never gonna pick on anyone. We know that isn't gonna happen.”* There was the perspective that the millennial or new generation of firefighters are disrupting and damaging the idea of showing no weakness. The generational use of the word bullying or that newer generations are more sensitive was discussed. An officer from Focus Group A mentioned,

*“And that's the way it has to switch because the millennials are delicate and we need to go with the management style for the firefighter that you're able to attract in a volunteer service right now is significantly different than that of in the past. In the past, it was the old boys club. And you could come down here and say just about anything you wanted to say. And, you get away with it. Dealing with the millennial population, the ones that we need to come through the doors or the volunteer fire service will cease to exist because the older generation don't want to do this anymore.”*

There is this juxtaposition where they want newer, younger firefighters with the recognition that they might deal with things differently than older generations, but there is still a desire to “weed out” the “weak.” Blaming a new generation of firefighters for trying to change the mindset and challenge years of traditional masculine contest culture that are becoming less accepted or tolerated in society. However, in the firefighter culture this is seen as being sensitive, a sign of weakness. An officer from Focus Group A shared, *“It's not treating people like something, though. But it's not changing your culture. It's not changing the culture to adapt to make one person conform. You have to keep your culture, like there has to be...we had a saying*

*it was fit in or fuck off. And that's harsh. But at the same time, you have to fit into that type of culture. You have to...*" The strategy in some volunteer fire departments is to continue moving forward with the fit in or fuck off mentality, conform to the joking culture, and show no weakness masculine contest culture construct or do not bother being a firefighter.

#### **4.3.2 Put Work First**

One of the most unique aspects of the volunteer fire service is the requirement for volunteer firefighters to balance competing aspects of their life: work or income source, school, family, and the fire department. Within this balancing act, there is an expectation to put the fire department first. Throughout this study, the firefighters described the volunteer fire service as a way of life and a commitment to a greater cause. In the dimension of 'put work first', Berdahl et al. (2018) describe a component of the masculine contest culture that expects no interference and a complete dedication and commitment to the workplace or job including not taking breaks or leaves and not having family interfere with their obligation to the workplace. For volunteer firefighters in this study, this has manifested in ways of putting the fire department above all other aspects of their leisure time, including family time. The firefighter's way of life is a complete dedication and devotion to the volunteer fire service which is an integral aspect of the volunteer firefighter's identity. Firefighter B mentioned,

*"What's it like being a volunteer firefighter?...I mean, it's a lifestyle change. I mean, you have to be, you have to be prepared to run at any time, day or night, interrupts family functions and stuff as well right. So you have to have an understanding spouse and family at home...So what's it like being a firefighter...one of the things I love the most in life is...being a firefighter...It has to be balanced between family life and work and everything else..."*

For some firefighters, this complete dedication and putting the fire department first completely changes how they live their life. Firefighter A shared,

*"[Family members], they're always inviting me to go out there and I'll go sometimes. But I don't like to leave my world...I went out there and we got a call and I left and the call was done and I came back and [they] were like, [they] invited me out...again. I said, OK, I'll come because I feel guilty if I don't go. And [they're] like, just take the night off from the fire department. Nobody cares if you're going to be there. I said, I know, but I'm*

*obsessed with it. I care.” They continued by sharing, “I haven't had a drink since December...I don't care if I ever have a drink again but maybe I will when I'm traveling. I mean, it's different. That's different because I can't respond to a call...But I'm telling you right now, I do not want to be judged by anybody. That is my problem. They don't have to understand it. They don't have to be part of it, but they need to accept that my choice is I want to be available to fire calls...and it's okay that they sit there and they do whatever. But don't give me a hard time because...And don't tell me I'm going to take the night off. And don't tell me not to do this. And don't tell me I need to do that...”*

With this lifestyle change, and complete devotion and feeling of obligation to the fire department, firefighters can become defensive of their actions and behaviours if challenged by outsiders. Firefighters will do things such as not drink alcohol, leave any family event, or sometimes not even take vacations just to ensure they will be available to answer the pager and attend fire calls. Firefighters mostly talked about their willingness to leave family events.

Firefighter F shared,

*“You got to have a good, good, good family too that understands that you're not just leaving just because you don't want to be there, it's someone else needs you more than being there. Sometimes sucks because you want to be there for different events and you might have a day planned, but sometimes you get called out and you're gone all day, or you could be gone two or three times during that time. So that's definitely a lot of it too, having a good family that understands that. That it's not you, it's something else.”*

As Firefighter F alluded to, it is not necessarily that firefighters want to be away from their families, but this way of life and conformity to putting the fire department first takes them away from their families. This requirement to put the fire department first can be very stressful for the firefighter's family and put a strain on their home life. Firefighter J mentioned,

*“My [spouse] hates it...because I'm always either here on the phone or doing something related to here...so I'm always getting phone calls...no matter who it is, day or night. The guys are always calling and like I say, my [spouse] doesn't care for the place because I'm always doing fire department related stuff.”* They continued by sharing, *“I mean, every time you sit down, have supper or pager goes off or a family event or you sit down and watch a movie with your [spouse] and pager goes off and [they're] like, really?...The pager goes off at three o'clock in the morning. I need to be at work at seven. I got to*

*weigh what the incident is. It was just a chimney fire or something like that well, I won't go to that or a medical call. But if it's something serious, then I'll get up and go and [my spouse] goes really? You have to be at work in a few hours. But [I'm an officer] so I feel obligated. I need to go."*

For this firefighter, their status as an officer creates an even greater sense of obligation to put the fire department first. Maintaining that leadership status means having to put even more hours and time into the fire department. Firefighter I provided more insight into the level of stress faced by families,

*"The biggest one would be the fact that the sacrifices the firefighter's family make. So [they] could be a firefighter...[They] get the glory but I know your family...are sitting home worrying. And they don't get to see stuff. They might hear it if you left your pager home. And sometimes that's not a good thing. But that is, your family. It's not just the person in the fire department that gets the privilege to put on the gear and ride around in the red, shiny trucks. There's a sacrifice...It's family...meals are going cold. Stuff you missed. The worry."*

Firefighter I makes an important point, volunteers firefighters are getting the glory at the expense of their families. By putting the fire department first, enduring long hours, and the expectation of a high level of commitment, families make sacrifices to uphold the requirements for the volunteer firefighter to fit into this masculine contest culture.

Firefighters discussed the need for a certain work ethic by volunteer firefighters due to the high level of commitment. An officer from Focus Group A mentioned, *"You have to have a certain mindset to be a firefighter. It just has to be there. And you have to have a certain work ethic, because if you're going to be a volunteer firefighter, you're going to be committing hours."*

Volunteer firefighters put in a lot of hours at their fire departments not only for fire calls and emergencies but for training, meetings, committee work, and fundraising. There is a mentality that a firefighter must have a certain mindset, and what this officer is alluding to is the concept that it is a way of life, and that complete dedication and commitment are needed to be the best firefighter. Considering that volunteer firefighters in this study are unpaid and do this in their leisure time, the expectations are high. To conform to the masculine contest cultural environment, volunteer firefighters must give in to this way of life. Another officer from Focus Group A explained,

*“I think what causes a lot of stress for people and some of the issues that I've had to deal with is the level of expectation that we have here and the level of expectations isn't something that's ever going to change. And the sooner that, the sooner that they come to grips with that, the better off they are. Like, we're not going to...I'll use packing a hose for instance. We're not going to put a hose pack up there go oh that's good enough, you know. No, if it's not done right, it's coming off and we're redoing it. I don't care if we're here for another half an hour or an hour.”*

What happens when a firefighter is not able to meet expectations of putting the fire department first? Firefighter C shared, *“I remember saying, well, I'm going to have to take leave because there's gonna be some calls I can't get on...And they were like, well maybe it's time to go on the in the radio room. I challenged that.”* For this firefighter, not being able to meet certain expectations resulted in being sent to what is considered a less desirable position than being on the frontline or forced to take a leave away from the fire department, which is not desirable. However, as described by an officer from Focus Group A, the expectations are not going to change so volunteer firefighters must conform to this way of life and by doing so are better off in this occupational setting.

#### **4.3.3 Strength and Stamina**

The dimension of strength and stamina associates respect and status with strength and having the endurance to do the work, and this happens even in occupations that involve more mental than physical labor (Berdahl et al., 2018). Within the volunteer fire service, this can be seen through the physical demands of the firefighter occupation but also in ways of needing to prove oneself to fit into the hero culture and idea of being tough. As Firefighter D stated, *“I mean its when you come here...you've got to pull your weight. It's not a little pansy ass type, you know, organization. I mean, you have to come in with your eyes open and know that there's going to be physical strains and emotional strains, different things like that.”*

The reality of the firefighter occupation is that it is both physically and mentally demanding, but it is the established idea of the physical appearance of what a firefighter should be that is shown in this dimension of the masculine contest culture. Firefighter B stated,

*“I mean, that's what you're joining. I'm sorry ladies, but it is a physically demanding job to fight fires. There's no doubt about and you know, an inch and a half hose weighs the*

*same for you as it does for me. And you have to be able to drag that and there's women out there, because I'm not strongest guy out there. So, I mean, there's a lot of women that can do it. I mean, there's a lot of little men that can't do it. So, I mean, it balances out for sure. But I mean, you know a lot of departments they have a lot of women in some rural departments, not a lot but some rural. They kind of run their first responders program..."*

There is this image of a firefighter as a strong man, and those that do not fit that constructed appearance are questioned about their abilities to be a firefighter before they even show any level of physical abilities. The first thought process is that an individual not meeting that appearance is perhaps better off in a different role in the fire service such as running the first responders' program (generally the medical aspect of the firefighter role) or being in the radio room; roles that are not as physically demanding as a frontline firefighter. Firefighter C mentioned,

*"Personally, for me, my worst experience was walking into [a fire department] and being told that the kitchen is in the back room and the ladies auxiliary meets on Tuesdays. And yeah there really wasn't any place for me in the station wearing gear, riding trucks. That one hit hard, I took that one really hard...I could give you the standard answer of fatalities and what have you. But that one is my negative experience, probably that cuts the deepest." They continued, "It's hard to break into the old boys club. I feel like if you were a man coming off the street joining a local fire department, it would be like, hey, nice to meet you. Welcome aboard. We're so nice to have you, when you're a woman coming off the street to join the fire service it's...so here's your physical and this is what we need you to do. And like almost like you have to prove yourself. And I think it goes back to the old boys club. And there's a lot of departments in [this area] that have an issue with women. Like it is what it is. There's still a lot of them to do. There's still a lot of them that have an issue with women outside of the radio room, like you can join the fire department, but you're in the radio room. There is a lot that have issues with women being officers...and I think that's part of their tradition though. I think it's because it's always been an old boys club and there's still a lot of old boys. As long as [certain person] is chief in [a department], you'll never see a female officer changing of the guard has happened, that you will not see a female officer in [that department]...You really got to get in there and prove yourself."*

When individuals do not meet the predetermined strength and stamina expectations of a firefighter, there are further processes that a firefighter might need to go through to prove their abilities, whereas if they met the strength and stamina appearance requirements, there is likely to be no questioning of if they can be a frontline firefighter. The hero culture and desire for toughness create further complications for those not fitting the mold.

The hero culture is deeply embedded within the fire service culture and firefighter identity with the concept of the strong and capable firefighter saving the day and the stoicism associated with being both mentally and physically strong. Firefighter D mentioned,

*“I took [a] course, which was a real eye opener because they talked about the tradition, you know when lost in the line of duty, you know its a celebration of life and this heroism...And it's that tradition, what's been the ingrained and passed down through generations...from one firefighter to another. That's still there...how do you change that mindset? There's a house fire. You go through that front door when you know that there's no one in there. You don't have to...But it's a hero thing.”*

Within the hero culture is this idea of toughness, both physical and mental, and proving that you are tough enough to do the firefighter job and live up to this identity. An officer from Focus Group A stated,

*“I want to be clear when I use the term mental toughness too. Mental toughness doesn't mean you don't have problems or it's not going to bother you. Mental toughness means you have, you have the toughness to get through it...But you have the confidence. That's mental toughness. Like toughness isn't, you know, rah rah old school and you know, shit don't bother me. I don't need a BA [breathing apparatus] to go into a fire, but mental toughness is the ability to seek out the help when you need it. And that's, and that's our job as firefighters, I think. And that's even more so our job as [officers]. We have to see that. We have to know that in people, because if they're not, it's our job to get rid of them. And I don't mean, that sounds harsh, but it is. Because if they don't have that type of confidence, they can't be around this world. They are... Sorry they can't be around the firefighting world.”* If you don't fit into the mold and expectations when it comes to both physical and mental toughness, the firefighting world is not for you.

#### 4.3.4 Dog-Eat-Dog

The final dimension of dog-eat-dog describes a hypercompetitive environment where winners dominate and the losers are exploited (Berdahl et al., 2018). Competition, favoritism, and jealousy are all integral aspects of this dimension within the volunteer fire service. While perhaps not as focused upon in this study, there were certainly instances of the dog-eat-dog mentality, and this was apparent in the competition for fire officer and leadership roles within the volunteer fire departments as well as the competition between neighboring fire departments.

Favoritism and competition were key factors in frustrations around how fire officers are selected in the participating fire departments. A popularity-style contest or competition was described, where fire officers are selected during an annual meeting. Nominations come from the floor and a voting process occurs to select the officers for their upcoming terms of service. Firefighter C described this experience,

*“People run campaigns, like it's ridiculous...So if you can drum up enough support and run your campaign the right way, whether or not you are the right person for the job, if enough people vote for you, you get it...it's a popularity contest, I mean, the last round of [officer] elections, it was tense. Like you could cut the tension in that hall with a knife for two months. And then at the end of it, you felt terrible because...there is one family that two of the family members ran for positions and didn't get it...that family was pretty much given a sign tonight...And then you feel bad, but you're like the right person got the position...this happened in December. And then you felt up until February that everybody was just kind of like, well, who did you vote for? And like without coming right out and asking who you voted for. And...you have people that are upset that they didn't win the election and they are kind of sour and cranky...it just makes for an awkward work environment for two months. And then everything kind of settles into place and you move on with your life. And then, you know, I think it's going to start ramping up again...so it's like here we go again...Can I start all over again? Like, we've already heard rumblings of the campaigning has started and it's like, oh my God...”*

This firefighters' experience was echoed across the different fire departments and the leadership competition brings out a toxic and negative experience in this masculine contest culture where favoritism and jealousy play out. Firefighter B described their experience of how a



group of firefighters joined together and completely influenced the voting process, Firefighter B gave an example of what can happen,

*“So you have a following, like some people do. That's just the way it is. You get voted in. If you've, you know pissed somebody off or better words along the way, then guess what? You're not getting in. Whether you're the right guy for the job or not but...For example, we had a good officer who got voted out last time because he asked his crew to do something on a duty weekend. And they were in here watching TV, or playing games on TV. They hadn't cleaned the trucks yet. So all he wanted them to do was clean the truck and they could have gone back to their playing. But they put up a fuss, they went out and did it but the next year he didn't get voted in.”*

In this instance, a fire officer was kicked out of their leadership role due to upsetting a group of firefighters. In Firefighter C's experience, two family members were kicked out or not voted in for their positions. In small, rural fire departments, if you are popular and well-liked, even if you're not the right person for the position, you will be selected as an officer. However, if you are not liked or upset the group, when election time comes, you will be removed from that position by the membership even if you are a good leader. Firefighter B explains further,

*“I think that traditional ways of putting people into [officer roles] is not the best way anymore because of the changing times. And some people...they may be great firefighters, but they're not great leaders...So I just think they need more training before they're eligible...I mean as firefighters, we put a burden on those to become level one firefighters but in this department we haven't put anything on being an officer right other than level one firefighter. Then you meet criteria of years [of] service...then you're eligible to be an officer or if someone nominates you, you're up for a vote...And sometimes... That's, that's the tradition, right? But for me, it's time for that to change because everything else has changed. And you need to be trained to do that job nowadays.”*

In this process of voting for leadership, the only criteria are years of service, not abilities or a certain level of formal training. Firefighter B further stated,

*“And they all run together. It's the, what did they used to say, the good ol' boys club right...So we've got a group of people and their buddies and they're all planning what the department should do and if they're in an officer's position then things just seem to get*

*pushed through without maybe being approved by everybody in the stuff...But, yeah politics, especially at election time, there's all that politics, yeah that bullshit. The people just, you don't need it in the fire service...It just causes problems within."*

While many fire departments and firefighters discussed that they had moved on from the old boys' club, the structure and competition-style process for choosing fire officers is still stuck in the old boys' ways. Firefighter F mentioned, *"But the bad part...the elections is always a big crap, a big shit show...It's divided...a lot of it is because it's just how people are naturally...Kind of favoritism more than the right decision sometimes...because we vote right..."* It is interesting that this type of voting system still exists given the stressful accounts given by the firefighters in this study that describe it as, "bullshit" and a "shit show." Firefighter H provides some more insight into this competition,

*"People getting [officer] hats because they don't deserve them or don't have the knowledge behind what they're doing. And they kiss ass to get the spot. But there's really no education behind why they're doing...or what responsibilities are with this. They just want to ride in the front of the truck, in the passenger side, and use the radio kind of thing. Because of your last name getting spots, that's bugged me for years. The you know, I'm such and such's kid or brother or, you know, it doesn't matter to me...Sometimes they are the worst choice. But because there are such and such or they're popular in the fire department. You know, the idea of the politics of voting for a chief, for a deputy chief, for captains and whatnot. I don't think it's right. Should be based off of knowledge in a job interview type of thing, because it basically is a job, even though it is volunteer. But at the end of the day, it should be, you know, partially independent, somebody outside of the department..."*

As Firefighter H describes, the competition for leadership is for power and to live up to the ultimate firefighter identity and wear a certain color hat. Firefighters will do what is necessary to get into the role and then after being voted in, might completely change their attitudes. They also describe a level of favoritism that exists with certain last names in the fire services. In many rural fire departments, generations of firefighters from families established in the area have served their time volunteering for their fire department. This namesake is recognized and can be the reason for being granted a leadership position. A few firefighters

expressed the need to rethink this competition structure that is completely ingrained in tradition in the volunteer fire service.

In addition to the competition of becoming a fire officer, is the competition that can occur within leadership structures and neighboring fire departments. There are different politics and rivalries between some neighboring departments competing for who arrives on the fire scene first and what role they have at the fire. Firefighter F explained,

*“The only thing I don't like is politics and the foolishness that goes on with just the operation between different chiefs and different departments that just doesn't make sense to me. Why you're not calling [a certain fire department] or why you don't call so and so department because so and so is...Or why, you know you look at some of the departments and so and so's chief because the other two are chiefs and it's just a clown show right, it's just not...That's really that one thing that really bothers me is like a scenario, you know like that or look at this from here. And so-and-so wasn't calling for it for a while because they didn't like it. Just like that stuff just really makes me mad like just call for the next truck or the place you know is going to get the turnout and have the apparatus there. It's pretty silly, I look at it like who cares about the politics. That's the biggest thing. And the funding at the halls too...”*

What Firefighter F is describing is the rivalry and sometimes jealousy that exists between neighbouring and mutual aid fire departments, and how this impacts fire response. For example, it was described that sometimes if senior fire officers do not get along, they might skip their closest fire department and request a different fire department to respond mutual aid to help them with a larger fire incident. Sometimes this is necessary due to certain fire departments having specific, specialized apparatus, but generally, it is due to some sort of rivalry or competitive issue between the fire departments. While some mutual aid systems do not allow for this due to the assigned and automatic nature of how they are dispatched to fire scenes, this may not be true for all volunteer fire service mutual aid agreements. This dog-eat-dog mentality and culture can create a toxic environment and tensions within the fire service when popularity and favoritism win over skills and qualifications.

#### 4.4 Conclusion

Exploring firefighter identity through the framework of masculine contest cultures sets the foundation for understanding the deep-rooted masculine identity and heavily gendered ideals that shape the expectations for fitting in and being accepted into the firefighter occupation. Exploring norms of the volunteer fire service and firefighter identity through the dimensions of show no weakness, put work first, strength and stamina, and dog-eat-dog, provides a comprehensive awareness of how these factors intercept and overlap to create this masculine contest culture occupational environment that greatly impacts mental health and well-being.

Most of the firefighters participating stated they never see a difference between men and women in their fire department and that everyone is equal but as the interviews progressed, more and more details of the masculine environment unfolded. Firefighter A shared a pinnacle perspective when it comes to those who do not meet the traditional, ideal masculine identity of a firefighter,

*“To me, if you want equalities, don't start singling yourself out. Don't make, I'm a female. I am this. Look at me, what I can do as a female. No fuck that. I mean you're devaluing yourself. You are a firefighter. And when we say, hey guys, can you come over here. Guys means, hey, can the group come over here? You do yourself a disservice if you try to pretend like you're less than somebody else. You're not. You're just somebody that wants to be a firefighter. I can look at that roster and say, you know what, I'm not as good as him. I'm probably better than her. I'm probably equal to him. I'm never going to be as good as him. But that's not because I'm a woman. That's because they got 30 years and they're a lot stronger. But this guy over here, he's got 6 years in the department and he's still thinking about, considering whether he's gonna wear a BA [breathing apparatus] or not. Get the fuck out of my way. Like I'm sure you're good at traffic. I don't know. But I'll do traffic too because every job's important. Everything. Maybe back when I was 18, 19 years old, I was thinking it was a punishment to be on traffic. Now, I think whatever the job, whatever the role we need to play, that's what we're going to do. So it doesn't much matter. You want me to stand there and hold a tarp, I'll stand there and hold a tarp. I'm just happy to serve. Just happy to have a place that will accept me and didn't know me from a hole in the ground and welcomed me in. And now I'm kind of part of the fabric*

*down here. You know, that's pretty cool...So that's the biggest thing. I never saw gender as an issue. Only if you let it be an issue.”*

This circles back to the fit in or fuck off attitude that is a critical outcome of the masculine contest culture. As Firefighter A mentioned, gender is only an issue if you let it be an issue. The message is knowing your limitations but conform to the standards. The perspective is that if you try to be different from the ideal firefighter identity and cultural standards, a firefighter is devaluing themselves. This type of common messaging can have a substantial impact on mental health coping and help-seeking of volunteer firefighters. Firefighter D expressed,

*“I find especially with men. They have this hard ass. You know, when you sift through the layers. I like people, I guess there's nothing wrong with showing empathy, um and being compassionate and showing it. So it's important breaking that stigma and um being able to show your vulnerabilities without being penalized for it. That's important, but that's what I love about the fire service is the empathy and the compassion and being able to serve the community in that respect. We're there. Yeah, it's heartbreaking when you see a family standing there watching their house burn, you know, it strikes a chord with me. You want to help them further and whatnot. But it's the same with us is, as a team, we should be able to show our vulnerabilities as well and not be afraid to do so.”*

Even with great strides in mental health awareness and trying to make it okay to not be okay, there is still a deep-rooted issue with vulnerabilities regarding mental health and the need to maintain masculine contest culture. The volunteer fire service is potentially at a stalemate in today's society, creating conflict and barriers for coping with and seeking help for mental health issues. Traditional coping methods need updating and valuing masculine norms of toughness, invulnerability, and emotional restraint are outdated. A solemn review and reconsideration of this normalized masculine contest culture are needed if the volunteer fire service wants to better address mental health concerns and create an occupational environment that promotes compassion, support, and care.

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## CHAPTER 5

### SOCIAL MEDIA AS AN OCCUPATIONAL STRESSOR: THE IMPACT OF SOCIAL MEDIA ON THE MENTAL HEALTH AND OCCUPATIONAL PERFORMANCE OF VOLUNTEER FIREFIGHTERS AND OTHER FIRST RESPONDERS



**Sound the Siren**

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## **5.0 Abstract**

This chapter discusses how the social media landscape has emerged as an area of occupational stress for volunteer firefighters and other first responders with consideration given to how social media impacts both mental health and occupational performance. The chapter begins with an overview of the existing literature related to social media and first responders. The second section provides an overview of the results from the Sound the Siren research study that identified factors related to social media: fear of criticism, image and reputation, and trauma reminders and moral dilemmas, that significantly impact volunteer firefighters. Implications for managing stress related to social media, and recognizing social media as an occupational stressor for volunteer firefighters and other first responders are examined.

## **5.1 Introduction**

*“Content is fire. Social media is gasoline”* (Baer, 2014)

Social media has become a dynamic, powerful platform for social interaction, changing how individuals and communities consume and share information, where users can add their own content and continually modify information by sharing photographs, videos, and commentary (Giesbrecht, 2020; Goldsmith, 2015; Waters, 2012). The evolving social media landscape is putting a spotlight on the actions and behaviours of first responders (Tucker, Bratina, & Caprio, 2022). Platforms such as Facebook, Twitter or “X”, Instagram, YouTube, Snapchat, and Tik Tok allow information to be shared and seen in record time. With the societal shift to sourcing news and information through these platforms, social media has created an opportunity for the public to have access to emergency situations and first responders like never before. While this unparalleled public access can allow for greater transparency and understanding of first responders and their agencies, it can also have considerable negative consequences.

First responders, also referred to as public safety personnel, are individuals working in occupations that include but are not limited to policing, paramedicine, firefighting (paid and volunteer), emergency dispatch, corrections, and search and rescue (Carleton, et al., 2018). It is well documented that responding to emergency situations puts first responders at an increased risk for mental health issues such as post-traumatic stress disorder (PTSD), depression, suicidality, anxiety, panic disorder, sleep disturbances, moral injury, and substance use issues (Jones, 2017; Brazil, 2017; Beshai & Carleton, 2016; Carleton, et al., 2020; Carleton, et al., 2018). These types of mental health issues are understood in the first responder and public safety personnel literature as the result of occupational stress. McCreary & Thompson (2006) developed measures for evaluating occupational stress among police that has been used among other first responder groups. They divide occupational stress into two categories: organizational and operational. Operational stressors are related to operational duties and are inherent aspects of the job that can result in risks such as first responder safety, exposure to suffering, injuries, and death, and making decisions in emergencies (Acquadro, Zedda, & Varetto, 2018). Organizational stressors are related to organizational tasks or environments such as leadership and management, training, bureaucratic procedures, and organizational culture. Sources of stress can be from relationships with colleagues and supervisors, and public perception (Acquadro et al., 2018).

Social media can be a double-edged sword for first responders and their organizations (Lev-on & Yavetz, 2020). One edge is the opportunity for first responders to send and receive information, engage with the public, and promote the mandate of their organizations in a more efficient and effective manner. The other edge is the opportunity for social media users to have immediate access to emergency scenes, to express solidarity with, or rancor towards, those affected by emergency incidents, and to aggressively criticize first responders. Emergency incidents and the actions of first responders draw a great deal of attention on social media, where there are almost no constraints on what can be posted (Waters, 2012; Tucker et al., 2022). Social media presents risks not only for the careers and integrity of first responders but can also impact the perceptions of the first responder organization's reputation and effectiveness (Goldsmith, 2015). The diversity of opinions and voices on social media, the social media user perspective, and the narrative on emergency incidents can have lasting impacts. Some studies have found that coverage of emergency incidents is more much negative on social media than on traditional

media channels such as television and radio (Lev-on & Yavetz, 2020). Furthermore, re-exposure to potentially traumatic events can be triggering to first responders and have lasting implications for their mental health and well-being (Dohmen, 2021). Issues related to PTSD and moral injury among first responders have been at the forefront of the research literature in recent years but there is little to no research on the effect of social media on the mental health of first responders.

Social media has changed the media landscape for first responders. Within the realm of social media, there is the view from first responders that only one side of the story is heard, with the first responders' perspective not included, which leads to erosion of public trust and strengthening of anti-establishment discourse (Lev-on & Yavetz, 2020).

### ***5.1.1 Public Perceptions***

*“Social media is the biggest issue that we face. People will hang you in the court of public opinion before all the facts are in.”* (Saunders et al., 2019, p. 46).

Social media has the potential to be a significant tool for building public trust and representation for first responder agencies but has been shown to do primarily the opposite (Lev-on & Yavetz, 2020). Public shaming on social media and issues of cancel culture are concerns for first responders. The fear of cancel culture is real for first responders and their organizations. Cancel culture is a socially constructed practice on social media where users respond to perceived unacceptable behavior by blocking support for an individual or organization (Haskell, 2021; Velasco, 2020). This act is a form of justice-seeking that puts the power in the hands of the public. This can be concerning due to the potential misinformation spreading like wildfire online and having immediate consequences that can destroy lives. Individuals participating in online cancel culture may not necessarily understand the entire context of the situation but still engage in the activity (Haskell, 2021). As a form of public shaming online, the concept of canceling and cancel culture is a unique phenomenon specific to social media and the reasoning behind canceling is always changing (Velasco, 2020).

Being criticized and attacked on social media is a stark reality for first responders. Many first responders are moving forward with the assumption that everything will be shared and nothing is hidden on social media, generating stress and anxiety about what might be captured and how that is portrayed online (Lev-on & Yavetz, 2020). The presence of negative coverage on

social media is damaging the image and reputation of first responder agencies due to online criticism and attacks (Lev-on & Yavetz, 2020). For first responders who are in positions of authority and trust within the communities they serve, cancel culture and public shaming online have the power to lessen public trust in the personnel and organizations meant to protect and serve them. There is the utmost desire to safeguard image and reputation (Ballam, 2015). To do so, first responder organizations have been quick to respond to issues of social media by creating organizational policies concerned with minimizing responses to negative content (Waters, 2012; Tucker et al., 2022). With social media posts by the public being out of the control of first responder organizations, organizations only have the ability to control internal factors through restrictive policies on their own social media accounts and their personnel (Waters, 2012; Tucker et al., 2022).

Having actions and behaviors judged and critiqued by the masses on social media can have a detrimental impact on the individual and/or the organization's reputation and image. First responders are increasingly inept or unable to respond to those criticisms. They are not equipped with the tools to cope with or manage negative social media attention, especially when organizational rules and policies constrain first responders' actions and behaviours online (Lev-on & Yavetz, 2020). A sense of helplessness ensues due to the public's ability to instantly share anything they want on social media and the first responders' inability to respond (Lev-on & Yavetz, 2020). There is the perspective from first responders, particularly firefighters, that when inappropriate or bad behavior from one firefighter spreads on social media, it impacts the image of the fire service as a whole (Ballam, 2015). There have been cases of first responders, particularly police, commenting and defending actions online that have led to disciplinary actions, firing, and further organizational policy restrictions to reduce first responder commentary (Waters, 2012; Tucker et al., 2022; Goldsmith, 2015). Goldsmith (2015) describes police indiscretion on social media where there is, "*a failure to act discreetly in the course of police work or one's life as a police officer*" (p.252). They discussed how police actions and commentary online can be harmful to police cases and victims. The dominant principle in these policies is that first responders are responsible for the content on their personal social media platforms and should be conscious of how it reflects on the organizations and the communities they serve (Tucker et al., 2022). Some organizations are creating strict policies on how their first responders can conduct themselves online (Waters, 2012; Tucker et al., 2022; Goldsmith, 2015).

## 5.2 Social Media and Mental Health

After a potentially traumatic incident, media attention adds significantly to overall stress and can increase depression, anxiety, aggression, social isolation, chronic stress, and decreased overall well-being (McHugh, Wisniewski, Rosson, & Carroll, 2018; Regehr, Hill, Goldberg, & Hughes, 2003; Scott, 2004; Tucker et al., 2022). With social media becoming a prominent fixture in most people's daily lives, its impact on the mental health of different populations has been heavily researched, particularly among adolescents. Ease of access and exposure to traumatic imagery through social media, image-based trauma as a form of vicarious trauma, has also been identified as an emerging concern (Naftulin, 2020; Isen, 2022).

The immediate ability to scroll through multiple social media platforms, and experiencing constant, indirect, and repeated access to imagery and commentary of traumatic events, can cause and reinforce mental health concerns (Isen, 2022). Regardless of the accuracy or truth of social media posts, negative comments can leave lasting impressions (Waters, 2012). Research of media/social media coverage of the Boston Marathon bombing and the 9/11 terrorist attacks has linked PTSD to viewing coverage of traumatic events (Ahern, Galea, Resnick, & Vlahov, 2004; Bernstein, et al., 2007; Busso, McLaughlin, & Sheridan, 2014; Mash, Fullerton, & Ursano, 2018; Otto et al., 2007; Tucker et al., 2022). Twenty percent of individuals with no history of trauma were impacted by traumatic incidents viewed on social media (Ramsden, 2017). If the impact of viewing imagery on social media can have this level of impact on those who were not at the traumatic incident, re-exposure to the incident for first responders is even more concerning.

Re-exposure to traumatic incidents through videos and photos being posted to social media platforms from bystanders at emergency incidents, prompting trauma reminders, is a prevalent experience for first responders (Dohmen, 2021). Trauma reminders, also referred to as cues or triggers, are various internal and external cues that prompt sensory experiences, emotions, and bodily reactions that remind the individual of the traumatic event and can evoke intrusive and distressing feelings, thoughts, and/or mental images of the event (Glad, Hafstad, Jensen, & Dyb, 2017; Layne et al., 2006). External cues may include sensory experiences such as sounds, tastes, touches, and smells from the external environment, while internal cues may include thoughts, dreams, images, and emotions.

Most research on social media and first responders has focused on the significant issue of police violence (Dawson, 2019; Lev-on & Yavetz, 2020). Due to a considerable number of incidents circulated on social media platforms that show significant abuse of power with devastating effects on individuals and communities, public sentiment towards police and other first responders has significantly deteriorated and eroded public trust (Lev-on & Yavetz, 2020; Dawson, 2019; Saunders, Kotzias, & Ramchand, 2019). The evolution of social media as public communication has provided the public with an avenue to show evidence of major societal issues, such as police brutality, racism, and abuses of power, ensuring that they can no longer be ignored (Giesbrecht, 2020; Isen, 2022; Saunders et al., 2019). At the same time, issues of cop-baiting, when individuals intentionally create confrontational situations for officers and exploit them for personal or political motives, draws attention away from genuine concerns about police conduct and artificially amplifies irreparable damage to the integrity and reputation of the police officer and their police agency (Waters, 2012).

Holding police officers and other first responders accountable for their actions is important (Giesbrecht, 2020). The ease and convenience of personal technologies, such as smartphones, where bystanders to emergency incidents and involvement of first responders are more commonly capturing and posting select recordings and commentary to social media. In doing this, social media users choose what they want to show on social media, providing opportunities to share some aspects of events and miss or omit others, often painting a very negative and damaging picture of the occupation as a whole (Naftulin, 2020; Saunders et al., 2019). With minimal fact-checking and instantaneous sharing, this generates biased perspectives with a limited understanding of the full context of events and creates an uninformed image of the first responder agency (Lev-on & Yavetz, 2020; Giesbrecht, 2020). The power behind the portrayed narrative, when only pieces of the entire incident are shown, is heavily influencing negative public perceptions and the stress and pressure felt by police has spread to other first responders (Franklin, Perkins, Kirby, & Richmond, 2019; Tucker et al., 2022).

Growing fear and stress due to increased scrutiny on social media is evident among first responders when aspects of emergency incidents are presented out of context and the criticism has a negative impact on their mental health (Belasky, 2022; Giesbrecht, 2020; Saunders et al., 2019). First responders have reported that having bystanders record emergency scenes and share the content online creates a heightened stressful atmosphere at emergency scenes and leads them

to continually worry about how their behaviours and actions on emergency scenes will be dissected and interpreted online by those who lack an understanding of the high-risk nature of the work (Giesbrecht, 2020; Saunders et al., 2019). Police officers have reported that this increased attention has made them more likely to second-guess themselves and their abilities due to the ongoing worry of being under a microscope (Saunders et al., 2019). There is a collective shame in the negative image that can be portrayed on social media.

Considering all these factors, police and other first responders face high levels of scrutiny, and tough criticisms, online, yet there has been very little research to date on the impact of social media on first responders, beyond police, and their organizations. More research is needed to understand the impact of social media stress on first responders who are at a higher risk of developing mental health issues and illnesses due to their exposure to traumatic incidents, the high level of online scrutiny and criticism, and the impact of re-exposure to traumatic events through imagery and commentary shared on social media.

### **5.3 Sound the Siren Research Study**

The purpose of this study was to understand how the occupational environment impacts the mental health and well-being of volunteer firefighters in rural Nova Scotia. While examining how volunteer firefighters interpret factors within their occupational environment that impact their mental health and well-being, social media emerged as a significant factor.

Purposive and convenience sampling was used to engage three rural fire departments and thirty firefighters for this qualitative study (Creswell, 2013). To answer the research questions, a series of three interviews were held with each of nine frontline volunteer firefighters (five men and four women). Each interview was built upon the previous with the second interview involving photo-elicitation where research participants selected photographs to share with the researcher that explored three questions: What are the most important aspects of the work you do as a volunteer firefighter? What would you want people to understand about being a volunteer firefighter? And what aspects of volunteer firefighting have an impact on your mental health? All firefighters selected photos, with the majority retrieved from social media. This laid the foundation and reference point to further explore the social media phenomenon during the third interview.



Additionally, twenty officers (eighteen men and two women) which included safety officers, lieutenants, captains, deputy chiefs, and chiefs, were invited to participate in focus groups that explored leadership decision-making and perspectives on mental health and well-being. One officer participated in an individual interview since they were not available for the focus group.

All interviews and focus groups were held in-person and were recorded and transcribed with the participants' consent. Research ethics approval was granted through the Research Ethics Board at the university where the research took place. Thematic analysis was used for both transcripts and photographs. Photographs were analyzed during the photo-elicitation interview in collaboration with research participants (Harper, 2002). Thematic discourse analysis was also applied to illuminate social relationships and cultural values through the language used in the transcripts (Souto-Manning, 2014; Czarniawska, 1997). The patterns and themes were linked between the different data sources. Three social media topics emerged as areas of occupational stress for volunteer firefighters: fear of criticism; image and reputation; and moral dilemmas and trauma reminders.

### **5.3.1 Fear of Criticism**

The predominant challenge frontline firefighters faced with social media was the negative criticism they receive online. Issues related to “keyboard warriors” who write negative comments on social media posts about firefighters and emergency incidents have a substantial impact. Online criticism from the public was generally related to firefighter performance such as long response times, firefighting techniques, and on-scene decision-making. This perception and criticism is based on only certain pieces of the entire fire incident shared on social media.

Firefighter F states,

*“The biggest thing that really pisses me off, like mentally...it's the...First of all, we don't get paid. Second of all [the comments]...well they couldn't do this or they couldn't do that. Well, you don't understand. You don't understand the conditions of that fire. You don't understand the conditions of that accident. But sometimes you see people getting bashed over Facebook or social media. Just like shut up...You have no idea what they had to go through to get that done and that gets frustrating.”*

It was expressed by most firefighters in this study that a complete lack of awareness or understanding of volunteer firefighting resulted in these types of criticisms. Firefighter F

illustrates the problem of having only one perspective of the larger story being told through social media. This provides the opportunity for social media users to dissect and critique the firefighter's execution of their roles and tasks. Firefighter F also explained how online comments can be harsh and malicious, with social media users bashing firefighters. The negative emphasis within online comments is frustrating. Firefighter D explains,

*"[Social] media is our Achilles heel. [They] like to focus on bad when it comes to the fire service. You could save a family of twelve and only have to put one band-aid on one person, but you trip and fall carrying one person because you're just utterly exhausted and [they] will jump on that and spin it. But [social]media is the Achilles heel of a lot of good that can happen because they always want to focus on the crap."*

A difficult reality for firefighters is that the outcome of their efforts is not always positive. Sometimes the house is not saveable, and sometimes the person does not survive. Firefighters continually deal with the negative aspects of their work. Firefighter G explains, *"Not all outcomes are all rainbows and unicorns. But you still...you did what you could to [the] best of your ability, and that's all you can ever ask..."* To cope with negative outcomes, firefighters focus on how they perform their occupation to the best of their abilities. With the increase in social media attention, their capabilities are being criticized online. The harsh comments intensify stress for firefighters already dealing with a heightened level of internal pressure experienced by reliving their occupational performance on the fire ground. Another issue firefighters experience is online criticism from fellow firefighters outside their fire department. When peers make negative comments, it creates frustration, but even worse, mistrust. Fire departments do not work in silos, they depend on neighboring fire departments to assist them with larger emergency events. Firefighters need to work together and risk their lives together on the fire ground and need to be able to trust each other. When firefighters attack each other online, this can erode trust and influence how firefighters work together on the fire ground. Firefighter D described an experience they had,

*"You have to be so careful because you're so easily critiqued by other fire departments or...firefighters that might be somewhere else. So, you know, as a first experience...I took a picture, we were practicing on hydrants and I'd taken a shot down at the hydrant, hoses and legs and...it was a moment in time. I just happened to catch it when [the firefighter's] leg was just in this particular situation. And this one firefighter from*

*somewhere else pipes in and says, oh, that's a good way to get a leg ripped off. And we had things like that and it's very frustrating. You just kind of digress and move on...So, yeah, that that's been a, I think that would be probably the biggest the challenge right there. It's criticism from peers... But they can ruin it for everyone else."*

The firefighter further expressed knowing the individual who criticized them online and now being weary of working with them based on this experience.

A natural reaction by firefighters is the desire to defend their actions but many fire departments have strict social media policies that prohibit them from engaging in certain ways online. Firefighters found that the inability to defend themselves or their fire department left them with feelings of frustration and disempowerment. They feared saying the wrong thing and having that reflect poorly on the fire department which lead to feelings of being silenced and not feeling like they can stand up for themselves. This takes the control of the narrative completely away from the firefighter and can make firefighters feel unappreciated by the individuals they risk their lives for every day. Firefighter C stated,

*"Social media sucks and you read the comments from the keyboard warriors that are like, well it took them forever to do that. And why did they do that? Oh my God, look the house burned down. And it's like you don't know what we're up against. Like it's easy for you to sit back and judge us, but you have no idea what it's like on the other end of the line...we're running into a burning building when everyone else is running out...give us a little appreciation."*

The judgement and lack of appreciation can take its toll on firefighters. Reading negative online comments impacts how a firefighter responds to the next emergency. The malicious comments and critiques while feeling silenced and disempowered create a level of fear of doing and saying the wrong thing and having it misinterpreted on social media. When responding to future emergencies, this plays in the back of their mind while still having the pressure to perform high-stress, intense firefighting tasks. Firefighter H explains, *"You watch on Facebook, almost instantaneous any fire scene. Because there's so many people just...information is, it's like there. Whether it's typing or pictures or whatever. So you have to be so conscious of who's around, what's around. Don't say this. Don't say that. You have to act accordingly."* If a firefighter is spending their mental efforts on a fire scene looking over their shoulder and trying to be conscious of who is around and what they say, that has the potential to impede their occupational

performance. Firefighter G further explains, *“People don't get that when time [is of the] essence and shits gotta happen and that shit had to happen yesterday...Sometimes the actions are ugly to get to there. They're not as pretty as what you see [on] TV because people see it on TV and it's so prim and proper and everything just happens perfect. And that's not the case by any means.”*

This further emphasizes the linkages between fear of criticism and public image. This linkage perpetuates cancel culture and the desire by the public for firefighters and other first responders to live up to the performance perfection that is portrayed in popular culture. The reality of emergencies is that they are not pretty or perfect and firefighters are not perfect, they are human.

### **5.3.2 Image and Reputation**

Lack of control and power over content shared on social media is concerning for firefighters. Volunteer firefighters hold a unique position of trust within their communities with the traditional image of a firefighter as someone who is there to save the day and help the community. The fire department is seen as a staple within communities, a warm and friendly station that is there when they need help. With the onset of social media, there is access to firefighters like never before. Citizens can capture firefighters on emergency scenes or at their fire department and post this to social media platforms. The control firefighters previously had on their public image and what they want in the public realm is slowly disappearing. As an essential emergency service, the public feels entitled to this access and firefighters feel helpless in controlling what is shared on social media. Firefighter F explains, *“We have [local social media users], all those local guys that come and take pictures and videos and post them online. And whether we like it or not, it's allowed to happen because they're on public property. As long as they don't get under the fire scene, we don't really have any control over them.”*

Firefighters discussed the approach that social media users take when sharing images online. There are those who want to capture the gruesomeness of the emergency scene. They want to show the house burning down or the horribly damaged car from the motor vehicle accident. This type of content provides shock value. While others want to show the firefighters without the gruesomeness. This type of social media content focuses on the firefighter occupation rather than the traumatic aspects of the emergency. When an individual is taking photos or videos at an emergency scene, the firefighter does not know what they are capturing, and this can be distracting. The loss of control and power over the content and type of imagery

being captured and shared online can impede the firefighters' ability to do their job on the fire ground because of the distraction it poses.

Firefighters expressed concerns regarding public perception and reputation on social media. Many firefighters describe their fire department and fellow firefighters as their second family or the brotherhood/sisterhood. There is a sense of pride, belonging, trust, and protection of the fire family and the desire to ensure the reputation of the fire department is protected. Firefighters fear how individual actions can create repercussions for the fire department. Firefighter H explains, *"Maybe I'm being defensive a little bit about it, but I don't want it to look bad on the fire department...one person can bring the appearance down of the whole department. And that's not why I'm here, I'm here to actually help people. If the public thinks that the fire department sits one way, then they may not want you there when you arrive."*

The reputation of the fire service directly impacts public perception and trust, so firefighters generally take the approach of silence with criticism on social media. As Firefighter H further describes,

*"It's very challenging because you want to reply to them, but you can't. Well, you probably could, but it wouldn't look good. Because my opinion reflects on the department. It's just not my opinion. It's how, if I replied, like, oh, they said this. No, it's like I'm saying this, not the department. It's very hard because you want to respond, but you let it go...Deep down you're mad because it's just like why are you even saying that? It's like, you don't even know, you weren't there. It's very frustrating."*

When firefighters respond to criticism on social media, they are not doing so as anonymous individuals, they represent the fire department and the fire service as a whole. Their actions and behaviours reflect on the fire department and the fire family. Feeling silenced and not able to express opinions creates frustration for firefighters and should be considered an aspect of organizational stress.

### ***5.3.3 Perception and Misinterpretation***

One of the struggles many firefighters discussed is how images can be misinterpreted online because they only show a small piece of the entire emergency incident. Common examples were photographs of firefighters responding to a house fire where they were smiling or laughing. To the public, this shows a lack of empathy and compassion. How can a firefighter be

happy when someone's home is burning to the ground? That one image with a caption questioning the firefighter's intentions can be damaging to the firefighter and the fire department's reputation. Firefighter D shares, *"I've seen different times [when] different [social media users] ...catch those moments in time where someone might be smiling or someone might be laughing. And we [have] gotten flack from social media for it. Why are you laughing at such a horrible situation? And I understand people don't realize, they might not understand what was going on in that moment in time."*

To manage the stress of responding to potentially traumatic events, first responders engage in joking culture and dark humor which allows them to put their emotions aside, compartmentalize, and ultimately distract from what they are experiencing (Thurnell-Read & Parker, 2008). Dark humor tends to make fun of life-threatening or traumatic situations and is considered inappropriate to those outside of the first responder culture (Rowe & Regehr, 2010). This is part of the cohesion and camaraderie among those who experience traumatic events together (Willing, 2019; Moran & Roth, 2013; Rowe & Regehr, 2010). This type of coping mechanism is parallel to other common strategies such as depersonalization, dehumanization, and disengagement which are all ways to detach from personal feelings and emotions of the traumatic events first responders deal with daily (Mastracci, Guy, & Newman, 2012). While these coping mechanisms are used by many firefighters and other first responders to deflect from the seriousness of the situation, there is increasingly less space in our society for saying anything that could be perceived as offensive or disrespectful. When images of firefighters are captured and portrayed in a way that suggests their actions and behaviours are considered inappropriate or inconsiderate to the situation, this leads to misunderstanding by members of the public. Firefighter F mentions,

*"We talked about it last year, it was like maybe we shouldn't have these people on the fire ground taking these pictures and catch that flack. It's getting the general public to understand that we're human and not everything is serious all the time and while we might be smiling or laughing at that particular time is a way that we can just focus on something that is not so bad."*

This negative interpretation can create further mistrust by the public. Firefighter B mentions, *"it's a serious accident. And they have a picture of you laughing. Doesn't look very good on you or the community that you respond or that you're responsible for. So you know the mistrust."* Firefighters concerns about issues of mistrust and public resistance are considerable

given what has occurred with police officers. Today's society is less accepting and more critical than ever of first responder agencies for many reasons, foremost due to concerns about the abuse of power that is seen with police. Firefighters have a very different role than police in public safety. The public has historically viewed firefighters in a positive light but there is an underlying fear by firefighters that this perception could change due to social media and have a long-lasting effect on the reputation of the fire service.

With everyone having access to social media and a camera at their fingertips, there is little room for mistakes. Firefighters mentioned that it seems as soon as they are on an emergency scene, the information and pictures are already on social media. The immediate nature of social media leaves little control to the firefighters and fire department. The need for firefighters to watch what they say and do on the fire scenes is evident, as Firefighter G explains,

*“Now we have to be very conscious on what we say on the scenes and how we joke about the situation we're in right now, which we shouldn't probably. Because we're just so used to it. You say, oh comment, house is going good, who brought the hot dogs? And then somebody hears that and we're not saying, making fun of their situation. It's just that we've been down this road so many times. Then somebody sitting there watching us hears that and then they go, that's kind of rude. Person is losing their homes and you're worried about barbecuing hot dogs. So you got to be careful what you say. And we have to be more conscious now because of social media and the cameras. Everybody's got a camera in their pocket.”*

#### **5.3.4 Moral Dilemma & Trauma Reminders**

Firefighters conveyed the moral dilemma they felt with sharing imagery from the fire ground on social media. On one side, they are happy their work as a volunteer firefighter is being shared, but on the other side, they are reminded of the devastation for the victims of those emergencies. Firefighter A stated:

*“I have mixed emotions about [social] media. Can't live with it, can't live without it. I like the pictures [that the social media users get] and it's cool to see some of those pictures and they get some really great shots. But I struggle with going back to the victim of that call. I struggle with that part and I struggle with this internally because we sit here and we're like oh we'd really like to have a fire call today. And we do...that's just*

*who we are. But that's somebody else's worst day. Like, last night we had that call where the guy was pretty injured. And it's like, oh, I'm excited because I got to drive [the fire truck] because I was in town. But then the other part of me [is] dying inside because I'm excited that I get to drive [the fire truck] but I'm driving [the fire truck] to somebody's worst day...that's a great photo but somebody's [house] just burnt down. So, I struggle with that emotion.”*

The internal emotional struggle that Firefighter A references is a moral struggle. All volunteer firefighters have a fundamental moral dedication and obligation to serve their communities and help people on their worst day which can lead to internal moral struggles when viewing fire scene images on social media. On one hand, it is exciting to showcase the work the firefighter is doing but on the other hand, the image shows the worst day of someone’s life that the firefighter is there to help. Firefighters experience an internal emotional struggle due to the moral dilemma they face seeing images being shared that could be harmful to the people they are trying to help. There is potential that this moral dilemma could lead to issues of moral injury, a more concerning mental health issue. When a first responder is exposed to a traumatic incident that violates their moral values, this can have devastating effects exhibited in ways such as severe distress and functional impairment, referred to as moral injuries (Griffin et al., 2019). There is a range of social, cultural, and interpersonal factors of moral injuries that are plagued by an internal struggle with a moral and/or ethical dilemma (Griffin et al., 2019). When firefighters see an image of a fire scene on social media, there is a flood of memories of their experience at that incident. They remember not just what they saw but also the sounds, smells, and emotions they felt. This sets the foundation for a moral struggle and dilemma by seeing imagery shared for public viewing online without consent from the victim. This act goes against the values and moral beliefs that firefighters feel towards the people they help and provides the leverage for a moral struggle to potentially become a moral injury.

The re-exposure to the fire scene through imagery shared on social media can be trauma reminders for firefighters. When a firefighter sees an image that reminds them of an incident that was traumatic or difficult, it can prompt an unwanted emotional response. That response looks different for each firefighter. Firefighter C states, *“I mean, some days I can talk about that stuff and I'll be okay. And then there's other days where even just looking at the picture, if I sit and, like, think about it too long, I'll pull myself in that funk that no one ever wants to be in.”*



Viewing certain images on social media bring the firefighter back to the emergency scene, an experience that could be considered similar to a flashback where one vividly remembers and relives the traumatic incident. For Firefighter C, “that funk” is a reminder of their experiences and emotions from that incident. For Firefighter G, they described, *“To this day...I still remember the taste of it, which you actually taste the metallic because that's what's in the iron in the blood. You taste that, that smell...sounds...like when we put [the person] in the body bag. I can still remember all the sounds of fluids and ripping of skin and all that stuff, even though that was...years ago.”* For Firefighter G, that trauma reminder induces a response that engages all their senses including smell and sounds. Considering one of the main coping mechanisms used by firefighters is disengagement, dissociation, and distraction, a trauma reminder can have a substantial impact. Given the everyday use of social media, disengagement is not always possible. There may be many photos of fire scenes that will not have any impact on firefighters; however, it only takes one bad trauma reminder to completely derail how the firefighter has been coping with that experience. Photographs elicit an emotional response and remind firefighters of the high-risk and stressful nature of their occupation. The imagery being shared without restrictions on social media can be harmful and is a powerful reminder of incidents firefighters would like to forget.

Social media is now an integral aspect of life and firefighters cannot simply avoid going on social media. The reality is that firefighters will be continually exposed throughout their careers to trauma reminders and moral dilemmas via social media. Determining ways for firefighters to manage these issues is crucial for the longevity of their mental health and wellness.

## **5.4 Conclusion**

Social media is not going anywhere and will continue to evolve as a central aspect of the lives and occupations of first responders. Embracing this reality and identifying strategies to manage social media as an occupational stressor is needed. Social media is a significant source of stress impacting both the occupational performance and mental health of first responders. More awareness and research into social media as an occupational stressor are required with attention given to the impact of social media on mental health, particularly concerns of moral dilemma and trauma reminders, and to identify strategies to reduce occupational stress from

social media. Furthermore, there needs to be more research conducted to understand how social media impacts public perception of first responders and their organizations, and how this influences individual and community opinions or attitudes toward them.

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## CHAPTER 6

### INTEGRATED DISCUSSION



### Sound the Siren



## 6.1 Introduction

The Sound the Siren research study presented in this thesis explored the relationship between the occupational environment of volunteer firefighters in rural Nova Scotia and mental health and well-being. Throughout the study, frontline volunteer firefighters and fire officers from three fire departments in rural Nova Scotia identified different aspects of the volunteer firefighter occupational environment that have an impact on mental health and well-being.

The findings of the study highlighted three narrative case studies: the fire family; firefighter identity; and social media as an occupational stressor. Gender and rurality were present themes and intertwined throughout all aspects of the occupational environment. This integrated discussion will further explore aspects of the occupational environment that were identified as both opportunities and barriers to the mental health and well-being of volunteer firefighters such as social support networks, invisible labor, balancing work and volunteering, leadership responsibilities, and family stress and sacrifice. Social media was found to be another important aspect of the occupational environment. These components of the occupational environment are presented, and the discussion will highlight areas of both occupational stress and occupational resilience.

This chapter also discusses the study's strengths and limitations, and recommendations for future research. This information provides direction and further evidence to support the development of appropriate services and resources that address the unique needs and occupational realities of the volunteer fire service in Nova Scotia.

## 6.2 Thesis Chapters

The chapters within this thesis built upon one another by further exploring the main narrative case studies that emerged as important aspects of the occupational environment that impact the mental health and well-being of volunteer firefighters. Woven throughout the chapters are the themes of gender and rurality, while illuminating aspects of the occupational environment that impact mental health and well-being. Chapter 2, *The “Fire Family”*: *A qualitative exploration of the volunteer firefighter organizational culture and social support systems in rural communities*, highlights the influence of both gender and rurality on the internal structure of the fire family. This chapter highlights an opportunity that exists within the occupational environment to address the mental health needs of volunteer firefighters while also showcasing

how the themes of gender and rurality can be barriers. Overall, this chapter explores the fire family as an area of occupational resilience. Chapter 4, *“Fit in or fuck off”*: Examining volunteer firefighter identity constructed within a masculine contest culture occupational environment, builds upon the knowledge disseminated in Chapter 2 by exploring the toxic or darker side of heroic masculinity that manifests in masculine contest culture occupational environments. The theme of gender is present throughout. Chapter 3, *Reflections on the use of photo-elicitation to understand the occupational environment of rural, volunteer firefighters*, provides more a detailed explanation of the use of photo-elicitation with the volunteer firefighter population. The use of this method for this population and topic is novel. This chapter is important for understanding the final narrative case study of social media presented in Chapter 5. With the use of photo-elicitation as a data collection method and volunteer firefighters using social media to select photographs to share with the researcher, the introduction of social media as an occupational stressor is a critical finding from this study. Chapter 5, *Social media as an occupational stressor: The impact of social media on the mental health and occupational performance of volunteer firefighters and other first responders*, provides a preliminary glance into social media as an aspect of the occupational environment that has a considerable impact and requires further investigation. Therefore, the central narrative case studies that emerged in this study were the fire family, firefighter identity, and social media, with the present themes of gender and rurality throughout. This provides a deeper understanding of the occupational environment that has many facets and characteristics that fall within these narratives. This integrated discussion will explore those facets further and how they are interconnected.

It is important to note that the purpose of this study was not to focus on any specific type of mental health issue or disorder, nor to focus on specific types of coping mechanisms. The purpose was to have a deeper understanding of the factors within the occupational environment that contribute to the mental health and well-being of volunteer firefighters. Therefore, the central themes of gender and rurality are important for creating a deeper understanding of the realities of this environment, and social media illuminates how the occupational environment goes beyond the traditional locales of the fire department and the fire ground.

## **6.3 Occupational Environment**

Throughout this research, it was evident that the occupational environment is not simply the fire department or the fire ground where the volunteer firefighter works but rather the various interconnected dimensions of the occupational environment that influence and impact the mental health and well-being of volunteer firefighters. Throughout this study, the role of gender and rurality were central to all aspects of the volunteer firefighter occupational environment. Within these themes, factors such as social support networks, invisible labor, balancing work and volunteering, leadership responsibilities, family stress and sacrifice, and social media were identified as important elements within this environment and are discussed further below through a lens of occupational stress and occupational resilience.

### **6.3.1 Gender**

The role of gender and the entrenched culture of heroic masculinity within the volunteer fire services was a significant aspect of the findings from this study. While mostly an area of occupational stress, there were aspects that relate to occupational resilience. Occupational resilience refers to an individual's ability to navigate and negotiate stressors in their daily life that might be associated with challenging events or environments (Brown, 2021). Occupational resilience could be seen through the fire family support network. The opposing ideals associated with heroic masculinity were apparent throughout with both companionate love (the brotherhood/sisterhood or fire family) and the more toxic side that leads to masculine contest culture environments. These two factors were explored heavily in Chapters 2 & 4. A gendered culture was a foundational aspect of how volunteer fire department's function is important and is embedded throughout volunteer firefighters' experiences and realities that impact mental health and well-being in areas of coping, support, and care. While the aspects of the fire family provided a glimpse of hope as an area for occupational resilience and some of the opportunities that exist within a hyper-masculine constructed environment, this theme provided further evidence of the deeper issues of power and control within the hyper-masculine environment that can contribute to issues of gender discrimination and misconduct.

### *Gender Discrimination and Sexual Misconduct*

As discussed in the introduction chapter, much of the research on occupational stress within public safety or first responder occupations focuses on the binary construct of organizational and operational stress. Interestingly, this framework does not specifically address the gendered experiences that firefighters and other first responders encounter that cause or contribute to occupational stress. Issues of sexual harassment, gender discrimination, being treated differently, lack of respect, and having to prove oneself based on gender were unmistakable in this study as substantial aspects of occupational stress.

Firefighters within this study discussed experiences such as being the only female firefighter or one of few within their fire department. In rural settings, the idea of a female firefighter is still novel and can be challenging. For some volunteer fire services, there may be multiple female firefighters in their fire department, but they still face the gendered stereotype that female firefighters do not belong or should not exist. Firefighter C recalled:

*“There was a dad that came with his daughter for a brownie visit and he was in shock that there's four of us [female firefighters]. And when he asked us what we do and we're like we get on the back of the trucks and we put out the fire. Here's a guy in his mid to late thirties that still can't believe that there's female firefighters. And just trying to break that stigma one step at a time.”*

These subtle forms of gender stereotyping and discrimination leave female firefighters feeling unwanted or even unwelcome in a frontline firefighter role, leaving them to be typecasted into support roles such as the radio room or the ladies' auxiliary. Firefighter C further explained, *“My worst experience was walking into [a fire department] and being told that the kitchen is in the back room and the ladies' auxiliary meets on Tuesdays. There really wasn't any place for me in the station wearing gear, riding trucks. That one hit hard, I took that one really hard.”* These types of experiences and realities for female firefighters create a need to continually prove their ability to be active, front-line firefighters and belong within the fire service. This experience in relation to firefighter identity was discussed heavily throughout Chapter 4.

The reality is that female firefighters face different needs than their male counterparts based on the nature of being a woman. Women have different needs when it comes to using the washroom on the fire ground, they experience menstruation, get pregnant, and give birth. Given

that the organization is founded on masculine ideals and norms, these factors are not usually considered and can cause significant stress for the firefighter. Firefighter H described,

*“There are situations where...we have to be adults about it... females have to do certain things [in] different ways. And more of what comes to mind is like the being on the fire scene for a long period of time where a guy can jump around the corner of a building and use the bathroom where females are like, uh yeah, I've got nowhere. I feel we're slowly figuring out ways that everybody can be equal, but there's still those little bits of divide where we can't quite get around those corners. Like how do you make a washroom in the middle of a fire scene? It's been one of the things that have been talked about. But there's not really anywhere on our apparatus where you could set something like that up either...I have seen the divide between male and female in the fire department.”*

Firefighter I talked about how they dealt with a firefighter informing them she was pregnant:

*“I had one girl in here, I learned a valuable lesson. She was pregnant... You tell me you're pregnant and I'm going to look out, help you look out for your unborn child. You're not going in, putting that stuff on. You're not doing stuff that's hazardous...you made the choice when you told me you're pregnant and I'll have to make the choice on what I allow you to do.”*

In this instance, a male firefighter decided the level of power and control they would have over the female firefighter and make decisions on their behalf. Not necessarily based on policy but instinct. In this quote, the use of the term “girl” to describe a volunteer firefighter is another example of how female firefighters are viewed by their male counterparts. These quotes contribute to understanding the challenges of gender discrimination that female firefighters experience. Gender discrimination is a significant challenge that female firefighters contend with in the fire service. Another way female firefighters experience gender discrimination is when they want to expand their role as a driver/pump operator or move up the ranks to be a fire officer. Female firefighters in this study discussed the challenges they faced when wanting to do this and it is important to note that there were only two female officers who participated in this study out of twenty fire officers. One fire officer mentioned, *“Being a female officer, it's hard to kind of sometimes get respect from the male firefighters. Doesn't matter how you approach it. Sometimes it's not accepted, regardless [of] how you present it to them.”*

Within this study, one firefighter experienced and dealt with sexual harassment or misconduct. Even with their experiences of unwanted sexual advances or comments, the firefighter still wanted to belong and not “cause issues” or “be one of those females.” The experience of gender discrimination and sexual misconduct cannot go unidentified within the realm of occupational stress. The constructs and frameworks being used to identify occupational stress need to address gendered experiences, including issues of gender discrimination and sexual misconduct.

### **6.3.2 Rurality**

Rurality was a central theme threaded throughout the study and the thesis. There were many factors associated with rurality that contribute to both occupational stress and occupational resilience. An expected challenge for volunteer firefighters is the need to balance their time between the volunteer fire service and their workplace. Employers are a unique consideration for volunteer firefighters, unlike other first responders, when exploring occupational stress. For other first responders, their first responder agency is their employer. For volunteer firefighters, their employer is separate from the volunteer fire service. With volunteer firefighters being on call 24/7/365, emergency calls happen at any time and can happen when they are at their place of employment. Firefighters are faced with the decision to stay or leave work. There are employers who may not be supportive of allowing firefighters to leave their job to respond to fire calls. The reality that many firefighters may not be able to respond to fire calls because they are not able to leave work puts a strain on the volunteer fire department, and their ability to respond to emergencies. Other employers may allow the firefighter to leave work, but those firefighters may not be paid for the time they leave. This impacts volunteer firefighters’ income and creates a moral dilemma for the firefighter who feels a moral obligation to respond and help their community, but also needs to maintain an income for their personal life. Firefighter H shared,

*“Now that's the biggest thing is people don't understand that we're not paid. Only so many people can show up because some people don't have employers that will let you go...You know, if it's, like that 6:00am call, we have a lot of people that aren't here because of 7 o'clock. They have to be at work at 7 or have to leave for work at 7...That type of stuff. And so not a lot of people to show up...Like a 7:30am call is deadly.”*

With the fire department being such an integral aspect of the rural community, much of the public assumes firefighters are paid and are not aware of the challenges faced by volunteer firefighters having to choose between serving their community and their employment. One fire officer from Focus Group B discusses the only solution they see to the issues of balancing employers and the fire service. They believe that the government needs to step in and have paid firefighters,

*“What's the biggest drawback we see about volunteers in the community? It's time and it's that at some point you need to have career firefighters [in] almost, in every department because...employers can't support volunteers like they used to years ago because their income just isn't there. You need to be able to protect the community. But at the same token, there's got to be a way that government can support the fire service, monetary, a little bit more to be able to offset that because I find that's the big issue for here...you want to be a volunteer, but you don't have the time, you can't get away from your employer. So what's the alternative for you? You got to have firefighters but the municipality and tax rate can't support that amount of tax base to have paid firefighters in every station.”*

The fire officer highlights the challenges faced by rural communities to have paid firefighters. Rural communities across Canada are facing significant challenges with recruitment and retention of volunteer firefighters due to the high expectations of their role in their communities (Canadian Association of Fire Chiefs, 2021).

### *Expectations and Invisible Labour*

The firefighters in this study discussed the expansion of the roles and responsibilities of volunteer firefighters that go beyond firefighting and the public not realizing or understanding the work they do as a volunteer. Firefighter C mentioned their frustration with this, *“When people complain about how much [the fire service] cost their taxes and it's like do you know how much it would cost if we were paid? Like your taxes would double. We're doing this for free. You're not paying us, like we're volunteering our time and risking our lives to do this...It makes me so mad...”* Firefighter C describes the issue of invisible labor among volunteer firefighters. Volunteer firefighters discussed how their role has expanded well beyond firefighting to include

medical calls, hazardous material calls, suicide calls, and fire prevention to name a few. A fire officer from Focus Group A mentioned,

*“Yeah, there's a lot...a lot of the stress now comes from the fact that we are not just firefighters. We have added to our repertoire almost everything. So you're talking about firefighting. You're talking about car accidents. You're talking about medical. You're talking about rescues. You're talking about water. You're talking about kids lost in the river, cats in the trees. The amount of information that a person has to remember and how to tackle that has grown so much. Even the technology on the trucks, like it used to be a hose, pull it and go. And now you have monitor guns. You have all those kinds of things.”*

The officer expresses that it's not just about role expansion but also the need to have more training and more time spent to learn all these different roles and tasks.

Furthermore, their role has also expanded over the years to more community-oriented events and activities such as helping with local festivals and events such as annual Santa Claus parades as an example. Volunteer firefighters are expected to respond to emergency incidents, attend weekly training, attend committee meetings, complete administrative work, and contribute to community events. Additionally, many volunteer firefighters are involved in fundraising initiatives for their fire departments for essential equipment. Firefighter G shared,

*“There's a lot more to it. And then when there's no incident happening, there's even more work being done behind the calls. And what we do for the community, just on community service level, more than just emergency level. We do a lot for the community that people don't realize. So it's not just [the] fire department, but here is a neighboring fire department, not getting paid at all to do this stuff. And we're out doing this stuff for the public, for the community, and not thinking anything about it. But nobody sees...It's there, but they don't acknowledge what's actually happening and who's doing it. We have [a community festival]. We're here almost 24/7 for the entire weekend...we do a chicken barbecue that is sought after, apparently. So if we didn't do that, people would be quite upset. They want their chicken, it's [the festival]. We want our chicken barbecue...But, you know, there's hours behind us, just the simple thing as the chicken barbecue, that preparation and set up and, and selling and the whole nine yards to it, that nobody looks at that took, you know, 10 hours to put on or more to put on a chicken barbecue for you.*



*But, you know, there's so much of that stuff. Those are just a few examples that, bigger examples, I guess, if you will, that you see. You know, the rink, we always wash down the rink after the ice is out...So do we get any recognition for that? No. Do we do it for recognition? No. But it's just that kind of stuff. It's just more to it than putting the wet stuff on the red stuff."*

The invisible labor of volunteer firefighters can lead to feeling exploited by the local municipality or governance structure that exists between the volunteer fire department and the local government that contracts them for fire-related services. Firefighter I mentioned, *"Sometimes the powers that be could use you in situations to make numbers look good and whatever. And it's on the back of the volunteers right? And it's a matter of taking their sleep, taking their time from their families for no reason. That's disheartening when that happens."* Firefighter I is speaking to the reliance and availability of volunteer firefighters to help outside, paid agencies during emergency scenes and that volunteer firefighters can feel taken advantage of. They further explained,

*"There's been instances where you know they've had one [ambulance], they've been at the hospital with one and one's out covering another area that...Even though that one's sitting there and it's out of service. They're not out of service, so they quickly can get themselves into service before we get to the hall and go kind of thing. So we don't get as much medical as we used to. When they first implemented that, we got called for a lot. It was like, it was to the point it was like...You just disrupted a whole lot of people, especially during work time for no real reason. If it was something serious that they needed extra hands for, that's a different story. But like I said, the band aid calls and they're...I have to leave work and not get paid."*

Volunteer firefighters are happy to help other agencies, such as paramedics, but only when it is needed. It is difficult for volunteer firefighters who are at emergency calls for just as long or longer than their paid counterparts such as paramedics and police. However, the moral obligation, dedication, and commitment volunteer firefighters have towards the communities they serve tends to be the reason they continue to do this work with other agencies (Yarnal & Dowler, 2002).

An officer from Focus Group B shared how a common strategy to increase funding for a fire department is to increase the number of fire calls they are responding to,

*“And that's and that's becoming a problem because usually when you go, we'll use [another department], for example. Well let's up our numbers and go to every medical call and then we'll go back to the municipality and say we ran 500 calls last year instead of 300. So we need to increase our budget based on the number calls. Well in fact, you're chasing ambulances and not providing any difference or outcome.”*

This increase in fire calls to get more funding for the fire departments is directly on the backs of volunteer firefighters who are already stretched with the expectations of their role.

Another factor that firefighters in this study discussed was feeling fortunate if they did not have to fundraise for essential equipment and feeling fortunate if they had any level of mental health support or services such as an employee assistance program or an in-house chaplain/padre. The language used primarily was feeling “lucky” or “fortunate” in comparison to other volunteer fire departments in rural Nova Scotia. Firefighter H mentioned,

*“It's a hard one because around here we, we are volunteer, but fortunately we have funding that we don't have to worry about anything...So for us, fortunately, we don't have to have the whole other side of the fundraising and worrying about money...a lot of other [firefighters] aren't that fortunate. That's a big thing for here. It's really nice to be able just not to worry about it and not do it...whereas other [firefighters] have to do spend a lot more time fundraising than they do on fire scenes or fire activities or making that money or doing whatever they can.”*

Feeling fortunate or lucky for having access to some mental health resources was primarily expressed by fire officers who are ultimately responsible for the mental health and well-being of their volunteer firefighters. Fire officers expressed having even more responsibilities and stress than when they were frontline firefighters.

### *Leadership Responsibilities*

Feeling overwhelmed by the expectations of being a volunteer firefighter was even more predominant among the fire officers. While the focus groups with fire officers were meant to explore decision-making and management of mental health services and supports, many of the focus groups were redirected by participants to talk about the ever-evolving expectations of volunteer firefighters and the heavy burden of responsibilities placed on volunteer fire officers.

In this study these focus groups were an opportunity for many fire officers to finally speak to the realities of their role and the stress they experience leading their volunteer fire department.

The stress and responsibilities faced by the officers of the volunteer fire service are profound. As the leaders of the organization, officers described significant levels of stress compared to when they were firefighters. An officer from Focus Group B stated,

*“Just a whole lot of added stress right that you don't need. I don't like conflict. I'm not scared. I won't back down from conflict, but...It's a whole lot of added stress and you'll leave something and then you go home, and you start thinking about it, and it's like really? Do I want to be a part of this? Do I need this? Sometimes I think that I would rather go back to just being a firefighter...I often feel that...I've joined and I was having fun and then I became an officer and it wasn't as much fun. Because of that responsibility and the stress of it. And, you know, just trying, you feel like you have to live up to more... than when you're a firefighter.”*

A critical piece of what this officer shared is that they feel like they have to live up to more, there is a higher expectation of them because the firefighters are watching them, and they are a role model to the younger firefighters entering the service. There are more decision-making responsibilities, administrative work, and more expectations at the officer level. Firefighter J mentioned, *“You're looked upon to answer questions and be there if they need help or questions...I guess it's more than just being an [officer]...you're there for everybody. You're kind of a jack of all trades, you do administration work...personnel issues, personality issues.”*

There is a thought process that the most stressful aspect of being a volunteer firefighter or officer is responding to emergency situations; however, a fire officer from Focus Group C explained that as an officer,

*“It's my responsibility to make sure all these top notch men and women get to the firehall safely and do the job and get back home with their families at the end of the day. So the volunteer fire service is a lot on the officers these days. There's probably more administration and paperwork. The fire calls are, I'll say this, probably everyone agrees with me, the fun part. It's a funny thing to say, but it truly is. So it's after the calls and the rest of the stuff...can be as stressful as the fire calls.”*

The fire officer speaks to the fact that all the other expectations and responsibilities put on volunteer firefighters and fire officers, can be just as stressful as fire calls.

### *Personal Connections*

It was evident in this study that living in and being a volunteer firefighter in a rural community in Nova Scotia was a significant aspect of the occupational environment. The saying, “everyone knows everyone” in small towns or rural communities offers both barriers and opportunities for firefighters. Many firefighters shared their experiences with this, and Firefighter H shared, *“Everybody knows you pretty much in this small town, everybody knows who you are. And you know who they are. You get the idea who you're going to deal with. It could be a good thing. It could be, also a bad thing.”*

Responding to emergency scenes with the likelihood that firefighters know or have some personal connection to the victims involved is a stark reality in rural communities. Firefighters detailed that the positive aspect of this was the ability to provide comfort to individuals in emergency situations because the victim knows or is connected to the firefighter. However, for firefighters, having an emotional connection while trying to perform firefighting tasks proved to interrupt the common coping strategies firefighters have developed to manage emotional responses in traumatic situations and can cause occupational stress. The volunteer firefighter must ensure they are performing their job at optimum capabilities while worrying about the emotional connection they have to the incident. This is even more challenging when there is a fatality. Firefighter H shared responding to the suicide of a classmate:

*“It was a classmate who hung himself...I was on the [fire truck]. I only made it halfway down the trail and the paramedic was [a fellow firefighter]. He turned me around. He's like, get the hell out of here. Because he knew. And it was a DOA [Dead on Arrival]. They went down and cut him down. But he was a classmate with me that year. Like we were supposed to graduate in the spring...Went to school with him since grade six...We weren't close but I definitely knew his name. Knew him. Could talk to him no problem. So that was probably the worst one by far. By far...Snowing, 5 o'clock in the morning. And his mother, I remember...The Mountie car, we were at the [call] and they left me at the truck and [the officers]went down in the woods with [the paramedic] and stuff to get him down. And his mother came up and said, is it him? Is it him? She'd been looking for him because he left that night and didn't come home and she had been looking for him. And his father found him and she said, is it him, is it him to me. I said, I can't answer that. I*

*got to send you to the Mountie. And that's when she knew it was him. And then it was... Definitely sucked. That one was definitely...sucked."*

Another firefighter discussed a car accident they can still recall all the aspects of the incident that happened over 30 years ago. The heightened emotional stress experienced from having a connection to the individuals involved can have long-term effects. Firefighter I discussed still having dreams about the fatal fires they were involved with in their career: *"Well probably one of the worst was...we had two fatalities...and both of those [individuals] I went to school with...And I remember in dreams once a year, it's been 20 years, but we did our best and they were dead long before we got there."*

The heightened possibility of knowing the people or being connected to the people involved in emergency incidents in rural communities is a unique factor of rurality within the occupational environment that contributes to occupational stress.

### *Family Stress and Sacrifice*

A noteworthy area of occupational stress but also an opportunity for occupational resilience for volunteer firefighters in this study was balancing the needs of the volunteer fire service with family life. Volunteer firefighters discussed the sacrifices family members must make with the realities of volunteer firefighters leaving at moments' notice and spending significant time away from their families for the needs of the volunteer fire department.

A fire officer from Focus Group A shared the difficulties of balancing family life,

*"As one of the newer, younger officers, I do find time with family, it's a balancing, it is a balancing act between my workplace, personal life, and fire life, where there are calls that come in and I have to actually make that two second decision where I can't go. And I feel pulled in two different directions, which kills me because you're trying to keep someone healthy and happy at home and then you're also trying to meet your commitments at the firehall. So that's my, I think that's my biggest challenge within the department right now. But I don't, maybe that's because I got two young kids at home and it's a little different than some of you guys."*

Firefighter I shared,

*"The biggest one would be the fact that the sacrifices the firefighter's family make. So he could be a firefighter. Yeah. He gets the glory but I know your family on the big ones [fire*

*calls] are sitting home worrying. And they don't get to see stuff. They might hear it if you left your pager home. And sometimes that's not a good thing [laughing]. But that is, your family. It's not just the person in the fire department that gets the privilege to put on the gear and ride around in the red, shiny trucks. There's a sacrifice and stuff. It's a family...meals are going cold. Stuff you missed. The worry."*

A volunteer firefighter being on call 24/7 means missing time with their family and leaving important family events to respond to emergency calls. However, the stress goes beyond time away to include the stress put on families of worrying about the volunteer firefighter who is risking their life to respond to the emergency. Firefighter E shared, *"I know for like my mom, she worries a lot, especially as she hears a call coming through saying it's a structure fire and we end up going. She worries about that. So that plays a big part. So she worries. So it's like trying not make her worry, right?"* The worry extends beyond risking one's life, to concerns and worrying about the mental health and well-being of the firefighter by their family. Firefighter G shared,

*"The quality of life starts to get affected by it. Your family gets affected by it...just every day fire calls, your family gets affected by it. I don't know what my son thinks. I've actually never sat down and asked him. [He] knows what I do but I've never asked him, had that conversation with him going, are you okay with what dad does? Never take that into consideration. It's kind of a scary thing when you really think about it. But none of us really do, when we're doing it. I've never asked him if he's OK with it. Does any of this bother you? He's seen, I know he's seen from calls that I've come back from. I know I am different when I come back from a fatality or not necessarily always a fatality. But those seem to be the big triggers."* They shared further, *"You can tell, like my wife says, I can tell, she says, but she doesn't, she feels bad to ask because I don't come out and talk to her about it. So she kind of takes it as he's going to deal with it. And I don't want to get in the way of him dealing with what he's going through."*

A fire officer from Focus Group A also detailed their experience,

*"I'm fortunate because [my wife's] a stay at home mom so I can still pick up the pieces and deal with it later. But like tonight for example. But you're right, um we had a few calls on the weekend. [The chiefs] were out and I had my kids and there's nothing I could do about that. But we have, the nice part about here is... Cue the wife, thanks a frickin lot."*

*That's the text message I just got. So...so we'll play salvage and overhaul when I get home."*

This officer is describing how they feel supported by their spouse to be able to be at home so they can respond to emergency situations but at the same time recognize that their time spent away is creating stress for the family.

The stress and sacrifice for volunteer firefighters' families is an important component of their occupational environment that contributes to occupational stress. However, there were aspects of the firefighter's family that provides an opportunity for occupational resilience. One firefighter described how they were starting to share more of their experiences and realities of the trauma they experience with their spouse and felt they had an outlet. There are opportunities for spouses and other family members to increase their knowledge of the realities of volunteer firefighting so they can be in a more informed support role for the volunteer firefighter.

### **6.3.3 Social Media**

In exploring the greater occupational environment that can contribute to occupational stress, a key element missing in the frameworks and constructs to understand occupational stress is the digitalized/online world including social media. Social media was a significant finding and source of stress for many of the volunteer firefighters. All participants spoke about the impact of social media, mainly negative, but with some opportunities as well. Important aspects of social media discussed in Chapter 5 were fear of criticism, issues surrounding image and reputation, moral dilemmas, and trauma reminders. These were all considered areas of occupational stress. However, there was some glimmer of hope within the study that showed some opportunities for social media as a potential source for occupational resilience when the public shares messages of gratitude and thanks to volunteer firefighters through social media platforms.

When exploring the limited literature in the area of social media and first responders, police were the most impacted group. Social media has become a form of public shaming online, particularly for police (Goldsmith, 2015; Tucker et al., 2022; Lev-on & Yavetz, 2020). First responders hold positions of authority and trust within the communities they serve, and public criticism online has the power to lessen public trust. There has been very little research completed to date that studies the impact of social media on first responders and their organizations. Most studies to date have explored the impact of traditional news media rather

than social media (Tucker et al., 2022). Of the different first responder occupations, studies tend to focus mostly on police. However, this study showed that it is not just police who are impacted by social media. This is an important area that needs further exploration among first responder groups outside of police. This study provided preliminary evidence that volunteer firefighters are experiencing stresses due to social media. Some experiences are similar to police, particularly in areas of image and reputation.

#### **6.4 Recommendations**

One of the questions the researcher asked all participants was if there were any supports and/or services they would recommend to help volunteer firefighters with their mental health. There were three main areas discussed: funding, training, and resources on the fire ground.

1. Funding: The issue of funding was prevalent. There was a desire for more funding to increase the amount of insurance coverage as well as more funding to provide training in mental health. A key piece of funding needed is to also cover volunteer firefighters' expenses to access mental health resources or to access training, including costs of taking time off work. When volunteer firefighters are losing income for these reasons, it is a significant barrier.
2. Training: Research participants discussed the need to help volunteer firefighters be better trained in areas of mental health and how to support each other. Additionally, there was a discussion of fire officers needing more training and support on how to manage mental health issues internally.
3. Resources on the Fire Ground: There was some discussion on how to change things on the fire ground to ease operational stress. One idea was a photo-free zone in the rehabilitation area. This would allow firefighters the ability to have an area where they are not worried about what might be captured and put on social media. Another example was having the rehabilitation truck situated so it blocks the actual event, giving firefighters a mental break while resting during a fire incident.



Additionally, the researcher interpreted the following recommendations:

1. Social Support Training: There is a need to develop training specifically for volunteer firefighters to learn skills such as effective communication and active listening so they can better support each other. There is formal peer support training that exists, but that training is specific to peer support roles. This social support training would be for any firefighter, at any rank and level of experience.
2. Access to Mental Health Literacy Training: There are many different training courses on mental health literacy that exist and are available to volunteer firefighters. More access to, and knowledge of, these opportunities are needed. However, funding for training needs to extend beyond just covering the cost of the course to also include covering volunteer firefighter expenses such as time off from work.
3. Leadership Resources: Fire officers are experiencing high levels of stress, and potentially burnout, from their extensive roles and responsibilities. More resources are needed to support fire officers in their roles including funding, training, and specific mental health resources.
4. More Mental Health Services and Supports: It was shocking to learn through this study that there may be volunteer firefighters who are not covered by worker's compensation, do not have access to employee assistance programs through their fire service, and the only mental health service volunteer firefighters have awareness of and access to is the Critical Incident Stress Management (CISM) Team of the Fire Service of Nova Scotia. This team is volunteer-run with limited funding and capacity. More funding and resources are needed to help the CISM team continue to run their service effectively but there needs to be more than just this team. Critical incident stress management is only one type of mental health service.
5. Public Understanding: Throughout the study, it was apparent that volunteer firefighters feel invisible in their communities for the level of service they provide as volunteers.

There is a desire to increase the understanding of volunteer firefighters and what it means to be a volunteer firefighter among the public. There is an opportunity to use social media for this purpose; however, more training and education are needed by volunteer fire organizations on how to use social media.

## **6.5 Strengths and Limitations**

The strengths of this study were related to the insider researcher positionality and the use of photo-elicitation. The position of the researcher as a former volunteer firefighter in rural Nova Scotia was mentioned by research participants to the researcher as one of the only reasons the fire department and/or the firefighter was willing to participate in the study. It would be much more difficult to access this population if the researcher had been considered an outsider.

The other strength of this study was the use of photo-elicitation and photographs where research participants took the lead and shared their stories. This process was long and took time, but provided much richer data and was likely the reason for the finding of social media as a key aspect of the occupational environment for occupational stress.

Another strength of this study was that the focus was not on a single mental health issue (such as post-traumatic stress disorder) or just on traumatic events on the fire ground. This created the opportunity to have a better understanding of all aspects of the occupational environment that contribute to occupational stress and resilience which can have a direct impact on mental health and well-being.

One potential limitation of the study was only having participants from three specific fire departments. Given the design of the study, there was only a small number of participants (nine) from three rural fire departments in Nova Scotia for the main aspects of the study. In retrospect, it might have been better to have participants from any rural, volunteer fire department in Nova Scotia. This would have provided more transferable data from across Nova Scotia. Additionally, having fire officers from different fire departments within the focus groups, rather than each focus group consisting of officers from a single department, would have provided a wider understanding of the main intent of the focus groups: decision-making and management of mental health issues.

Chapter 2 described the limitations of photo-elicitation in this study and opportunities for future use of this data collection method.

Another limitation of this study was not using field observation. This decision was made due to the impracticality of field observation in the volunteer fire service. In this setting, volunteer firefighters are generally only at the fire department for trainings, meetings, and fire calls. While trainings and meeting times are scheduled either once per week or once per month, fire calls are unpredictable making it difficult to schedule time of value for observation that would address the research questions. However, field observation could have provided valuable first-hand insight into power dynamics, aspects of organizational culture, and the occupational realities of volunteer firefighters that might not have been discussed during the interviews or focus groups.

## **6.6 Recommendations for Future Research**

There are four areas from this study that are recommended for further research.

1. Social Media: This study provided preliminary insight into the impact of social media on the mental health and well-being of not just volunteer firefighters but all first responder/public safety occupations. As an unexpected outcome, it provided a window for further exploration and understanding. Additionally, more information is needed on how to address social media as an occupational stressor and lessen issues of moral dilemmas and trauma reminders related to social media.
2. Gender Discrimination and Sexual Harassment: While gender discrimination was evident throughout this study and is much more well-known within the research literature, more information is needed to understand the issues of sexual harassment and misconduct within the volunteer fire service. One participant in this study shared their experience with sexual harassment but there are likely more volunteer firefighters who have experienced sexual harassment. However, given the small sample size of this study, this was not well represented.
3. Firefighter Families: It was evident throughout this study that volunteer firefighter families face significant stress and worry. Given the unique context of the volunteer fire service, more research is needed to understand the needs of family members and the

impact of the volunteer firefighter occupation on their mental health and well-being. Additionally, firefighter families may be a valuable source for occupational resilience and more information is needed in this area.

4. Photo-elicitation: The use of photo-elicitation in this study provided a foundational guide for the future use of this method with the volunteer firefighter population on difficult topics such as mental health. There is substantial promise for photo-elicitation as a continued method to conduct qualitative research with volunteer firefighters and, potentially, other first responder/public safety occupations. Further research to determine guidance on process and protocol with this population is needed.

## **6.7 Conclusion**

While much of the discussion within this study showed aspects of the occupational environment that contribute to occupational stress, there were also areas for occupational resilience. Overall, the purpose of this study was to understand how the volunteer firefighter occupational environment impacts mental health and related services and support for volunteer firefighters in rural Nova Scotia. The study provided guidance and reflections on how photo-elicitation is an appropriate and effective data collection tool for this population. Important findings related to culture, social support systems, rurality, gender, and social media provided a deeper understanding of the volunteer firefighter context and the critical dialogue surrounding barriers and opportunities for mental health services and supports within the occupational environment for volunteer firefighters. The study findings and recommendations discussed in this thesis provide evidence of the need to develop more services and supports that address the unique cultural needs and occupational realities of the volunteer fire service in Nova Scotia.

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## APPENDICES

### Appendix A: Individual Interview #1 Guide

**Duration:** Approximately 30- 60 minutes

#### **Purpose of Interview:**

- 1) Explanation of the research process and introduction to the photo-elicitation method.
- 2) Building a rapport and getting to know the volunteer firefighter and some of their base level experiences in the occupation.
- 3) Gain information on mental health services and supports they are aware of.
- 4) Understanding of their motivation for being a volunteer firefighter.

#### **Introduction:**

- 1) Thank individual for agreeing to participate.
- 2) Explain the purpose for the study, what you are looking to learn from the interview process, and an explanation of the next few stages of the research process.
- 3) Go through the informed consent form and have it signed.
- 4) Go through research folder and documents with participant.
- 5) Begin the audio-recording.

#### **Interview Process:**

*Phase 1: Informal Interview*

Questions:

- 1) What is your role in the fire service?
  - a. Driver?
  - b. Committees
  - c. Other roles?
- 2) How long have you been a volunteer firefighter?
  - a) How old were you when you joined the fire service?
- 3) What do you do for a living outside the fire department?
  - a) Employment
  - b) Other hobbies
  - c) Family
- 4) Why did you become a volunteer firefighter?
- 5) What is it like to be a volunteer firefighter in this community?
- 6) What is your most memorable experience as a volunteer firefighter?
- 7) What do you enjoy about being a volunteer firefighter?
- 8) What do you find challenging about being a volunteer firefighter?
- 9) In what ways do you think experiences of volunteer firefighting influence your life?
- 10) Gendered experiences...
  - a. How does being male/female/non-binary (however the individual identifies) impact your role as a volunteer firefighter?
- 11) Are you aware of any mental health services that exist for volunteer firefighters?
  - a) Services or supports
  - b) Resources

- c) Trainings
- d) Policies

**Probing Questions:**

Remember probing questions:

- How did you feel about that?
- Can you elaborate more on this?
- Tell me more about that.
- What else happened?
- How did you manage what you saw or did?
- Can you give an example?
- What do you mean by that?

*Phase 2: Photo-elicitation explanation and scheduling of next interview.*

1) Go through the photo-elicitation explanation sheet (See Appendix B). This will be given to the volunteer firefighter to keep.

2) Schedule the next time for the interview.

## Appendix B: Photo-Elicitation Process



Instructions for our next interview on: \_\_\_\_\_

Over the next two weeks, I am asking you to document your experience and identity of being a rural volunteer firefighter in Nova Scotia by taking pictures. Some questions to think of when taking pictures are:

- What are the most important aspects of the work you do as a volunteer firefighter?
- What would you want people to understand about being a volunteer firefighter?
- What aspects of volunteer firefighting have an impact on your mental health?

Steps:

- 1) Take or collect as many pictures as you want. There are no right or wrong pictures. You can also choose photos that have been taken in the past by yourself or others.
- 2) At the end of the two weeks, choose 10 images that you want to share with me at the next interview.
- 3) Bring the photos to the next interview (on your phone, computer or printed).
- 4) At the next interview, I will ask you to tell me about the images you shared with me.

Reminders for taking photos:

- 1) If you take images of any people, please ensure you have their consent if you decide to share their photo with me.
- 2) If you choose to share a picture that was taken by someone else, please ensure you have their permission to share the photo with me.
- 3) When taking pictures, please keep in mind your fire department's policies on taking pictures at any fire calls. This process is not meant to impede the job you need to do on the fire ground or go against any policies of your fire department.
- 4) I have given you photo note worksheets to keep track of your photos and document why you have taken them. This is optional.



## **Appendix C: Individual Interview #2 Guide**

**Duration:** Approximately 45-60 minutes

### **Purpose of Interview:**

- 1) This interview will be research participant driven. The research participant will describe the 10 images they shared with the researcher.
- 2) Since this is research participant driven through a narrative approach, the researcher will have minimal formal questions to ask. The interview will go wherever the research participant takes it. The researcher may ask clarification questions.
- 3) The researcher and research participant will begin to do some analysis of the photographs together to determine any patterns or themes.

### **Introduction:**

- 1) Review of the informed consent, study purpose, and purpose of today's interview.
- 2) Begin the audio-recording.

### **Interview Process:**

- 1) Researcher will state: I asked you to document your experience and identity of being a rural volunteer firefighter by taking pictures over the past two weeks. Questions I asked you to think of when taking pictures were:
  - What are the most important aspects of the work you do as a volunteer firefighter?
  - What would you want people to understand about being a volunteer firefighter?
  - What aspects of volunteer firefighting have an impact on your mental health?
  - a) Tell me a bit about taking these pictures.
- 2) Ask the research participant to tell the researcher about the 10 images they shared.
- 3) Once the research participant has shared their stories, the researcher and research participant will start to analyze for any themes/patterns.
  - a. The researcher will ask the participant if they see any themes or patterns arising from the images they took.
- 4) Once the research participant has finished sharing, the next interview will be scheduled.

### **Clarification or Probing Questions:**

Remember probing questions:

- How did you feel about that?
- What type of thoughts or feelings does this photo evoke?
- Can you elaborate more on this?
- Tell me more about that.
- What else happened?
- How did you manage what you saw or did?
- What do you mean by that?

## Appendix D: Individual Interview #3 Guide

**Duration:** Approximately 45-60 minutes

### **Purpose of Interview:**

- 1) This interview is vital for clarifications and any follow-up questions related to the photos. Since it is not known what these questions will be yet, these will be developed based on the 2<sup>nd</sup> interview.
- 2) This interview will ask questions about mental health related to the previous interviews.

### **Introduction:**

- 1) Review of the informed consent, study purpose, and purpose of today's interview.
- 2) Begin the audio-recording.

### **Interview Process:**

#### *Phase 1: Follow-up Questions from Photo Interview*

- 1) During the last interview we discussed the 10 images you selected and shared with me. I would like to ask some follow-up questions about the images.
  - a. Tell me more about this image.
  - b. What were your thoughts and feelings when you took this image?
  - c. Meaning of certain photos.
  - d. Can you tell me what you meant by...
- 2) Is there anything you want to share about the images that you didn't have a chance to in our last interview?
  - a. Meanings of photos
  - b. Themes or patterns you thought of.
  - c. Photos you wanted to share but were not able to for some reason.
  - d. Other thoughts on the photos or the process.
- 3) The purpose of this interview will be to have a deeper conversation about how their experiences as a volunteer firefighter have impacted their mental health and well-being. Considering the narrative approach to this study, the researcher's questions will emerge from the two previous interviews. There will be overarching categories the researcher will look at exploring further related to mental health and well-being including:
  - 1) Traditions and culture of the volunteer fire service
  - 2) Influence of leadership (senior officers)
  - 3) Politics within the fire service
  - 4) Impact of peers and family
  - 5) Public perception
  - 6) Gendered experiences
  - 7) Media
  - 8) Language
  - 9) Community resources (or lack thereof)

Final Question:

Is there anything else you would like to share with me about your experience as a volunteer firefighter?

**Clarification or Probing Questions:**

Remember probing questions:

- How did you feel about that?
- Can you elaborate more on this?
- Tell me more about that.
- What else happened?
- How did you manage what you saw or did?
- What do you mean by that?

## Appendix E: Focus Group Interview Guide

**Duration:** Approximately 1.5-2 hours.

### **Purpose of Interview:**

- 1) Gain an understanding of leadership perspectives and decision making in regards to mental health services and supports for volunteer firefighters.

### **Introduction:**

- 1) Thank individual for agreeing to participate.
- 2) Explain the purpose for the study, what you are looking to learn from the focus group, and an explanation of the next few stages of the research process.
- 3) Go through the informed consent form and have it signed.
- 4) Go over a couple ground rules:
  - a. Ask to turn cellphone to silent.
  - b. Any radios or pagers can stay on but please have them at a low volume and only on your fire departments channel to avoid distractions.
- 5) Begin the audio-recording.

### **Interview Process:**

- 1) Tell me your thoughts on how volunteer firefighting impacts mental health.
  - a. What values does your fire department place on the mental health of volunteer firefighters?
- 2) What opportunities or strengths exist to promote mental health your fire department?
- 3) What barriers or challenges exist to promote mental health your fire department?
- 4) How do the traditions and/or culture of firefighting impact mental health?
- 5) How does your fire department make decisions regarding the mental health of your volunteer firefighters?
  - a. Who makes the decisions?
  - b. What factors impact your decision making?
    - i. Municipal contracts for fire service?
    - ii. Public perception?
  - c. How are they made?
    - i. After critical incidents?
    - ii. If someone is struggling?
- 6) What strategies does your fire department have in place for mental health?
  - a. Training?
  - b. Education?
  - c. Services?
  - d. Resources?
  - e. Policies?

7) What services or supports would you like to see made available to volunteer firefighters to contribute to their mental health and well-being?

8) What changes or improvements could be made to better support volunteer firefighters' mental health?

9) Is there anything else you would like to share?

## Appendix F: In-Person Research Recruitment Script

Hello Everyone,

My name is Robin Campbell and I am a PhD Candidate at Dalhousie University. I am a former volunteer firefighter and I am conducting a research study for my PhD called, "Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia."

This study has two objectives. The first is to explore how rural volunteer firefighters understand and make sense of their occupational environment. The second is to explore how the occupational environment creates both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being. This research has the potential to improve the mental health and well-being of volunteer firefighters by deepening our understanding of the occupational environment experienced by volunteer firefighters. This can support the development of appropriate policies and programs that address the unique cultural and occupational realities of the volunteer fire service in Nova Scotia. This can reduce the impact of mental health challenges faced by our volunteer firefighters, their families and the communities they serve. This knowledge also has the potential to improve retention of volunteer firefighters in rural communities by addressing their specific occupational mental health needs.

To participant in this study you must meet the following criteria:

1. Be a frontline, active firefighter at one of the selected fire department sites for this study. Radio-operators are not considered frontline, active firefighters for the purpose of this study.
2. You cannot hold an officer ranking (i.e. safety officer, lieutenant, captain, deputy chief, chief).
3. Must have at least one year's experience as a volunteer firefighter.
4. Must be 18 years of age or older and cannot be a junior firefighter.
5. Must have access to a device that can take pictures (i.e. cellphone, digital camera).

You will be asked to participate in a series of three interviews. Each interview will take place approximately two weeks apart, spanning over a period of 6-8 weeks. Each interview will be approximately 30-60 minutes in length and will be recorded using a digital audio recorder so that your information can be transcribed and analyzed. Between the 1<sup>st</sup> and 2<sup>nd</sup> interview (approximately 2-week period), you will be asked to take or collect photographs that document your experience and identity of being a rural volunteer firefighter and submit 10 photographs to the researcher through a secure, confidential online site. Your identity will not be associated with any of the information you provide us with.

I have flyers with my contact information on it. Please feel free to contact me if you are interested.

Thank you for your time.

Robin

## **Appendix G: Focus Group Recruitment Email/Script**

Dear [Fire Chief],

I would like to invite your fire department senior officers to participate in the focus group phase of the research study: Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

I am looking for your help in recruiting all the senior officers from your fire department for this research project. To participate in this focus group individuals must hold an officer ranking at your fire department. Senior officers can be a safety officer, lieutenant, captain, deputy chief, or chief.

Attached is a project description to share with your senior officers.

Sincerely,  
Robin Campbell  
PhD Candidate  
Dalhousie University  
[robin.campbell@dal.ca](mailto:robin.campbell@dal.ca)  
[www.firewell.ca](http://www.firewell.ca)

### **Attachment: Project Description**

You are being invited to participate in a research study about how the occupational environment impacts the mental health of rural, volunteer firefighters in Nova Scotia. The project, titled, “Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia” is a research study being conducted by Robin Campbell, a PhD Candidate at Dalhousie University as part of her PhD in Health program.

This study has two objectives. The first is to explore how rural volunteer firefighters understand and make sense of their occupational environment. The second is to explore how the occupational environment creates both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being. This research has the potential to improve the mental health and well-being of volunteer firefighters by deepening our understanding of the occupational environment experienced by volunteer firefighters. This can support the development of appropriate policies and programs that address the unique cultural and occupational realities of the volunteer fire service in Nova Scotia. This can reduce the impact of mental health challenges faced by our volunteer firefighters, their families and the communities they serve. This knowledge also has the potential to improve retention of volunteer firefighters in rural communities by addressing their specific occupational mental health needs.

Therefore, we are inviting officers of three rural fire departments in Nova Scotia to participate in a focus group. A separate focus group will be held with each fire department to gain an

understanding of leadership perspectives and decision-making regarding mental health services and supports for their volunteer firefighters.

We would like to invite you to attend a focus group. The 1.5-2 hour long focus group will include any officers (safety officers, lieutenants, captains, deputy chiefs, and chief) from your fire department who wish to participate. If you would prefer to participate in an individual interview, rather than as part of a focus group, we will welcome your contribution in that format.

All information will be kept confidential. Coffee and refreshments will be provided. Please contact the Robin Campbell, [robin.campbell@dal.ca](mailto:robin.campbell@dal.ca) to confirm your participation, or to request additional information. We appreciate your consideration of our request and look forward to hearing from you soon.

Robin Campbell  
PhD Candidate  
Dalhousie University  
[Robin.campbell@dal.ca](mailto:Robin.campbell@dal.ca)  
902-691-2486



## Appendix H: Individual Interview Informed Consent Form



**Project title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

### **Lead researcher:**

Robin Campbell  
PhD Candidate  
Dalhousie University  
Robin.campbell@dal.ca  
902-691-2486

### **Other researchers**

Dr. Crystal Dieleman, PhD Supervisor  
School of Occupational Therapy  
Dalhousie University  
Crystal.dieleman@dal.ca  
902-494-1982

Dr. Jeff Karabanow, PhD Co-Supervisor  
School of Social Work  
Dalhousie University  
Jeff.karabanow@dal.ca  
902-494-1193

### **Introduction**

We invite you to take part in a research study about how the occupational environment impacts the mental health of rural, volunteer firefighters in Nova Scotia. This research is being conducted by me, Robin Campbell, a PhD Candidate at Dalhousie University as part of my PhD in Health program. Choosing whether or not to take part in this research is entirely your choice. There will be no impact on your role as a volunteer firefighter if you decide not to participate in the research. The information below tells you about what is involved in the research, what you will be asked to do and about any benefit, risk, inconvenience or discomfort that you might experience. Please ask as many questions as you like. If you have any questions later, please contact the lead researcher.

### **Purpose and Outline of the Research Study**

The purpose of this research is to understand how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia. This study has two objectives. The first is to explore how rural volunteer firefighters understand and

make sense of their occupational environment. The second is to explore how the occupational environment creates both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being. This research has the potential to improve the mental health and well-being of volunteer firefighters by deepening our understanding of the occupational environment experienced by volunteer firefighters. This can support the development of appropriate policies and programs that address the unique cultural and occupational realities of the volunteer fire service in Nova Scotia. This can reduce the impact of mental health challenges faced by our volunteer firefighters, their families and the communities they serve. This knowledge also has the potential to improve retention of volunteer firefighters in rural communities by addressing their specific occupational mental health needs.

### **Who Can Take Part in the Research Study**

To participate in this study you must meet the following criteria:

1. Be a frontline, active firefighter at one of the selected fire department sites for this study. Radio-operators are not considered frontline, active firefighters for the purpose of this study.
2. You cannot hold an officer ranking (i.e. safety officer, lieutenant, captain, deputy chief, chief).
3. Must have at least one year's experience as a volunteer firefighter.
4. Must be 18 years of age or older and cannot be a junior firefighter.
5. Must have access to a device that can take pictures (i.e. cellphone, digital camera).

Taking part in this research study is completely up to you. Whether you take part or not is for you to decide. No one will be upset with you or hold it against you if you decide not to take part or change your mind. If you do decide to take part, you can still change your mind and stop participating at any time.

### **What You Will Be Asked to Do**

You will be asked to participate in a series of three interviews that can be held in-person, by phone, or online using MS Teams. Each interview will take place approximately two weeks apart, spanning over a period of 4-6 weeks. Each interview will be a minimum of 45-60 minutes in length and will be recorded using a digital audio recorder so that your information can be transcribed and analyzed. Between the 1<sup>st</sup> and 2<sup>nd</sup> interview (approximately 2-week period), you will be asked to take or collect photographs that document your experience and identity of being a rural volunteer firefighter and submit 10 photographs to the researcher through a secure, confidential online site through Dalhousie University called FileShare or in person with the researcher at a place convenient for you. Your identity will not be associated with any of the information you provide us with.

### **Possible Benefits, Risks and Discomforts**

There are minimal risks associated with this study. There is a risk of discomfort and/or distress due to the nature of some of the questions asked. Volunteer firefighters will be asked to answer questions related to their experiences of being a volunteer firefighter and the impact on their mental health which could cause distress and discomfort. To mitigate these risks, a list of mental health resources will be made available to you.

Additionally, photos can be seen as political, personal, or private. Due to the nature of photos being taken, there could be conflict with your fire department. Therefore, individuals may not feel comfortable taking them, or seeking consent when needed. You will choose the photos you take and do not have to take any photos that make you feel uncomfortable. You can choose not to respond to any question and will choose which photos to share with the researcher.

The researcher will be using Trint.com transcription services to transcribe audio files. Due to the server location of this company, audio files will be stored temporarily in the United States and therefore may be accessed by the US government in compliance with the US Freedom Act.

While there are no direct benefits for participation in this study. Indirect benefits for participating in this study are contributions to new knowledge on how the occupational environment impacts the mental health and related services and supports for rural volunteer firefighters in Nova Scotia.

### **Compensation / Reimbursement**

Participants will not receive any compensation for taking part in this research study.

### **How your information will be protected:**

Given the nature of this study (taking and sharing of photographs), confidentiality cannot be guaranteed. If you choose to take photos of yourself, your image cannot be kept confidential. However, we will not publish names of people in photos. We will also not report or publish your name, though you may be offered the opportunity to engage in sharing your photos publicly and you could be identified in that process.

Research participants who take photos will have the opportunity to decide which photos are shared publicly and give permission for sharing photos after analysis has taken place. Direct quotes may be used but will not be associated with individual names. We will not disclose any information about your participation in this research to anyone unless compelled to do so by law or our professional ethical obligations. That is, in the unlikely event that we feel you are of harm to yourself or others, we are required to contact appropriate authorities.

Additionally, any data collected through the interview process will not have your name associated with it. Interview information that you provide to us will be kept private. Only the lead researcher and her supervisors at Dalhousie University will have access to this information. We may describe and share our findings in academic journals, presentations at professional conferences, presentations with community stakeholders, on the study's website and social media sites, in the lead researcher's dissertation and/or in a short video.

The people who work with us have an obligation to keep all research information private. Also, we will use a participant number (not your name) in our written and computer records so that the information we have about you contains no names. All your identifying information will be securely stored on the researcher's password-protected computer in a password-encrypted document separate from all study material. All electronic records will be kept secure in an encrypted file on the researcher's password-protected computer. A backup of electronic data will be stored using OneDrive. All electronic data stored on this platform will be encrypted and password protected. Any paper data will be kept in a secure, locked location in the School of

Occupational Therapy at Dalhousie University. Records will be kept secure for a period of five years following publication, at which time they will be destroyed.

### **If You Decide to Stop Participating**

You are free to leave the study at any time. If you decide to stop participating at any point in the study, you can also decide whether you want any of the photos you've taken to that point removed. After analysis is complete, you will be offered another opportunity to consent to the use of your photos for knowledge sharing and translation. If you decide to consent to the use of your photos at that point, it will no longer be possible to remove them later.

### **How to Obtain Results**

A description of the results from this study will be made available to you online at the following sites by May 2021.

Website: [www.soundthesiren.ca](http://www.soundthesiren.ca)

Twitter: @SoundtheSirenNS

Facebook: @Sound.the.Siren.NS

Instagram: @Sound.the.Siren.NS

### **Questions**

We are happy to talk with you about any questions or concerns you may have about your participation in this research study. Please contact Robin Campbell (at 902 691-2486, [robin.campbell@dal.ca](mailto:robin.campbell@dal.ca)) or one of the other researchers at any time with questions, comments, or concerns about the research study. We will also tell you if any new information comes up that could affect your decision to participate.

If you have any ethical concerns about your participation in this research, you may also contact Research Ethics, Dalhousie University at (902) 494-1462, or email: [ethics@dal.ca](mailto:ethics@dal.ca) (and reference REB file # 20XX-XXXX).”

## Signature Page

**Project title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

**Lead researcher:**

Robin Campbell  
PhD Candidate  
Dalhousie University  
Robin.campbell@dal.ca  
902-691-2486

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I understand that I have been asked to take part in three interviews that will occur at a location acceptable to me. I agree that my interviews will be audio-recorded, and direct quotes of things I say may be used without identifying me. I agree to take part in this study. I realize that my participation is voluntary and that I am free to withdraw from the study at any time until analysis has been completed. I understand I will be given another opportunity in the future to consent to the use of my photos publicly.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Please provide an email address below if you would like to be sent a summary of the study results.

Email address: \_\_\_\_\_

## Appendix I: Photographer's Consent and Media Release



**Project Title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

**Researcher:** Robin Campbell, PhD in Health Candidate, Dalhousie University, [robin.campbell@dal.ca](mailto:robin.campbell@dal.ca), (902) 691-2486

I have taken part in the photo-elicitation study, taken and selected photos, and taken part in their analysis. I have been given the opportunity to discuss the use of photos I have taken, and my questions have been answered to my satisfaction. I understand that the photos I have taken may be used in a variety of formats for publication and presentations to share knowledge gained in this study with academic and non-academic audiences, including but not limited to in publications, presentations, social media, public events, and webinars.

My participation is voluntary, and I understand that once I have signed below I will no longer be able to have the photos I have taken removed from the research study or the presentation of its results. I give permission to Robin Campbell and Dalhousie University to use my photographs for the purpose of sharing the results of this study with stakeholders and the general public. I grant Robin Campbell and Dalhousie University rights to use my photo without compensation.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Appendix J: Focus Group Informed Consent Form



**Project title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

### **Lead researcher:**

Robin Campbell  
PhD Candidate  
Dalhousie University  
Robin.campbell@dal.ca  
902-691-2486

### **Other researchers**

Dr. Crystal Dieleman, PhD Supervisor  
School of Occupational Therapy  
Dalhousie University  
Crystal.dieleman@dal.ca  
902-494-1982

Dr. Jeff Karabanow, PhD Co-Supervisor  
School of Social Work  
Dalhousie University  
Jeff.karabanow@dal.ca  
902-494-1193

### **Introduction**

We invite you to take part in a research study about how the occupational environment impacts the mental health of rural, volunteer firefighters in Nova Scotia. This research is being conducted by me, Robin Campbell, a PhD Candidate at Dalhousie University as part of my PhD in Health program. Choosing whether or not to take part in this research is entirely your choice. There will be no impact on role as a volunteer firefighter if you decide not to participate in the research. The information below tells you about what is involved in the research, what you will be asked to do and about any benefit, risk, inconvenience or discomfort that you might experience. Please ask as many questions as you like. If you have any questions later, please contact the lead researcher.

### **Purpose and Outline of the Research Study**

The purpose of this research is to understand how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia. This study has two objectives. The first is to explore how rural volunteer firefighters understand and make sense of their occupational environment. The second is to explore how the occupational environment creates both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being. This research has the potential to improve

the mental health and well-being of volunteer firefighters by deepening our understanding of the occupational environment experienced by volunteer firefighters. This can support the development of appropriate policies and programs that address the unique cultural and occupational realities of the volunteer fire service in Nova Scotia. This can reduce the impact of mental health challenges faced by our volunteer firefighters, their families and the communities they serve. This knowledge also has the potential to improve retention of volunteer firefighters in rural communities by addressing their specific occupational mental health needs.

### **Who Can Take Part in the Research Study**

As part of this study we are inviting officers of the participating fire departments to participate in a focus group. Approximately 15-20 people total will be participating in three different focus groups. To participate in this focus group you must currently hold an officer ranking at one of the three selected fire departments for this study. A senior officer be a safety officer, lieutenant, captain, deputy chief, or chief.

Taking part in this research study is completely up to you. Whether you take part or not is for you to decide. No one will be upset with you or hold it against you if you decide not to take part or change your mind. If you do decide to take part, you can still change your mind and stop participating at any time.

### **What You Will Be Asked to Do**

We are asking officers of three rural fire departments in Nova Scotia to participate in a focus group. A separate focus group will be held with each fire department to gain an understanding of leadership perspectives and decision-making regarding mental health services and supports for their volunteer firefighters.

You will be asked to participate in one focus group (in-person or online) that will last approximately 1.5-2 hours and will be recorded using a digital audio recorder so that your information can be transcribed and analyzed. Below you are provided with social media and website addresses where you may see information from the study as it is made available. Your identity will not be associated with any of the information you provide us.

You may also decide to participate in a one on one interview rather than the focus group. This could be by phone, or online using MS Teams.

### **Possible Benefits, Risks and Discomforts**

There are minimal risks for participating in this study. There is a risk of experiencing distress and you may find some questions asked during the focus group upsetting or distressing. You may not like some of the questions that you will be asked. You do not have to answer questions you find too distressing. You may ask to take a break at any time and have the option to return later to complete the focus group. At the outset of the focus group, participants will be advised that all information shared will be kept confidential unless disclosure/reporting is required by law – such as harm to self or others. If participants wish to disclose information but are concerned about consequences of disclosure, they will be provided the option of writing the information down on a piece of paper and placing it in sealed, unmarked envelop. All sealed envelopes will be opened by the researcher later.



The researcher will be using Trint.com transcription services to transcribe audio files. Due to the server location of this company, audio files will be stored temporarily in the United States and therefore may be accessed by the US government in compliance with the US Freedom Act.

While there are no direct benefits for participation in this study. Indirect benefits for participating in this study are contributions to new knowledge on how the occupational environment impacts the mental health and related services and supports for rural volunteer firefighters in Nova Scotia.

### **Compensation / Reimbursement**

Participants will not receive any compensation for taking part in this research study.

### **How your information will be protected:**

Information that you provide to us will be kept private. Only the lead researcher and her supervisors at Dalhousie University will have access to this information. We will describe and share our findings in academic journals, presentations at professional conferences, presentations with community stakeholders, on the study's website and social media sites, in the lead researcher's dissertation and/or in a short video. We will be very careful to only talk about group results so that no one will be identified. This means that you will not be identified in any way in our reports. The people who work with us have an obligation to keep all research information private. Also, we will use a participant number (not your name) in our written and computer records so that the information we have about you contains no names. It is important to note that while the researcher will keep data confidential, there is no guarantee that other participants will maintain confidentiality due to the nature of group discussions.

All your identifying information will be securely stored on the researcher's password-protected computer in a password-encrypted document separate from all study material. All electronic records will be kept secure in an encrypted file on the researcher's password-protected computer. A backup of electronic data will be stored using OneDrive. All electronic data stored on this platform will be encrypted and password protected. Any paper data will be kept in a secure, locked location in the School of Occupational Therapy at Dalhousie University. Records will be kept secure for a period of five years following publication, at which time they will be destroyed.

### **If You Decide to Stop Participating**

You are free to leave the study at any time. If you decide to participate and later change your mind, you can say no and stop the research at any time. If you wish to stop participating, please inform the person conducting your focus group. All information you provide before stopping your participation in the study will be kept and included in study results. Due to the group information being audio-recorded, it will not be possible to remove your individual comments from the group data.

### **How to Obtain Results**

A description of the results from this study will be made available to you online at the following sites by May 2021.

Website: [www.soundthesiren.ca](http://www.soundthesiren.ca)

Twitter: @SoundtheSirenNS

Facebook: @Sound.the.Siren.NS  
Instagram: @Sound.the.Siren.NS

### **Questions**

We are happy to talk with you about any questions or concerns you may have about your participation in this research study. Please contact Robin Campbell (902 691-2486, robin.campbell@dal.ca) or the other researchers at any time with questions, comments, or concerns about the research study. We will also tell you if any new information comes up that could affect your decision to participate.

If you have any ethical concerns about your participation in this research, you may also contact Research Ethics, Dalhousie University at (902) 494-1462, or email: [ethics@dal.ca](mailto:ethics@dal.ca) (and reference REB file # 2019-5001).

## Signature Page

**Project title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

**Lead researcher:**

Robin Campbell  
PhD Candidate  
Dalhousie University  
Robin.campbell@dal.ca  
902-691-2486

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I understand that I have been asked to take part in a focus group or interview and this focus group or interview will be audio-recorded. I understand direct quotes of things I say may be used without identifying me. I agree to take part in this study. My participation is voluntary, and I understand that I am free to withdraw from the study at any time.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Please provide an email address below if you would like to be sent a summary of the study results.

Email address: \_\_\_\_\_

## Appendix K: Photo Consent Form



**Project title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

**Lead researcher:** Robin Campbell, PhD Candidate, Dalhousie University,  
Robin.campbell@dal.ca  
902-691-2486

**Other researchers** Dr. Crystal Dieleman, PhD Supervisor, School of Occupational Therapy, Dalhousie University, [Crystal.dieleman@dal.ca](mailto:Crystal.dieleman@dal.ca), 902-494-1982 and Dr. Jeff Karabanow, PhD Co-Supervisor, School of Social Work, Dalhousie University, [Jeff.karabanow@dal.ca](mailto:Jeff.karabanow@dal.ca), 902-494-1193

### Introduction

You have been asked to have your photo taken as part of a research study being conducted by Robin Campbell, a PhD student at Dalhousie University, as part of the PhD in Health program. Choosing whether or not to have your photo taken is entirely your choice. There will be no negative impact if you decide not to take part. You should discuss any questions you have about this study with Robin Campbell. Please ask as many questions as you like and contact me anytime.

### Purpose and Outline of the Research Study

The purpose of this research is to understand how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia. This study has two objectives. The first is to explore how rural volunteer firefighters understand and make sense of their occupational environment. The second is to explore how the occupational environment creates both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being. This research has the potential to improve the mental health and well-being of volunteer firefighters by deepening our understanding of the occupational environment experienced by volunteer firefighters. This can support the development of appropriate policies and programs that address the unique cultural and occupational realities of the volunteer fire service in Nova Scotia. This can reduce the impact of mental health challenges faced by our volunteer firefighters, their families and the communities they serve. This knowledge also has the potential to improve retention of volunteer firefighters in rural communities by specifically addressing their specific occupational mental health needs.

### What You Will Be Asked to Do

You have been asked by a study participant to have your photo taken. Having your photo taken and used as part of this project is all you will be asked to do. If your photo is taken, it may be used publicly in sharing the results of the study.

### **Possible Benefits, Risks and Discomforts**

Participating in this study might not benefit you, but this study will contribute to new knowledge and learning about how the occupational environment impacts the mental health and related services and supports for rural volunteer firefighters in Nova Scotia. The risks associated with this study are minimal. Photos, however, can be seen as political, and you may feel uncomfortable having your photo taken. You can choose to not have your photo taken with no negative consequences.

### **Compensation / Reimbursement**

You will not be compensated for having your photo taken, though the photographer will be given a printed copy of all of their photos and may decide to give you a copy.

### **How your information will be protected:**

Your name will not be printed or published in association with your photo, but your photo will be used in the study's analysis process and potentially in publication and knowledge sharing activities, so confidentiality is not possible. We will not be able to prevent others from knowing you took part in the study by having your photo taken, as you could be identified by your image or likeness.

Electronic copies of images will be password protected. This signed form, and hard copies of photos, will be stored separately from each other, in locked filing cabinets. Data will be kept for a period of 5 years following publication, after which time they will be destroyed.

### **If You Decide to Stop Participating**

You are free to decide to not have your photo taken at any time. Once you have had your photo taken and provided this form to the photographer, it will not be possible to remove your photo from the rest of the data.

### **How to Obtain Results**

A description of the results from this study will be made available to online at the following sites by May 2021.

Website: [www.soundthesiren.ca](http://www.soundthesiren.ca)

Twitter: @SoundtheSirenNS

Facebook: @Sound.the.Siren.NS

Instagram: @Sound.the.Siren.NS

### **Questions**

We are happy to talk with you about any questions or concerns you may have about your participation in this research study. Please contact Robin Campbell (at 902 691-2486, [robin.campbell@dal.ca](mailto:robin.campbell@dal.ca)) or the other researchers at any time with questions, comments, or concerns about the research study. We will also tell you if any new information comes up that could affect your decision to participate.

If you have any ethical concerns about your participation in this research, you may also contact Research Ethics, Dalhousie University at (902) 494-1462, or email: [ethics@dal.ca](mailto:ethics@dal.ca) (and reference REB file # 2019-5001).”

## Signature Page

**Project Title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

**Researcher:** Robin Campbell, PhD in Health Candidate, Dalhousie University,  
[robin.campbell@dal.ca](mailto:robin.campbell@dal.ca), (902) 691-2486

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I understand that I have been asked to have my photo taken and that my image and likeness will be used for the purposes of this study's analysis and sharing of results. I give permission to Robin Campbell and Dalhousie University to use my photographs for the purpose of sharing the results of this study with stakeholders and the general public. I grant Robin Campbell and Dalhousie University rights to use my photo without compensation.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Appendix L: Mental Health Resources List

### MENTAL HEALTH RESOURCES

**IF YOU ARE IN CRISIS, PLEASE REACH OUT FOR HELP IMMEDIATELY.**

**Nova Scotia Mental Health Crisis line at 902-429-8167 or 1-888-429-8167 (toll free).**

**Or**

**You can also DIAL 911, or visit your local emergency department.**

**If you are not in crisis and would like support, please reach out to other mental health services and supports (from the Mental Health Foundation of Nova Scotia):**

**Critical Incident Stress Management Team for the Fire Service of Nova Scotia  
Through the Nova Scotia Provincial Fire Marshal's Office**

**Toll free: 1-800-559-3473**

**This is a 24 hour, 7 day/week number**

**NOVASCOTIA.CA/HELP**

**Nova Scotia Health Authority has a list of resources across the province.**

**[www.novascotia.ca/help](http://www.novascotia.ca/help)**

#### **REGIONAL SUPPORT**

##### **ANNAPOLIS VALLEY**

**Annapolis Valley Health Authority, Mental Health & Addiction  
Services 1.855.273.7110**

**Mental Health Services Kentville: 902.679.2567 ext. 2870**

**Mental Health Services Middleton: 902.825.4825**

**Mental Health Services Berwick: 902.583.3111 Ext. 143**

**CMHA Annapolis County Branch: 902.665.4801**

**CMHA Kings County Branch: 902.679.7464**

##### **CAPE BRETON**

**CMHA Cape Breton Branch: 902.567.7905**

**Emergency Crisis Services: 902.567.8000**

**Adult Outpatient Services: 902.567.7730**

**Inverness Mental Health Clinic: 902.258.2100**

**Seniors Mental Health Program: 902.567.7730**

**Adult Services: 902.667.7951**

##### **COLCHESTER-EAST HANTS**

**Mental Health Services: 902.896.2606 or 1.844.855.6688**

**CMHA Colchester/East Hants Branch: 902.895.4211**

## **CUMBERLAND**

**Mental Health Services:** 902.667.3879 or  
1.844.855.6688

## **GUYSBOROUGH, ANTIGONISH, STRAIT**

**Mental Health Services:** 1.888.291.3535

## **HALIFAX REGIONAL MUNICIPALITY**

**Community Mental Health Clinics** are staffed by a team of professionals who provide a range of services to help people manage their mental illness and improve their mental health. Services are available at no cost to adults:

**Bayers Road Community Mental Health:** 902.454.1400

**Bedford/Sackville Community Mental Health:** 902.865.3663

**Cole Harbour/Eastern HRM Community Mental Health:** 902.434.3263

**Dartmouth Community Mental Health:** 902.466.1830

**West Hants Community Mental Health:** 902.792.2042

**Addiction Services:** 1.866.340.6700

**Mental Health Services:** 1.888.429.8167

## **PICTOU COUNTY**

**Mental Health Services:** 1.844.855.6688

**Pictou County Health Authority, Child, Adolescent Mental Health Services** 902.755.1137

**CMHA Pictou Branch:** 902.753.5578

## **SOUTH WEST NOVA**

**Mental Health Services:** 1.844.380.4324

**Mental Health Services Yarmouth:** 902.742.4222

**Mental Health Services Shelburne:** 902.875.4200

**Mental Health Services Digby:** 902.245.4709

**CMHA Yarmouth, Digby, Shelburne Branch:** 902.742.0222

## **SOUTH SHORE**

**Mental Health Services:** 1.877.334.3431

**CMHA Lunenburg County Chapter:** 902.543.7082

## **ADDITIONAL MENTAL HEALTH ORGANIZATIONS**

### **Canadian Mental Health Association (CMHA) – Nova Scotia Division**

The Canadian Mental Health Association Nova Scotia Division is part of a nation-wide charitable organization that promotes the mental health of all and supports the resilience and recovery of people experiencing mental illness.

**[www.novascotia.cmha.ca](http://www.novascotia.cmha.ca)**

902.466.6600



### **Eating Disorders Nova Scotia**

Eating Disorders Nova Scotia (EDNS) is a community based organization that offers peer support for individuals with eating disorders, and for their families, friends and partners.

[www.eatingdisordersns.ca](http://www.eatingdisordersns.ca)

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02.229.8436

### **Healthy Minds Cooperative**

A health care cooperative providing a variety of peer-based services to people living with mental illness and their families, including assistance with navigating the mental health system. [www.healthyminds.ca](http://www.healthyminds.ca)

902.404.3504

### **Laing House**

A drop-in centre for youth aged 16 – 29 living with a mood disorder, psychosis and/or anxiety disorder.

[www.lainghouse.org](http://www.lainghouse.org)

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02.425.9018

### **Outsider Insight**

Outsider Insight uses education and peer support to create more sustainable artists. Working toward being a permanent part of the Halifax arts scene.

[www.outsiderinsight.ca](http://www.outsiderinsight.ca)

### **Paws Fur Thought**

An organization working to raise awareness about and support for pairing Service Dogs with individuals experiencing PTSD, particularly military veterans and members of the RCMP. We partner with CIAD – Canadian Intervention & Assistance Dogs to provide first responders with PTSD Service Dogs.

[www.pawsfurthought1.com](http://www.pawsfurthought1.com)

### **Schizophrenia Society of Nova Scotia**

Support for families of and people living with schizophrenia.

[www.ssns.ca](http://www.ssns.ca)

902.465.2601

### **Self Help Connection**

A self-help resource centre for more than 500 groups in Nova Scotia.

[www.selfhelpconnection.ca](http://www.selfhelpconnection.ca)

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2.466.2011

### **Strongest Families Institute**

Strongest Families Institute is a not-for-profit corporation providing evidence-based services to children and families seeking help for mental health and other issues impacting health and well-being. We provide timely care to families by teaching skills through our unique distance coaching approach – supporting families over the phone and Internet in the comfort and privacy of their own home. Strongest Families provides

family-centered care that is customized to their needs.

**[www.strongestfamilies.com](http://www.strongestfamilies.com)**

1.866.470.7111

## Appendix M: Photo Release Consent- Other People's Images



**Project Title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

**Researcher:** Robin Campbell, PhD in Health Candidate, Dalhousie University, [robin.campbell@dal.ca](mailto:robin.campbell@dal.ca), (902) 691-2486

### **Introduction**

You are being asked to have a photo you have taken included research study. This study is being conducted by Robin Campbell, a PhD student at Dalhousie University, as part of the PhD in Health program. Choosing whether or not to have your photo used as part of this study is entirely your choice. There will be no negative impact if you decide not to allow the research participant to use your photograph. You should discuss any questions you have about this study with Robin Campbell. Please ask as many questions as you like and contact me anytime.

### **Purpose and Outline of the Research Study**

The purpose of this research is to understand how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia. This study has two objectives. The first is to explore how rural volunteer firefighters understand and make sense of their occupational environment. The second is to explore how the occupational environment creates both opportunities and barriers for volunteer firefighters in rural Nova Scotia to attend to their mental health and well-being. This research has the potential to improve the mental health and well-being of volunteer firefighters by deepening our understanding of the occupational environment experienced by volunteer firefighters. This can support the development of appropriate policies and programs that address the unique cultural and occupational realities of the volunteer fire service in Nova Scotia. This can reduce the impact of mental health challenges faced by our volunteer firefighters, their families and the communities they serve. This knowledge also has the potential to improve retention of volunteer firefighters in rural communities by specifically addressing their specific occupational mental health needs.

### **What You Will Be Asked to Do**

You have been asked by a study participant to use a photograph you have taken. Having your photo used as part of this project is all you will be asked to do. Your photo may be used publicly in sharing the results of the study.

### **Possible Benefits, Risks and Discomforts**

Participating in this study might not benefit you, but this study will contribute to new knowledge and learning about how the occupational environment impacts the mental health and related services and supports for rural volunteer firefighters in Nova Scotia. The risks associated with this study are minimal.

### **Compensation / Reimbursement**

You will not be compensated for using your photograph.

**How your information will be protected:**

Your name will not be printed or published in association with this photo unless you would specifically like to be given credit publicly for your photograph. In the signed consent form, you can choose how you would like to be publicly acknowledged or not. Your photo will be used in the study's analysis process and potentially in publication and knowledge sharing activities.

Electronic copies of images will be password protected. This signed form, and hard copies of photos, will be stored separately from each other, in locked filing cabinets. Data will be kept for a period of 5 years following publication, after which time they will be destroyed.

**If You Decide to Stop Participating**

Once you have given permission to use your photograph and provided this form to the study participant, it will not be possible to remove your photo from the rest of the data.

**How to Obtain Results**

A description of the results from this study will be made available to online at the following sites by May 2021.

Website: [www.soundthesiren.ca](http://www.soundthesiren.ca)

Twitter: @SoundtheSirenNS

Facebook: @Sound.the.Siren.NS

Instagram: @Sound.the.Siren.NS

**Questions**

We are happy to talk with you about any questions or concerns you may have about your participation in this research study. Please contact Robin Campbell (at 902 691-2486, [robin.campbell@dal.ca](mailto:robin.campbell@dal.ca)) or the other researchers at any time with questions, comments, or concerns about the research study. We will also tell you if any new information comes up that could affect your decision to participate.

If you have any ethical concerns about your participation in this research, you may also contact Research Ethics, Dalhousie University at (902) 494-1462, or email: [ethics@dal.ca](mailto:ethics@dal.ca) (and reference REB file # 2019-5001).”

## Signature Page

**Project Title:** Sound the Siren: Exploring how the occupational environment impacts mental health and related services and supports for volunteer firefighters in rural Nova Scotia.

**Researcher:** Robin Campbell, PhD in Health Candidate, Dalhousie University,  
[robin.campbell@dal.ca](mailto:robin.campbell@dal.ca), (902) 691-2486

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I understand that I have been asked for permission to use a photograph I have taken, and this will be used for the purposes of this study's analysis and sharing of results. I understand that the photos I have taken may be used in a variety of formats for publication and presentations to share knowledge gained in this study with academic and non-academic audiences, including but not limited to in publications, presentations, social media, public events, and webinars.

I give permission to Robin Campbell and Dalhousie University to use my photographs for the purpose of sharing the results of this study with stakeholders and the general public. I grant Robin Campbell and Dalhousie University rights to use my photo without compensation.

\_\_\_\_\_  
Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

I would like to be given credit as the photographer anytime my photograph is shared with academic and non-academic audiences.

- No
- Yes

If you selected yes, what name (i.e. first name, last name; business name) would you like used when the researcher acknowledges you as the photographer:

Name: \_\_\_\_\_

**Appendix N: Photo Notes Worksheet**



Use this document for every photo you take. Remember, you may take or collect as many photos as you want, and it may become difficult to remember when or why you took them. Filling out this sheet may be helpful for our discussion and help you choose which 10 images you wish to share with Robin.

Date: \_\_\_\_\_

Briefly describe the photo:

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Why did you take or choose the photo:

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Thoughts on the photo:

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Consent: Required \_\_\_\_\_ N/A \_\_\_\_\_

## Appendix O: Research Ethics Approval Letter

\*\*\*This was sent from a no-reply address. To respond to this message, please reply directly to Research Ethics at [ethics@dal.ca](mailto:ethics@dal.ca).



### Health Sciences Research Ethics Board Letter of Approval

January 21, 2020

Robin Campbell  
Health\School of Occupational Therapy

Dear Robin,

**REB #:** 2019-5001

**Project Title:** Sound the Siren: Exploring how the Occupational Environment Impacts Mental Health and Related Services and Supports for Volunteer Firefighters in Rural Nova Scotia

**Effective Date:** January 21, 2020

**Expiry Date:** January 21, 2021

The Health Sciences Research Ethics Board has reviewed your application for research involving humans and found the proposed research to be in accordance with the Tri-Council Policy Statement on *Ethical Conduct for Research Involving Humans*. This approval will be in effect for 12 months as indicated above. This approval is subject to the conditions listed below which constitute your on-going responsibilities with respect to the ethical conduct of this research.

Sincerely,



Dr. Lori Weeks, Chair

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#### Post REB Approval On going Responsibilities of Researchers

After receiving ethical approval for the conduct of research involving humans, there are several ongoing responsibilities that researchers must meet to remain in compliance with University and Tri-Council policies.

##### 1. Additional Research Ethics approval

Prior to conducting any research, researchers must ensure that all required research ethics approvals are secured (in addition to this one). This includes, but is not limited to, securing appropriate research ethics approvals from: other institutions with whom the PI is affiliated; the research institutions of research team members; the institution at which participants may be recruited or from which data may be collected; organizations or groups (e.g. school boards, Aboriginal communities, correctional services, long-term care facilities, service agencies and community groups) and from any other responsible review body or bodies at the research site.

## 2. Reporting adverse events

Any significant adverse events experienced by research participants must be reported **in writing** to Research Ethics **within 24 hours** of their occurrence. Examples of what might be considered “significant” include: an emotional breakdown of a participant during an interview, a negative physical reaction by a participant (e.g. fainting, nausea, unexpected pain, allergic reaction), report by a participant of some sort of negative repercussion from their participation (e.g. reaction of spouse or employer) or complaint by a participant with respect to their participation. The above list is indicative but not all-inclusive. The written report must include details of the adverse event and actions taken by the researcher in response to the incident.

## 3. Seeking approval for protocol / consent form changes

Prior to implementing any changes to your research plan, whether to the study design, methods, consent form or study instruments, researchers must submit a description of proposed changes to the REB for review and approval. This is done by completing an Amendment Request (available on the Research Ethics website). Please note that no reviews are conducted in August.

## 4. Submitting annual reports

Ethics approvals are valid for up to 12 months. Prior to the end of the project’s approval deadline, the researcher must complete an Annual Report (available on the website) and return it to Research Ethics for review and approval before the approval end date in order to prevent a lapse of ethics approval for the research. Researchers should note that no research involving humans may be conducted in the absence of a valid ethical approval and that allowing REB approval to lapse is a violation of University policy, inconsistent with the TCPS (article 6.14) and may result in suspension of research and research funding, as required by the funding agency.

## 5. Submitting final reports

When the researcher is confident that no further data collection or participant contact will be required, a Final Report (available on the website) must be submitted to Research Ethics. After review and approval of the Final Report, the Research Ethics file will be closed.

## 6. Retaining records in a secure manner

Researchers must ensure that both during and after the research project, data is securely retained and/or disposed of in such a manner as to comply with confidentiality provisions specified in the protocol and consent forms. This may involve destruction of the data, or continued arrangements for secure storage. Casual storage of old data is not acceptable.

It is the Principal Investigator’s responsibility to keep a copy of the REB approval letters. This can be important to demonstrate that research was undertaken with Board approval, which can be a requirement to publish.

Please note that the University will securely store your REB project file for 5 years after the study closure date at which point the file records may be permanently destroyed.

## 7. Current contact information and university affiliation

The Principal Investigator must inform the Research Ethics office of any changes to contact information for the PI (and supervisor, if appropriate), especially the electronic mail address, for the duration of the REB approval. The PI must inform Research Ethics if there is a termination or interruption of his or her affiliation with Dalhousie University.

## 8. Legal Counsel

The Principal Investigator agrees to comply with all legislative and regulatory requirements that apply to the project. The Principal Investigator agrees to notify the University Legal Counsel office in the event that he or she receives a notice of non-compliance, complaint or other proceeding relating to such requirements.

## 9. Supervision of students

Faculty must ensure that students conducting research under their supervision are aware of their responsibilities as described above, and have adequate support to conduct their research in a safe and ethical manner.



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