International Journal of Paramedicine

Published by the National EMS Management Association (USA)

RESEARCH REPORTS

MENTAL HEALTH SYMPTOMS, STRESSORS, AND COPING: AN EXPLORATION OF FIRST RESPONDER EXPERIENCES WORKING IN RURAL, SUBURBAN, AND URBAN AREAS

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Recommended Citation: Torgerson, C., Taylor, N., Hughes, M., Chapman, K., & Kennel, J. (2025). Mental Health Symptoms, Stressors, and Coping: An Exploration of First Responder Experiences Working in Rural, Suburban, and Urban Areas . *International Journal of Paramedicine*. (11), 16-35. https://doi.org/10.56068/SCUS4555. Retrieved from https://internationaljournalofparamedicine.com/index.php/ijop/article/view/3131.

Keywords: first responders, mental health, coping, emergency medical services, EMS, paramedicine

Disclosures: None.

Funding: External funding was not used to support this work.

Received: May 24, 2024
Revised: March 7, 2025
Accepted: April 8, 2025
Pre-Issue Release: June 11, 2025
Published: July 8, 2025
Corrigendum Published: August 4, 2025

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https://youtu.be/Cj4GPCa9I3Q

ABSTRACT

EMS first responders provide essential services to communities in rural, suburban, and urban locations across the United States. While the mental health experiences of first responders have been generalized across all geographic locations, less is known about the mental health differences among rural, suburban, and urban first responders. This study explored mental health symptom profiles, job stressors, coping mechanisms, and mental health resource availability of 118 first responders providing services in rural, suburban, and urban locations throughout Oregon. First responder agencies across Oregon were contacted by researchers and asked to distribute the electronic survey. First responders who received a survey link volunteered to anonymously participate in the study. Findings indicate common challenges as well as unique differences among first responders in different geographic locations. First, mental health profiles of the participants were provided. Symptoms of depression, generalized anxiety, suicidal ideation, PTSD, and bipolar disorder were present in participants. Depression, generalized anxiety, and PTSD was more evident in first responders in urban/suburban areas, while risk of suicide was more prevalent in rural first responders. Second, three primary themes of stressors were identified (along with a fourth "other" category): 1) larger societal stressors impacting first responders; 2) job-related stressors; mental health, relational, and 3) financial stressors from being a first responder. Sub-categories within themes ranged from organizational, patient-related, and position-specific stressors to financial, intrapersonal, and interpersonal stressors. Two themes of stress management were identified: function/purpose of coping strategies and coping strategies without an identified function/purpose. Suggestions, from respondents and authors, for EMS agencies are provided throughout. Future research is outlined.

INTRODUCTION

Emergency Medical Service (EMS) clinicians, henceforth called first responders, provide around-the-clock critical and lifesaving care in communities across the country. Unfortunately first responders experience higher rates of various mental health conditions when compared to the general public, including post-

traumatic stress disorder (PTSD), depression, anxiety (e.g. Jones, 2017; Kleim & Westphal, 2011), substance misuse, and suicidal ideation (SAMHSA, 2018). These mental health conditions can have widespread impacts including quality of life (Cieslak et al., 2014) and the care they provide to their communities (SAMHSA, 2018). While the general role of first responders is similar across communities, the nature and characteristics of a community's emergencies, as well as the EMS resources available to respond to those emergencies, vary widely across communities (Iglehart, 2018; Greenwood-Ericksen & Kocher, 2019).

In Oregon, most EMS agencies (69%) are in rural areas and respond to emergencies in rural geographies (Oregon Rural & Frontier Emergency Medical Services, 2019). First responders in rural settings face unique job stressors when compared to their urban counterparts, potentially increasing the incidence of mental health conditions (Jones et al., 2023). For example, first responders in rural areas may be more likely to encounter patients they know personally due to smaller population sizes, though the effects of this remain unknown. Further, rural first responders are more likely to be volunteers as opposed to paid clinicians, a demographic with an increased risk of developing mental health conditions such as PTSD (Kleim & Westphal, 2011). Other stressors in rural EMS settings include limited resources and insufficient staffing, which result in increased workloads (Jones et al., 2023), which may also be experienced by urban and suburban first responder agencies (e.g. Watson, 2024). Additionally, first responders in urban areas may experience more frequent call volumes given the population density, which may result in a day-to-day stress for these first responders. Though findings suggest that being a first responder is stressful and mental health resources may be lacking across all locations, it remains unclear if rural and urban first responders are exposed to similar job stressors, have access to comparable organizational support services, or experience disparate rates of mental health conditions.

To address job stressors, many EMS systems have instituted Employee Assistance Programs (EAP) as well as peer support counselors to varying degrees of effectiveness (Levenson et al., 2012). While many rural EMS agencies have EAP, others still do not, which may leave rural first responders particularly exposed to increased job stressors without the support of formal mental health services (Jones et al., 2023). Without the support of EAP or peer support programs, first responders may utilize effective coping strategies such as visualization, emotional distancing, and humor, as well as harmful coping strategies such as self-medicating and alcohol abuse. Instead of decreasing stress, research demonstrates ineffective coping leads to increased family stress, including heightened rates of divorce (Regehr et al., 2002).

The purpose of this study is to identify if there are geographic differences in first responder mental health, job stressors, and coping resources by investigating (a) mental health symptom profiles; (b) common job stressors; (c) common job coping mechanisms; and (d) the mental health resources made available by the EMS agency.

METHODS

Participants and Recruitment

The sample included 118 adults over the age of 18 who were either employed or volunteered as a first responder in the state of Oregon. Professions included in the study were emergency medical technicians, paramedics, telecommunicator, and firefighters that

are front line workers at rural fire departments and ambulance transport agencies. The study excluded police officers and social workers. Participants were recruited by contacting first responder agencies and individuals directly across the state of Oregon. Contacts, mostly administrators at agencies, disseminated an invitation to participate with employees of their organizations via email. Participants then self-selected to participate in the study on a volunteer basis.

	Total (n=118)		Urban Work (n=33)		Suburban Work (n=31)		Rural Work (n=54)	
	n	%	n	%	n	%	n	%
Age								
mean, IQR	33, 11.4		27, 11		34, 16		37, 22	
Gender								
Female	34	29%	11	33%	8	26%	15	28%
Male	83	70%	21	64%	23	74%	39	72%
Race								
White non-Hispanic	107	91%	31	94%	29	94%	47	87%
BIPOC	11	9%	2	6%	2	6%	7	13%
Relationship Status								
Single	12	10%	4	12%	5	16%	3	6%
Dating	19	16%	8	24%	1	3%	10	19%
Married	79	67%	18	55%	23	74%	38	70%
Divorced	8	7%	3	9%	2	6%	3	6%
Sexual Orientation								
Hetero	98	83%	25	76%	25	81%	48	89%
LGBTQIA+	20	17%	8	24%	6	19%	6	11%
Parent Status								
Parent	68	58%	12	36%	19	61%	37	69%
Not a Parent	49	42%	21	64%	12	39%	16	30%
Income								
<$100K	68	58%	22	67%	13	42%	33	61%
>$100K	50	42%	11	33%	18	58%	21	39%
Part-time or full time								
Full-time Paid	97	82%	31	94%	25	81%	41	76%
Part-time Paid	11	9%	2	6%	4	13%	5	9%
Volunteer	10	8%	0	0%	2	6%	8	15%
Professional Identity								
Firefighter	27	23%	3	9%	8	26%	16	30%
Paramedic	68	58%	27	82%	18	58%	23	43%
EMT	13	11%	1	3%	4	13%	8	15%
First Responder	2	2%	0	0%	0	0%	2	4%
Dispatcher	1	1%	0	0%	0	0%	1	2%
Fire-Paramedic	6	5%	2	6%	1	3%	3	6%
Emergency Chaplin	1	1%	0	0%	0	0%	1	2%
Years of Service								
mean, IQR	20, 15		17, 10		23, 16		19, 17	

Table 1. Participant Demographics (N=118).

Materials and Procedures

The study used an electronic Qualtrics survey to gather data. The survey included two primary components: quantitative measures of mental health questionnaires and diagnostic scales, and a series of open-ended qualitative questions related to issues of job stress, stress management strategies, and available resources for stress management. In addition to the quantitative and qualitative components, participants were asked a range of demographic questions including age, race, relationship and parenting status, gender identity, sexual orientation, income, professional identity, employment status, years of service, and geographic location. Identifying information was not gathered to protect participant anonymity. Geographic location was measured as rural, suburban, and urban. Participants self-identified their geographic location and specific definitions of rurality were not provided given the various and conflicting definitions of rural, urban, and suburban across many governmental agencies (e.g. Airgood-Obrycki et al., 2020). The USDA highlights the issue that individuals use geographical location for different purposes and have varying ways of defining rurality (USDA, 2025). In addition, others have found a disconnect between agency definitions such as RUCA (Rural-Urban Commuting Areas) and self-reported measures of geographic location among health care providers (Castle & Tak, 2021). Therefore, rather than providing a definition that may conflict with an individual's own understanding of their workplace, we elected to rely on self-reported identification of geographic location. The study protocol was reviewed and approved by the Institutional Review Board (IRB: 2019-27) at the Oregon Institute of Technology. Data collection took place in the late spring and early summer of 2021.

Quantitative Measures

Depression. Depression symptoms were assessed using the Patient Health Questionnaire (PHQ-9; Kronke et al., 2001). This measure includes 9 items, each measured on a 4-point Likert scale from 0 (*not at all*) to 3 (*nearly every day*). Participants were asked to respond to the questions based on the frequency of symptoms over the previous 2 weeks. Responses were summed to calculate an overall depression symptom score. Clinical cutoff for this measure is 10, which indicates a likelihood of a moderate depression.

Anxiety. Anxiety symptoms were assessed using the Generalized Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006). This measure includes 7 items, each rated on a 4-point Likert scale from 0 (*not at all*) to 3 (*nearly every day*). Participants were asked to respond to the questions based on the frequency of symptoms over the previous 2 weeks. Responses were summed to calculate the total anxiety symptom score, with a clinical cutoff of 8 (Plummer et al., 2016) and scores greater than 10 indicating moderate anxiety.

PTSD. Posttraumatic stress disorder (PTSD) symptoms were assessed using the Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5; Weathers et al., 2013). This measure includes 20 items about a stressful event(s), each rated on 5-point Likert scales from 0 (*not at all*) to 4 (*extremely*). Participant responses were summed for an overall PTSD score, with a clinical cutoff of 31 indicating a likelihood of a PTSD diagnosis.

Bipolar. Symptoms of bipolar disorder were assessed using the Mood Disorder Questionnaire (MDQ; Hirschfeld, 2000). The MDQ is a five-part questionnaire. Part 1 includes 13 "yes/no" questions about the presence of symptoms. Part 2 includes a "yes/no" question about multiple symptoms being present at the same time. Part 3 asks about the impact of

symptoms on daily functioning using a 4-point scale ranging from *no problem* to *serious problem*. Part 4 includes a "yes/no" question about family history, and Part 5 consists of a "yes/no" question about a discussion with a medical provider. A clinical cutoff was indicated when the participant answered "yes" to 7 or more of the events in Part 1, answered "yes" to Part 2, and indicated *moderate problem* or *serious problem* for Part 3.

Suicide. Suicidal ideation was assessed using the Suicidal Ideation Attributes Scale (SIDAS; Van Spijker et al., 2014). This measure includes 5 items, each focusing on a different aspect of suicidal thoughts, including frequency, controllability, closeness to attempt, distress associated with the thoughts, and the impact of thoughts on daily functioning. Responses were measured on a 10-point Likert scale ranging from 0 to 10, Each item in the questionnaire utilized a different definition of 0 to 10 in the Likert scale. Items were coded and summed. Higher scores indicated a higher risk of severe suicidal thoughts.

Qualitative/Open-ended Questions

Respondents were asked a series of open-ended questions about job-related stress, reward, and resources. Specifically, respondents were asked the following questions:

- "What is stressful about your job?"
- "When you are feeling stressed or overwhelmed, what do you do to manage those feelings?"
- "What resources are available to help you combat stress from your job?"

ANALYSIS

Descriptive Statistics

We conducted a descriptive analysis to demonstrate sample characteristics of the EMS clinicians by demographics (Table 1) and clinical characteristics (Table 2), stratified by geographic categories.

Qualitative Analysis

The analytical approach for the qualitative survey questions followed a conventional thematic analysis approach (Braun & Clarke, 2019). The responses were somewhat limited in their depth of description, explanation of meaning, and detailed accounting making more interpretive or discursive analysis inappropriate (Braun et al., 2021). Following the best practices outlined by Braun and Clarke (2023), the open-ended survey questions were meticulously reviewed multiple times, with the researchers taking initial notes based on their knowledge of mental health and emergency services. Two researchers with a background in mental and behavioral health manually coded the responses using a range of coding techniques including descriptive coding and criterion coding. The process largely followed the codebook thematic analysis approach (King & Brooks, 2018). The researchers implored a comparative approach ensuring agreement of coding labels. Attention was primarily focused on questions related to sources and management of job-related stress. As the questions of the survey were largely independent, analyzing responses as a coherent narrative was not possible. Each question was independently coded, and codes were then grouped in meaningful categories. At this stage, other members of the research team with backgrounds in social sciences and emergency medical services were included in the analysis process. Categories were identified and reviewed

by each team member. Some of the codes were revisited, and discussion of categories and potential themes emerged. Specifically, extensive discussion occurred about the identification of the data related to stress management due to the information provided by participants. Ultimately, data was organized by the mechanisms, or actions taken, as well as the function or purpose of those actions.

RESULTS

A total of 161 participants started the survey and 118 completed it (27% attrition). Of the 118 most participants worked in rural settings (54%), were men (70%), identified as non-hispanic white (91%), were married (67%), and worked in EMS in a paid full time capacity (82%). When compared to participants in urban settings, suburban and rural participants tended to be older (mean of 27 years old versus 34 and 37 respectively), had a higher percentage of participants who were married (55% urban versus 74% suburban and 70% rural), were more likely to be a parent (36% urban versus 61% suburban and 69% rural), and had a smaller proportion of participants who were employed in EMS on a full time basis (94% urban versus 81% suburban and 76% rural) (Table 1)

Mental Health Symptom Profile of First Responder Participants

Table 2 presents a simple mental health symptom profile of the study participants. Data presented in this table is organized using clinical cutoff scores outlined by each measure. Symptoms of depression, generalized anxiety, suicidal ideation, PTSD, and bipolar disorder were present in participants. Depression, generalized anxiety, and PTSD appeared to be more evident in first responders in urban/suburban areas, while risk of suicide was more prevalent in rural first responders.

	Total (n=118)		Urban Work (n=33)		Suburban Work (n=31)		Rural Work (n=54)	
	n	%	n	%	n	%	n	%
Depression								
Mod-Severe	34	29%	11	33%	8	26%	15	28%
Generalized Anxiety								
Mod-Severe	65	55%	22	67%	17	55%	26	48%
Suicide								
Risk	65	55%	17	52%	16	52%	32	59%
High-risk	6	5%	3	9%	2	6%	1	2%
PTSD								
Positive Screening	42	55%	15	45%	10	32%	17	31%
Bipolar Disorder								
Positive Screening	11	9%	3	9%	2	6%	6	11%

Table 2. Mental Health Symptoms & Clinical Cutoff Scores (N=118).

Participant Identified Stressors of Being a First Responder

Participants were asked to identify stressors associated with being a first responder. We did not provide a definition of stress so as not to bias participants to answer the open-ended questions through a particular lens; therefore, participant responses are re-

flective of their individual perceptions of stress. Four themes of stressors were identified and are described below: Larger societal stressors impacting first responders; job-related stressors; mental health, relational, and financial stressors from being a first responder; and other responses.

Larger Societal Stressors Impacting First Responders

This theme reflects the broader socio-cultural-political stressors impacting first responders. This theme was exclusive to those living in urban/suburban areas. Participants mentioned social issues such as racism, widespread mental health concerns, housing issues, and the ongoing COVID-19 global pandemic. Codes within this category included COVID-19 and societal problems.

Categories	Codes	Examples from the Data
Larger Societal Stressors that Impact First Responders	COVID-19	"COVID-19 pandemic has increased my stress substantially. Before the pandemic I was rarely stressed, overwhelmed and anxious."
	Societal Problems	"racism"
		"Massive societal problems that people not in my job are unable to see, and I am unable to change. Such as massive widespread 911 and ER abuse. Rampant mental health problems where resources are allocated to the wrong people, and upper management not seemingly caring about EMS. For example how EMS are not receiving the covid vaccine first but administrators at the hospitals are."
		"Providing care for those that do not care for themselves. Caring for those that chronically want to hurt themselves- it's a feeling that I am one person prowling the entire county and attempting to stop people from hurting themselves. I want to ask them how it would feel if their primary goal is to stop me from harming myself- with me having a myriad of ways to do so 24/7. I feel that my responsibility as a medic is often chasing down a person running away from me as they slice their wrists while demanding that I put a stop to it."

Table 3.1. Larger Societal Stressors that Impact First Responders.
Note: Categories, codes, and examples from the data related to larger societal stressors that impact first responders.

Job-Related Stressors

Participants identified several stressors due to the nature of their roles as first responders. Data was organized into four categories: agency and organizational stressors, position-specific stressors, stressors related to calls, and stressors related to patients.

Agency & Organizational Stressors. Participants named stressors specific to their respective agencies or organizations. Notably, several participants identified systemic issues within the field, ranging from a lack of communication within the agency they service to a broken public services system at-large. Another stressor identified was a lack of training. Urban/suburban respondents more frequently mentioned issues with management as a source of organizational stress.

Position-Specific Stressors. Participants also identified stressors that are unique to their roles. These stressors ranged from interrupted or lack of sleep to the weight of the responsibility of the crisis-response nature of their positions. There were several references to the "tough life-or-death" or "critical" nature of decision-making that is required of being a first responder. While urban/suburban respondents also mentioned this type of decision-making, this was particularly prominent among rural first responders. For example, one participant stated: "Many of my work-related responsibilities mean that my performance occurs at incredibly critical moments in the peoples' lives I serve. It can be

stressful to maintain acceptable levels of competency related to all the different critical 'hats' I wear."

Categories	Codes	Examples from the Data
Agency & Organizational Stressors	Lack of Training	"the lack of training, but the expectation to know the answers"
	Systemic Issues	"broken public services systems"
		"broken system, ineffective and unwilling to address route issues without monetary compensation"
		"No access to bathrooms, limited quarters, short hospital times, late calls, and the hazards without compensation (i.e. safety, lack of assistance from mutual aid providers)."
		"politics about getting proper certifications while waiting for organization to offer trainings."
		"Most stressful part of my job isn't the emergency calls themselves. It is more the changes organizationally, lack of communication about changes or information needed for my position."
Position-Specific Stressors	Lack of Sleep	"the most stressful part of my job is the lack of sleep that often accompanies it."
		"interrupted sleep with no pattern"
		"lack of good quality sleep while at work."
	Responsibility of Role	"Decisions that are life and death. Choosing who may get treatment to live and who may not. Dealing with grieving parents/children/family members/friends"
		"Many of my work related responsibilities mean that my performance occurs at incredibly critical moments in the peoples' lives I serve. It can be stressful to maintain acceptable levels of competency related to all the different critical 'hats' I wear."
		"there is so much expected from me but no one will help me improve myself. I feel like I'm going to fail everyone."
		"Making the tough life death decisions and carry them out. Never knowing what might need to be dealt with."
	Role of Supervision	"managing 100 employees in between calls", another said, "pressure to perform as a leader"
		"people not doing their job that I supervise."
		"I've moved from the front line to administration. The most stressful part of my job is the people I supervise. I work tirelessly to make sure they are well taken care of, have the best resources available to keep them safe, etc. I just worry about their well being and safety on the job the most."
	Workload	"workload"
		"Being too busy"
		"workload outside of my normal call volume."
		"the seemingly endless paperwork"
Stress Related to Calls	Stress Related to Calls	"Call volume"
		"past traumatic calls"
		"certain emergent situations can be very stressful"
		"kid calls, alcohol calls, abuse calls"
		"walking into situations completely different than what we were dispatched for"
		"the unexpected and the constant waiting for a critical call".
Stress related to patients	Perceptions of abuse of the system	"stupid people calling 911 for stupid reasons"
		"the amount of 911 calls that are not 911, breaking the system"
		"people that abuse the 911 system"
		"Constant Driving. Dealing with the same bullshit people and their bullshit problems over and over again who see me as nothing more than a taxi cab to where they can go and waste the ER's time multiple times a day. And the fact that the city of Portland encourages and caters to these pieces of shit to pursue their lifestyle (over hard working, contributing, citizens like myself) while the state of Oregon taxes me a ridiculous amount so that they can maintain it."
	Violence Toward Provider	"the behavior and shelter seeking calls are endless. They are most likely to get unpredictable and violent with us in the back alone."
	Repeat Patients	"seeing the same person again and again and being unable to help them in a way that is sustainable."
	High Acuity Patients	"frequent high acuity patients"

Table 3.2. Job Related Stressors.
Note: Categories, codes, and examples from the data related to job related stressors.

Similarly, supervisors reported that their role in overseeing employees added to the stress of their jobs and this was more commonly discussed among those in rural areas. Finally, sleep, along with additional duties such as documentation, was mentioned numerous times in various ways by participants as impacting their overall wellbeing.

Stressors Related to Calls. Many participants, especially those in urban/suburban settings, reported that call volume and the type of call impacted their stress levels. It appears that some calls, such as those involving children, alcohol-related incidents, or instances of abuse, may be more difficult or stressful. Other participants mentioned the anticipation of a tough call is challenging.

Stressors Related to Patients. Interestingly, some participants across locations have a perception that people misuse the 911 system. One participant provided detailed context of the city in which they provide services to articulate this perceived system misuse. Other stressors included violence toward the first responder, repeatedly providing services to the same person, and trying to provide care to people with high acuity symptoms.

Mental Health, Relational, and Financial Stressors from Being a First Responder

Participants across geographic locations identified several stressors related to mental health, trauma exposure, relationships, and finances that impact first responders. Categories in this theme are intrapersonal stressors, interpersonal stressors, and financial stressors.

Intrapersonal Stressors. Participants across geographical locations frequently mentioned witnessing traumatic events, reliving traumatic calls, and the challenge of remaining calm while helping people in crisis. Participants also reported that the public's perception of first responders adds to their stress. Additionally, managing the uncertainty of their role and the results of their decisions made on calls were mentioned as sources of stress.

Interpersonal Stressors. Interestingly, the only stressful relationships mentioned in the data were related to conflicts with coworkers or working with colleagues perceived as indifferent.

Financial Stressors. Numerous participants indicated working multiple jobs and being underpaid in their roles as first responders.

Other Responses

Some participants provided brief responses such as "not much" or "everything," while others declined to answer by leaving the field blank.

Coping Functions and Strategies of First Responders

Participants were asked, "When you are feeling stressed or overwhelmed, what do you do to manage those feelings?" Interestingly, some participants provided both a coping strategy and the purpose or function of the skill while others only listed strategies or skills. Thus, we organized the data for this question into two themes: identified function/purpose of coping strategies and coping strategies without an identified function/purpose.

Categories	Codes	Examples from the Data
Intrapersonal Stressors	Perceptions from the Public	"dealing with the public and politics"
		"everyone, staff and citizens, seem to think they can do my job better than I can."
	Uncertainty	"constant uncertainty of what I am allowed to do and not do, and what I should do verses not doing"
		"the unknown of what the next call could be and if it will be a child"
		"the possibility of the patient having a poor outcome that results in death."
	Mental Health and Trauma	"younger adult/pediatric codes, traumatic events ie mva deaths, seeing dead people in various conditions and positions, remembering calls from past that flash through my memory often, always scrolling calls in my head with possible outcomes and most of them not ending well."
		"seeing people in traumatic situations and doing my best to help them when they're hurt, sick, or dying. I'll sometimes be mentally exhausted after a call when I had to try my hardest to keep someone alive."
		"the hours and schedule, traumatic events, death and dying, providing assistance that seems to not be wanted or appreciated. Helping others in their time of crisis but still needing to remain clam for others. Dealing with your own personal trauma and being triggered by events at work."
	Undervalued	"undervalued by other agencies and government bodies"
Interpersonal Stressors	Conflict with Coworkers	"people I work with"
		"coworkers that don't care
		"interpersonal conflict with coworkers."
Financial Stressors	Multiple jobs	"multiple jobs"
	Underpaid	"Not even close to a livable wage. No tuition reimbursement or real retirement. I know I will be doing this until I physically break. And I will never be able to live without people. And every contract they try to take away more of our benefits and barely give us raises."

Table 3.3. Mental Health, Relational, and Financial Stressors from Being a First Responder.
Note: Categories, codes, and examples from the data related to mental health, relational, and financial stressors.

Identified Function/Purpose of Coping Strategies

Several themes emerged when participants were asked to identify their coping strategies, including coping to avoid, coping to take action, and coping for cognitive restructuring (Folkman & Moskowitz, 2004).

Coping to Avoid. Several participants indicated utilizing various coping strategies to avoid, ignore, distract from, or forget their stressors. These responses were more common among participants in urban/suburban areas. Words such as "ignore" and "avoid" were used throughout participant responses. Some participants engaged in distracting hobbies, while others found productive ways, such as cleaning or organizing, to divert their attention. For some participants, compartmentalizing their stress in the moment, only to process it fully afterward, was a useful way of coping. Others mentioned putting up a front to manage their stress.

Coping to Take Action. Participant responses in this category ranged from taking action by prioritizing tasks or directly addressing the issue, to changing their role or position at work. Participants in rural areas provided details around addressing stressors proactively, whereas participants in urban/suburban areas more frequently cited taking a break.

Coping for Cognitive Restructuring. Some participants reported dwelling on their stressors, acknowledging the impact on their lives before they are able to move forward. These responses did not vary across geographic locations.

Categories	Codes	Examples from the Data
Coping to Avoid	Avoidance	"avoidance"
		"I usually try to ignore those feelings"
		"avoid them, cut them off. I enjoy being reckless on my days off" .
	Distraction or Distract Self	"I usually disconnect from work and distract myself with one of my hobbies. Usually video games are my go to distraction."
		"Stay busy doing something else. I reorganize my house repeatedly and clean to destress."
	Forget stressors	"I often drink to forget about my stressors and the overwhelming feelings."
	Compart-mentalize	"I grew up in a very abusive household in a somewhat dangerous neighborhood. I developed thick skin. I have had very difficult medical problems and have to fight to not be a leech on society. So I learned to turn off my feelings. I could do cpr on my mother and my emt brain would take over. I would deal with my emotions later usually a few weeks later. I like to listen to songs and talk to my husband and friends, they are all in EMS as well."
		"push on till I have some down time to replay events"
	Put up a front	"I do my best to keep a "cool" exterior as I "stress" on the inside. I put up a good front to keep others calm."
Coping to take Action	Measure Accom-plishments	"Exercise or work at other jobs I can actually measure some accomplishment"
	Prioritize tasks	"try to make list and prioritize my thoughts and jobs."
	Take a break	"Taking a break by reading a book or listening to music by myself is the most immediate thing, also talking to friends or family or co-workers depending on the situation causing the stress. Once I get home going on a run or just a long walk outside is also very helpful."
	Address the Issues	"Try to make progress towards addressing the source of stress. Find healthy ways of "setting" those feelings aside for a period of time. Occasionally escaping via minor intoxication."
		"Make a plan for the things that I can control especially in the moment of stress and reflect after on how I can do things better in the future for similar circumstances."
	Changed Position / Role at Work	"I moved off the car about 2 years ago and my depression and anxiety got a lot better once I had a better schedule and slept in my own bed every night."
Coping for Cognitive Re-structuring	Dwell	"Usually dwell on them, lose sleep for a while and slowly come back to normal"

Table 4.1. Identified Function / Purpose of Coping Strategies.
Note: Categories, codes, and examples from the data related to coping with an identified purpose or function.

Coping Strategies without an Identified Function/Purpose

Most participants only listed their preferred coping strategies without providing additional context. Data in this theme were organized into the following categories: active coping, avoidance coping, cognitive restructuring strategies, and social and relational coping strategies, in alignment with existing coping literature (Folkman & Moskowitz, 2004).

Active Coping Strategies. Participants in this category identified several preferred coping strategies, which could be grouped into the following subcategories: life changes, professional therapy approaches, grounding techniques, focus on health, and leisure time. Within each subcategory, data indicated that participants in rural areas were more likely to directly address stressors, while participants in urban/suburban areas were more likely to utilize grounding techniques. Coping strategies focused on health were common across geographic locations, except for sleep, which was more popular for people in urban/suburban areas. Responses in this category typically included a list of activities participants engaged in, such as "skiing," "sleeping," "reading a book," "listening to music," or "practicing relaxation techniques.

Categories	Codes	Examples from the Data
Active Coping Strategies	Life Changes	"take a break"
		"address the issue"
		"start working on the items that are making me feel that way to "lessen the load"
		"Sometimes I take a day off work for myself. "
	Professional therapeutic approaches	"counseling"
		"music therapy"
	Grounding Techniques	"relaxation techniques"
		"meditation"
		"mindfulness"
		"breathe"
	Focusing on Physical health	"avoid alcohol"
		"exercise" or "workout"
		"eat healthy"
		"hiking"
		"skiing"
		"go to sleep"
		"acupuncture and energy work"
	Leisure Time	"hobbies"
		"work on projects"
		"video games"
		"watch TV"
		"listen to music"
		"read a book"
		"play guitar"
		"relax"
		"spend time outside"
		"time alone"
		"write"
Avoidance Coping Strategies	Mental Disengagement	"bury them"
		"ignore them"
		"Shut down and keep to myself for several days."
	Substance Use	"I drink (prob. too much)"
		"Oddly enough I drink a lot of soda or beer which I normally don't do."
		"beer and edibles"
		"Self-medicate"
Cognitive Restructuring Strategies	Focus on Venting of Emotion	"Cry"
		"Count the days to retirement"
	Humor	"Humor usually comes first"
	Religious or Faith-based Coping	"Lean on my Faith in God"
		"pray"
Social and Relational Coping Strategies	Social and Relational Coping Strategies	"talk to family"; "talk to partner"; "talk to parent"
		"talk to other professionals"
		"talk to a friend"
		"spend time with family"
		"spend time with friends"
		"socialize"
		"talk"
		"play with the dog "

Table 4.2. Coping Strategies without an Identified Function / Purpose.
Note: Categories, codes, and examples from the data related to coping without an identified purpose or function.

Avoidance Coping Strategies. Participants provided coping strategies that could further be organized into mental disengagement and substance use. Responses varied across geographic locations, with statements like "ignore them" or "self-medicate" being common examples.

Cognitive Restructuring Strategies. Coping strategies in this category could further be organized into focus on and venting of emotions, humor, and religious or faith-based coping. Responses did not appear to be specific to geographic location. Phrases such as "cry," "humor usually comes first," and "pray," were used.

Social and Relational Coping Strategies. Participants across all geographic locations mentioned social or relational coping strategies. Examples included "talk to family" or "spend time with friends." Participants in urban/suburban areas were more likely to seek support from other professionals.

Available Resources for First Responders to Address Stress and other Mental Health Concerns

Participants were asked about available resources to address stress, and they largely provided information centered on two categories: support available through their job and support outside their agency. Differences across geographic locations were found, with urban/suburban respondents listing formal services and relationships such as therapists, while rural participants more frequently cited support from personal relationships such as coworkers, friends, and family.

Supports Available through the Job

Participants mainly provided lists of programs and forms of support offered through their employers.

Program Embedded in the Agency. Participants in urban/suburban locations reported Critical Incident Stress Management (CISM; Everly & Mitchell, 1997) Programs were available to them in higher instances than rural participants. Other programs, such as peer support, chaplain services, 24/7 support teams, and therapy through work were also listed.

Benefits through Work. Participants across geographic locations identified benefits through work such as paid time off (PTO), EAP, and health insurance.

Supportive Colleagues. Many participants listed coworkers and supervisors as sources of support and understanding.

Supports Available Outside of the Agency

Participants also provided lists of programs and forms of support found outside of their agency.

Personal Supports. Many participants identified positive supports in their personal life, such as partners, family, and friends. These supports were cited by more professionals in rural areas than in urban/suburban areas. Finally, some participants identified their faith or spiritual beliefs as a resource for coping.

Categories	Codes	Examples from the Data
Programs embedded in the agency	Peer support	"peer support"
	Chaplain	"chaplain"
	24/7 support team	"We have several outlets such as a team that is available 24/7 to peer talk about a bad call or just overly stressed in general."
	CISM program	"CISM group (peer lead)"
		"We have an excellent CISM team at work"
		"CISM which is an in-house way of checking on each others mental health"
	Therapy through work	"have a social worker at work that you can talk to anytime"
Benefits through the Work	PTO	"PTO"
	EAP	"EAP"
		"counseling with therapist (employee assistance program)"
		"We have the crisis line available and EAP available. Unfortunately these resources aren't geared toward first responders. When I see an EAP person, I tend to spend most of the time explaining what I do, how it impacts me and my family, etc. I think I stress those folks out more than they help me."
	Health Insurance	"We have health insurance for counseling."
		"All resources are provided by insurance companies or outside sources."
	Time off	"Time off helps me the most"
Supportive Colleagues	Coworkers	"We have a good support system at the station."
		"Coworkers are generally available to talk to each other as needed, and I have several coworkers that I am closer to where we feel comfortable calling each other to talk about stressful things even when off shift."
		"Team environment, coworkers that have been through similar stress, positive working environment."
		"coworkers"
	Supervisors	"Talking to senior staff members that may have experienced some situation"
		"supervisors"

Table 5.1. Supports Available through the Job.
Note: Categories, codes, and examples from the data related to available supports.

Mental Health Services Outside of the Agency. Participants working in urban/suburban settings listed personal therapist outside of work more frequently than those in rural areas. Conversely, participants in rural areas identified hotlines as professional supports more than their urban/suburban counterparts. One participant mentioned starting a support group outside of work independently.

Knowledge of Available Resources

Participants across geographic locations indicated varying levels of awareness regarding available resources. Some expressed uncertainty about how to access these services, while others reported limited knowledge of the resources available to them. Some respondents mentioned that there were "several" resources accessible to them, while a few indicated that they were unaware of any such resources.

DISCUSSION, IMPLICATIONS, AND FUTURE RESEARCH

The purpose of this study was to explore geographical differences in first responder's mental health symptoms, job stressors, coping mechanisms, and coping resources. Participant responses indicated geographical differences in all four areas.

Categories	Codes	Examples from the Data
Personal Supports	Positive supports in personal life	"wife"
		"family"
		"friends"
		"close friends and spouse"
	Coping skills	"physical activity and hobbies"
		"walking my dog, reading, tv…"
		"good coping skills"
	Faith	"Faith"
Mental Health Services Outside of the Agency	Support group outside of work	"Not much now, I am working on putting together a support group out side of work"
	Personal therapist	"I see a counselor"
		I also have a mental health counsellor that I see regularly
		"I think we have an EAP but I've heard negative things about it from other people. So I see a private therapist but I pay out of pocket and so I limit how often I see them."
		"local psychologists and mental health advocates"
	Hotlines	"I believe we also have a hotline for emergency workers."
		"Employee support phone line"
		"Helpline"
		"hotlines"

Table 5.2. Supports Available Outside of the Agency.
Note: Categories, codes, and examples from the data related to available supports.

Mental Health Profiles

More than half of the participants surpassed the clinical cutoff threshold for anxiety, suicide risk, and PTSD. This is in line with previous findings (SAMHSA, 2018). Upon examining mental health symptoms by geographic location, variability in symptoms was observed. For example, first responders in rural areas are at a greater risk of suicide than those in urban/suburban areas, consistent with broader research on suicidality in the general population (Centers for Disease Control, 2023). Moreover, anxiety and PTSD were reportedly lower for participants in suburban areas, while depression was higher in this group. Since most mental health symptom reporting for first responders is organized by profession rather than geographic location, these findings are interesting and warrant further exploration. Finally, bipolar disorder symptoms were higher for participants in rural areas. Given the mental health symptoms experienced by first responders across all geographic locations, it is recommended that first responder agencies identify appropriate pathways to support their employees, with particular attention to first responders in rural areas.

First Responder Stressors

Participants in urban/suburban locations identified larger societal stressors such as racism, the COVID-19 pandemic, housing issues, and severe mental health issues in the general population. Research on the general population residing in rural, suburban, and urban areas suggest that people across geographic locations have different views of larger social and political issues (Pew Research Center, 2018). Given this, the results of this study make sense. It should be noted that data was collected at a time in which the larger metropolitan areas in the region were still implementing social distancing requirements

and masking mandates that would eventually lift during data collection (Oregon Public Broadcasting, 2021). Moreover, in the year prior to data collection, the largest metro in Oregon had experienced:

- Widespread houselessness that increased in the wake of COVID-19 (Green et al., 2022);
- A nationally recognized and highly publicized Black Lives Matter protesting that lasted more than 100 days (Associated Press, 2020); and
- The implementation of new laws decriminalizing the possession of a controlled substance (Oregon Health Authority, 2020).

Given the regional context provided here, participant responses need to be understood with this in mind. It would be beneficial for agencies residing in larger metros to provide both additional training and access to resources regarding the impacts of broader socio-political and cultural influences on first responders. Future research needs to be conducted to determine if these stressors remain and to what extent these stressors impact first responder job satisfaction, job performance, and client care.

While participants in all geographic locations identified organizational stressors, which is in line with previous research (Donnelly, 2012), participants in urban/suburban areas were more likely to identify issues with management as a stressor. Staff shortages (Lexipol, 2023) and differences in agency leadership styles (Papazoglou, 2023) have been cited as potential stressors for first responders in previous findings. Another geographical discrepancy was stress related to call volume, with more densely populated urban/suburban areas experiencing higher call volumes for emergency services than their rural peers. High call volume has been looked at in previous research regarding stress in dispatchers (Hoang et al., 2022) and is indicated anecdotally as a possibility when discussing work-related first responder stressors. Agencies may benefit from examining organizational structures and implementing more productive management strategies to decrease the impact of call volume on burnout or stress.

The remaining stressors identified by participants could not be differentiated by geographic location. This suggests that first responders across geographic locations experience agency and organizational stressors, position-specific stressors, stress related to patients, intrapersonal stressors, interpersonal stressors, and financial stressors. Repeat exposure to critical or traumatic incidents and workplace pressures are well-known stressors for first responders. Additional stressors such as type of call (Alexander & Klein, 2018), staff shortages (Lexipol, 2023), and public perceptions influenced by media coverage (Lexipol, 2023) have also been identified. Various programs such as CISM and peer support programs (e.g., California Professional Firefighters, 2019) have been implemented to varying degrees across the country; however, first responder stress and burnout continue to be a problem. First responder agencies might benefit from collaborating with mental health professionals specializing in first responder care to identify targeted supports or programming to benefit first responders. Moreover, advocacy for policy changes that support the mental health and wellbeing of first responders may be warranted.

Coping

Geographical differences were observed in how participants cope with stress. Urban/suburban participants were more likely to employ coping strategies to avoid or forget their stressors. Conversely, rural participants were more likely to employ active coping to address the issue. Moreover, urban/suburban participants were more likely to take a break. When looking at coping strategies without a function, participants in urban/suburban areas were more likely to utilize grounding techniques. The remaining coping strategies and functions that were described did not differ across geographic location, indicating potentially universal coping strategies among first responders. Given participant responses, it seems that first responders cope in similar ways to the general public. Future research would benefit from a deeper understanding of first responder coping strategies, which could be used in the development and implementation of resources and supports tailored to their needs.

LIMITATIONS AND CONCLUSION

The aim of this study was to identify geographic differences in mental health, job stressors, and coping resources in first responders working in rural, suburban, and urban areas. Our findings suggest that future research focus on the unique experiences and needs of first responders working in rural communities. Although the findings from this paper provide significant contributions to the field, there are also limitations that need to be addressed. The sample consisted mostly of heterosexual, white males, highlighting the need for a more diverse sampling to hear from first responders holding marginalized identities to understand their experiences with mental health symptoms, stress, and coping. Additionally, because data collection occurred via online survey methods, researchers were unable to ask follow-up questions, which could have expanded our understanding of participant responses. Since participants volunteered to complete the electronic survey, it should be noted that people with mental health or stress-related issues may have been more or less likely to participate, which could impact results. Moreover, while our sample includes participants across geographic locations within the state of Oregon, results may not be generalizable to the entire country. Future studies should consider broader geographical representation to improve the external validity of findings. As addressed in the discussion section, data was collected at unique time in the state of Oregon, which could have impacted the results of this study. Finally, data was analyzed through the lens of geographic location to address our research question; however, it is suggested that future research be organized by the duration of time spent in the field to better understand needed resources for professionals at varying points in their careers.

In conclusion, this study illuminates the mental health symptoms, stressors, coping mechanisms, and available resources among first responders across diverse geographic settings. The findings underscore the critical need for support programs and policies aimed at enhancing the mental health of first responders, particularly those in rural areas. Areas of future research regarding the mental health of first responders are suggested.

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