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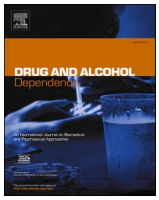

Overdose and overwork: First responder burnout and mental health help-seeking in Missouri's overdose crisis

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ABSTRACT

As the overdose crisis continues to spiral, high volume and intensity of drug poisoning calls are impacting first responders' mental health. This study examined burnout and attitudes towards mental health help-seeking among first responders in Missouri. The study included 3059 participants, of which 76.4 % were law enforcement officers (LEO) and 23.6 % were emergency medical services personnel/firefighters (EMS/FF). Participants mainly comprised of men (80 %), and a majority had witnessed an overdose fatality (53 %). A descriptive analysis and Structured Equation Model (SEM) of field experience, mental health help-seeking, and burnout indicate that [1] emotional exhaustion and depersonalization levels were higher among LEO than EMS/FF (β= 0.25 and $\beta = 0.28$, respectively, $p < .001$), [2] EMS/FF had higher personal accomplishment scores than LEO ($\beta = -0.10$, $p = .046$), [3] higher levels of depersonalization and emotional exhaustion were associated with lower levels of mental health help-seeking ($\beta = 0.27$ and $\beta = 0.50$, respectively, $p < .001$), [4] higher levels of personal accomplishment was associated with higher levels of mental health help-seeking ($\beta = -0.37$, $p < .001$), and 5) there was lower burnout among EMS/FF than LEO. This study highlights important differences in burnout within and across first responder professions. Additionally, this study sets the foundation for targeted research to focus on how burnout manifests itself within these individuals, how it affects their work, and how work environments are impacted. Moving forward, research and practice should prioritize exploring how mental-health help seeking influences burnout.

1. Introduction

First responders (law enforcement officers [LEO] and emergency medical services personnel/firefighters [EMS/FF]) are on the front lines of the overdose crisis. First responders handle a significant number of overdose-related calls every day (National EMS Information System, 2023; Pike et al., 2021). Overdose response is 10–20 % of EMS calls, particularly in urban areas (National EMS Information System, 2023), with numbers continuing to rise (Cash et al., 2018; Casillas, 2022). While LEO often arrive to overdose scenes before EMS/FF in rural regions (Bureau of Justice Assistance, 2023), national data on LEO overdose response is lacking (Ray et al., 2023). LEO find themselves taking on an expanding scope of work ranging from overdose rescue to diversion and deflection initiatives (Zakimi et al., 2022), while EMS encounter patients repeatedly and may be unable to prevent overdose deaths (Barefoot et al., 2021).

Additional complexity arises in attitudes toward the communities served, particularly people who use drugs (PWUD). Research shows LEO operate within frameworks that criminalize substance use, shaping perceptions of these individuals as undeserving or deviant (Watson et al., 2017). These attitudes are reinforced by systemic structures that emphasize punitive over rehabilitative approaches to substance use (Volkow et al., 2017). In contrast, EMS/FF may adopt a medicalized perspective, viewing substance use as a health issue, though stigma may still exist (Peterson et al., 2020). First responders are increasingly reporting frustration when dealing with overdose calls (Pike et al., 2019;

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Health in Justice, 2018; Winograd et al., 2020). This frustration adds to the emotional, mental, and physical strains they already face, leading to feelings of inefficacy and contributing to a higher risk of professional burnout (Pike et al., 2019; Health in Justice, 2018; Winograd et al., 2020).

1.1. First responders experiencing burnout

Professional burnout is complex, as it can be both a form of stress and a symptom of stress (Maslach et al., 2001). Though the definition has shifted over time, burnout was originally defined as the result of intense levels of stress held by people that work in professions mainly consisting of assisting the public (Freudenberger, 1974). Prior research defines burnout using psychological dimensions of emotional exhaustion, depersonalization, and personal accomplishment (Maslach and Jackson, 1981). Emotional exhaustion includes dread or physical and mental fatigue at the mere thought of work (Maslach and Jackson, 1981). Depersonalization involves an irritable, disconnected cynicism of the work and those interacted with on the job (Maslach and Jackson, 1981). Personal accomplishment concerns individuals' feelings of competency, accomplishment, and efficacy in their labor (Maslach and Jackson, 1981). Burnout encompasses hopelessness, decreased workload capacity, and diminished self- efficacy (Pike et al., 2019; Stamm, 2010). Those who experience burnout often also experience effects of other mental health disorders such as anxiety or depression, all of which have been established as separate experiences (Koutsimani et al., 2019).

Among first responders, burnout manifests in reduced quality of job performance. When a first responder is burned out, they may experience diminished cognitive abilities and impaired working memory, resulting in poor decision-making (Hope, 2016; Kleider-Offutt et al., 2016). As such, EMS who experience burnout may be at a greater risk of harming patients and their fellow providers through injury, error, and unsafe behavior (Baier et al., 2018). For LEO specifically, burnout may manifest as wrongful arrests and improper or excessive use of force (Gutshall et al., 2017).

Burnout among first responders is a grave concern that has major ramifications at the individual, agency, and societal levels. At the individual level, burnout among first responders has significant implications for mental health. This growing mental health crisis is evidenced by the alarmingly high rates of suicide among first responders, which exceed their rates of on-duty deaths (Tiesman et al., 2021). For example, EMS personnel have a suicide rate that is 1.4 times higher than that of the general population (Tiesman et al., 2021). Furthermore, first responders experiencing burnout are 117 % more likely to have suicidal ideation compared to their colleagues who do not experience burnout (Bishopp and Boots, 2014). At the agency level, burnout results in staff turnover and negatively impacts recruitment and retention. National turnover rates continue to climb, rising from a 24 percent turnover in 2021–36 percent in 2022 for EMS workers (Moore, 2022), with burnout noted in the top five reasons for leaving in a survey of over 2000 EMS workers (Rivard et al., 2020). Law enforcement turnover rates, while lower than EMS, are still worrisome at 10.8 % year over year (Wareham et al., 2015). At the societal level, first responder burnout costs society countless dollars. Workplace burnout results in $125 to $190 billion in healthcare costs each year, an estimated eight percent of national healthcare spending (Goh et al., 2016). Additionally, injuries due to burnout account for over $121 million in direct and indirect costs (Leiter, and Maslach, 2009; Liberty Mutual, 2003).

1.2. Mental health help-seeking among first responders

Mental health treatment and self-care behaviors are two prominent strategies that can combat burnout (Ahola et al., 2017; Salloum et al., 2015). Therapeutic strategies and interventions that have been proven to be effective with first responders include trauma informed, meaning-centered, mindfulness-based stress reduction, and cognitive behavioral approaches (McFarland and Hlubocky, 2021). In terms of self-care, research shows engaging in 10 minutes of self-care behavior (e.g., exercise, meditation, sun exposure, journaling, etc.) per day can build practices that improve mental health (Edwards and Loprinzi, 2018; NAMI, 2023).

However, first responders have traditionally resisted and stigmatized mental health services and interventions (Drew and Martin, 2021; Patch et al., 2023). The first responder occupational culture is deeply embedded in traditions, values, and shared experiences that shape their approaches to mental health, interpersonal relationships, and perceptions of those they serve (Baumgart-McFarland et al., 2024; Fockele et al., 2024; Haugen et al., 2017; Ricciardelli et al., 2018; Stanley et al., 2016; Violanti et al., 2019). These cultures value self-reliance (Erich, 2014), lack mental health literacy (Hanisch et al., 2016), and over-emphasize "toughness" (Saunders et al., 2019). One qualitative study exploring help-seeking behavior among first responders emphasized concerns about showing weakness was a major barrier (Jones et al., 2020). Some LEO worry that seeking mental health services will risk their careers if they are deemed unfit for duty (Craddock and Telesco, 2022).

Another significant factor in the cultural framing of mental health among first responders is the influence of hegemonic masculinity. The expectation to exhibit strength, stoicism, and self-reliance may deter individuals from seeking help or acknowledging mental health challenges (Connell and Messerschmidt, 2005). This is particularly present in male-dominated fields such as law enforcement and firefighting, where vulnerability is often equated with weakness (Stanley et al., 2016). Studies have shown that these cultural norms contribute to stigma around mental health help-seeking and reluctance to engage with mental health resources (Bishopp and Boots, 2014). In EMS, while some variation exists, similar pressures to suppress emotional responses are reported, as personnel often adopt a "tough it out" mentality to cope with the demands of the job (Regehr et al., 2004).

Paradoxically, reduced help-seeking may be compounded by burnout. While first responder professions share exposure to trauma and high-stress environments, critical cultural distinctions between LEO, EMS, and FF influence mental health taboos and coping strategies. When exhaustion and cynicism peak, it may feel even more laborious and futile to engage in the vulnerability of seeking help, with no relief in sight. To break this cycle, it is imperative to understand the associations between first responders' willingness to seek mental health support and their experience with burnout. Further, understanding the differences between how different first responder professions experience burnout is essential for tailoring interventions that address the specific barriers and needs within each group.

1.3. Missouri context

The rate of overdose deaths in Missouri is higher than the national average - 34.65 versus 28.30 per 100,000, respectively (Missouri Department of Health & Senior Services, 2022). Many Missouri first responder agencies are feeling the effects of burnout on their workforce, noting statewide staffing shortages across agency types (Missouri EMS Association, 2020). As noted in the 2020 Missouri State Paramedic Shortage Survey, stress, fatigue, and burnout are leading contributors to the staffing shortage in the paramedic field (Missouri EMS Association, 2020). One law enforcement officer noted that, regarding a recent officer suicide, mental health concerns leading to incidents like suicide attempts are becoming "all too normal" (Betts, 2019). While Missouri has recently adopted a bill to expand mental health services to first responders (SB24 - Creates new provisions relating to vulnerable persons, 2023), simply offering assistance is just a first step toward what needs to be done to effectively reduce the levels of burnout seen throughout the state.

1.4. Gaps in research

Despite increasing awareness of mental health challenges in high-stress professions, research on profession-specific burnout, overdose response-related experiences, job tenure and mental health help-seeking remain limited. In this section, we will delve into the context of these gaps and outline the research questions driving our study.

Although there is considerable literature addressing EMS/FF and LEO burnout generally, there continues to be a gap in the research assessing burnout in the context of field experiences related to overdose response. While Pike and colleagues (2019) found that EMS believed responding to overdoses led to professional burnout more often than LEO did, there is still a dearth of information about how overdose-related field experiences impact burnout. Specifically, there is little to no literature on witnessing an overdose fatality and tenure in current profession in relation to burnout among first responders. Understanding the relation between first responders' witnessing overdose fatalities, their tenure in the profession, and burnout is critical, as these experiences may profoundly affect their mental health, job satisfaction, professional efficacy, and decisions to remain in the field. Investigating this understudied area offers for strategies that enhance support, resilience, and retention across the span of their careers.

To the best of the authors' knowledge, there has yet to be an examination of the relationship to professional experiences with overdose incidents and differences and similarities in burnout between LEO and EMS/FF in this domain, though substance use stigma and overdose-related trauma have been shown to contribute to occupational stress, burnout, and mental health challenges among responders (Peterson et al., 2020; Watson et al., 2017). LEO and EMS serve distinct functions, with responsibilities that are not sufficiently distinguished in discussions of burnout. While LEO focuses on enforcing carceral laws and policies, EMS/FF do not carry this enforcement mandate. This difference is significant, particularly in the context of engagement with PWUD and the varied responses to the overdose crisis, as each profession's cultural values, ethical dilemmas, and experiences of moral distress differ. Literature surrounding EMS centers on the emotional toll and repetitive nature of responding to overdoses, as well as work-family conflict as being main contributors to burnout (Elliott et al., 2019; Smith et al., 2019). Meanwhile, studies on burnout in law enforcement communities center around the feelings of depersonalization and emotional exhaustion (Adams and Mastracci, 2020; McCarty and Skogan, 2013; McCarty et al., 2019). Although there is overlap in risk factors and consequences of burnout across the two professions, taking a concerted, direct look at ways in which these experiences diverge would offer insight into their unique struggles and corresponding solutions.

Despite extensive research on the mental health consequences of professional burnout, there is limited investigation into how burnout influences mental health help-seeking. Prior studies have primarily focused on the psychological outcomes of burnout. For example, Beaugard and colleagues (2023) identified strong links between professional burnout and conditions such as depression, anxiety, and post-traumatic stress disorder (PTSD). However, their work did not examine the willingness of individuals experiencing burnout to seek professional mental health support. Similarly, Patch and colleagues (2023) explored coping strategies employed by first responders but did not address their likelihood of seeking mental health help in formal settings. In contrast, Jones and colleagues (2020) investigated barriers to mental health help-seeking, identifying factors like time constraints, work duties, and stigma. However, their analysis did not explicitly include burnout as a contributing factor to these barriers. This gap in the literature underscores the need for further research exploring the relationship between burnout and mental health help-seeking. Understanding this connection is critical for designing interventions that effectively address the barriers and motivations for seeking mental health care among individuals experiencing professional burnout.

First responder burnout underscores a need to encourage and facilitate increased access to mental health resources to improve their occupational health and wellness (Jones et al., 2020). Given the profound impact of drug criminalization and policing on the overdose crisis, it is essential for the research to more thoroughly address these profession-specific nuances to inform tailored interventions and support strategies.

To address these gaps in research, this study aims to answer the following research questions: 1) Is there a variation in burnout experience by first responder's field experience (tenure in their current profession and whether they had ever witnessed a death from overdose)?; 2) To what extent do first responders experience burnout across the three dimensions of depersonalization, emotional exhaustion, and personal accomplishment?; 3) How does burnout differ by first responder profession (LEO vs EMS/FF)?; 4) How willing are first responders to seek help regarding their own mental health?; and 5) What is the association between burnout among first responders and their mental health help-seeking willingness?

2. Methods

The study was approved by the affiliated Institutional Review Board and all participants provided informed consent to complete the survey evaluations. The study design was cross-sectional with data collection conducted between December 2020 and May 2023. We recruited using multiple strategies, including targeted outreach through organizations and departments, as well as snowball sampling techniques. To enhance engagement, we established relationships with department leadership, fostering support and collaboration to encourage buy-in and participation. First responders were surveyed at baseline prior to participating in an in-service occupational safety training (Baker et al., 2022) provided by [blinded] at the first responder department. While training was voluntary, trainees received continuing education credits for participating. Before beginning the training, trainers encouraged trainees to take a survey, while emphasizing the survey was voluntary and anonymous. Trainers provided a consent form and asked participants to read it before proceeding with the survey. Consenting participants were directed to an online instrument, which recorded demographics (age, gender, and education level), field experiences (history of witnessing overdose deaths, tenure, and profession type [EMS/FF vs LEO]), burnout (depersonalization, emotional exhaustion, and personal accomplishment) levels, and mental health help-seeking. Trainees who did not consent were not redirected to the survey.

2.1. Participants

Survey participants included consenting LEO or EMS/FF from Missouri. Participants who were recruits in a law enforcement training academy, as well as participants who had not responded to the main dependent (burnout items) and independent variables (field experiences and mental health help-seeking) were excluded from the sample

2.2. Measures

2.2.1. Field experiences

Participants were surveyed about field experiences, including their profession type (LEO or EMS/FF), tenure in their current profession (measured in years, as a continuous variable), and whether they had ever witnessed a death from overdose (yes/no).

2.2.2. Burnout dimensions

The main outcome of interest was endorsement of burnout, measured across three latent dimensions (depersonalization, emotional exhaustion, and personal accomplishment) using a shortened version of the Maslach Burnout Inventory, as employed by Riley and colleagues (2018). This burnout scale consists of nine items used to construct the latent dimensions, recording responses in terms of frequency of how

often respondents identify with the item on a 7-point scale, ranging from [1] "Never" to [7] "All the time." Higher scores on depersonalization and emotional exhaustion signaled higher burnout levels, while higher scores on personal accomplishment meant lower levels of burnout. See Appendix for all burnout items, organized by dimension.

2.2.3. Mental health help-seeking

The main independent variable was a latent factor describing openness to mental health help- seeking, constructed by three items from the Mental Health Literacy (MHL) Scale as used by O'Connor and Casey (2015), which henceforth will be called "Mental Health Help-Seeking Items" (MHHS Items). The MHHS items consist of three items from the original 35 item MHL Scale: "Seeing a mental health professional means you are not strong enough to manage your own difficulties"; "If I had a mental illness, I would seek help from a mental health professional"; and "I believe treatment for a mental illness, provided by a mental health professional, would be effective." Responses were recorded as levels of endorsement with the items on a Likert scale ranging from [1] "Strongly disagree" to [5] "Strongly agree".

2.3. Data analysis

2.3.1. Descriptive analysis: field experiences, mental health help-seeking, and burnout

Descriptive analysis was used to understand how first responders' various field experiences (profession type, mean tenure length, counts and proportions of first responders who had ever witnessed an overdose death) contribute to their endorsement of burnout. To understand first responders' endorsement of burnout across three dimensions (depersonalization, emotional exhaustion, and personal accomplishment) and first responders' willingness to seek help regarding their own mental health, the mean score and standard deviation for each dimension of burnout and the mean score (out of 5) for each mental health help-seeking item and standard deviation, respectively, were utilized. We compared the demographics, mental health help-seeking scores and burnout scores between the types of first responders using t-tests for means and Chi-square tests for proportions.

2.3.2. Structural equation model

A structural equation model (SEM) with maximum likelihood estimation was used to understand the association between burnout among first responders and their mental health help-seeking willingness First, confirmatory factor analysis was used to fit a measurement model. The nine burnout items comprising three scales (dimensions) and three mental health help-seeking items were included. Once an acceptable model fit was found, the estimated relationships between predictors and latent burnout scores were fit to the structural model and measurement models. Predictors included having ever witnessed an overdose death, tenure, profession type (LEO or EMS/FF), and MHHS Items latent score. In this model, MHHS Items were coded so that a lower score depicted better mental health help-seeking behavior. For both measurement and structural models, standard cutoff values of.90 for comparative fit index (CFI) and Tucker- Lewis index (TLI),.08 for the root mean square of error approximation (RMSEA), and.05 for the standardized root mean square residual (SRMR) to indicate acceptable model fit were used (Hu and Bentler, 1999). All analyses were conducted in R Version 2023.06.0 (R Core Team, 2023) using the *lavaan* package in R using robust standard errors (Rosseel, 2012).

The data that support the findings of this study are stored with [blinded] but restrictions apply to the availability of these data and so are not publicly available. The data are, however, available from the authors upon reasonable request and with the permission of [blinded].

3. Results

3.1. Demographics

Out of 3951 trainees, 3250 (82.3 %) consented to participate. The baseline survey was completed by 3059 participants (LEO =2337; EMS/FF = 722), resulting in a participation rate of 77.4 %. The average tenure for EMS/FF (M = 13.21 years, SD = 11.67) was slightly higher than for LEO (M =11.76 years, SD = 10.33) (p = .020). Most EMS/FF personnel (72 %) and nearly half of LEO (47 %) had witnessed at least one overdose death in their career, with a statistically significant difference between the first responder types (p < .001). Differences in demographics, mental health help-seeking and burnout dimension mean scores between profession types are displayed in Table 1.

3.2. Model fit

For the SEM analysis, the measurement model had acceptable fit, with $\chi^2(48) = 936.63$, CFI = .927, TLI = .899, RMSEA = .085 (95 % CI: 0.081, 0.090), and SRMR = .059. All nine burnout indicator variables loaded into their respective burnout factors (depersonalization, emotional exhaustion, and personal accomplishment) and mental health help-seeking indicators loaded onto the mental health factor as hypothesized. The burnout dimensions showed significant covariance with each other: emotional exhaustion and depersonalization had a covariance estimate of 0.66 (p < .001), and personal accomplishment had covariance estimates of −0.21 with depersonalization (p < .001) and −0.17 with emotional exhaustion (p < .001).

The full model had an adequate fit, with $\chi^2(75, N = 2403) = 983.29$, CFI = .922, TLI = .894, RMSEA = .071 (95 % CI: 0.067, 0.075), and SRMR = .049. SEM results are illustrated in Fig. 1.

Table 1
Sample characteristics, mean mental health help-seeking scores, and mean burnout scores stratified by profession type.

Characteristic	Overall, N = 3059	EMS, N = 722	LEO, N = 2337	p-value
Age (years) [Mean (SD)]	38.08 (11.19)	36.77 (11.81)	38.49 (10.96)	< .0.001
Tenure (years) [Mean (SD)]	12.12 (10.69)	13.21 (11.67)	11.76 (10.33)	0.020
Gender				0.500
Men	2369 (80 %)	552 (79 %)	1817 (80 %)	
Women	560 (19 %)	138 (20 %)	422 (19 %)	
Other	36 (1.2 %)	11 (1.6 %)	25 (1.1 %)	
Ever witnessed overdose fatality	1546 (53 %)	494 (72 %)	1052 (47 %)	< 0.001
Mental Health – If I had a mental illness, I would keep it to myself [Mean (SD)]	2.73 (0.96)	2.94 (0.92)	2.66 (0.97)	< 0.001
Mental Health – Seeing a mental health professional means you are not strong enough to manage your own difficulties [Mean (SD)]	1.90 (0.92)	1.88 (0.86)	1.91 (0.94)	> 0.900
Mental Health – If I had a mental illness, I would seek help from a mental health professional [Mean (SD)]	3.84 (0.90)	3.78 (0.84)	3.86 (0.92)	0.002
Burnout – Emotional exhaustion	2.78 (1.50)	2.61 (1.40)	2.83 (1.53)	0.002
Burnout - Depersonalization	2.00 (1.17)	1.89 (1.08)	2.04 (1.20)	0.014
Burnout – Personal accomplishment	4.20 (1.60)	4.25 (1.57)	4.18 (1.61)	0.500

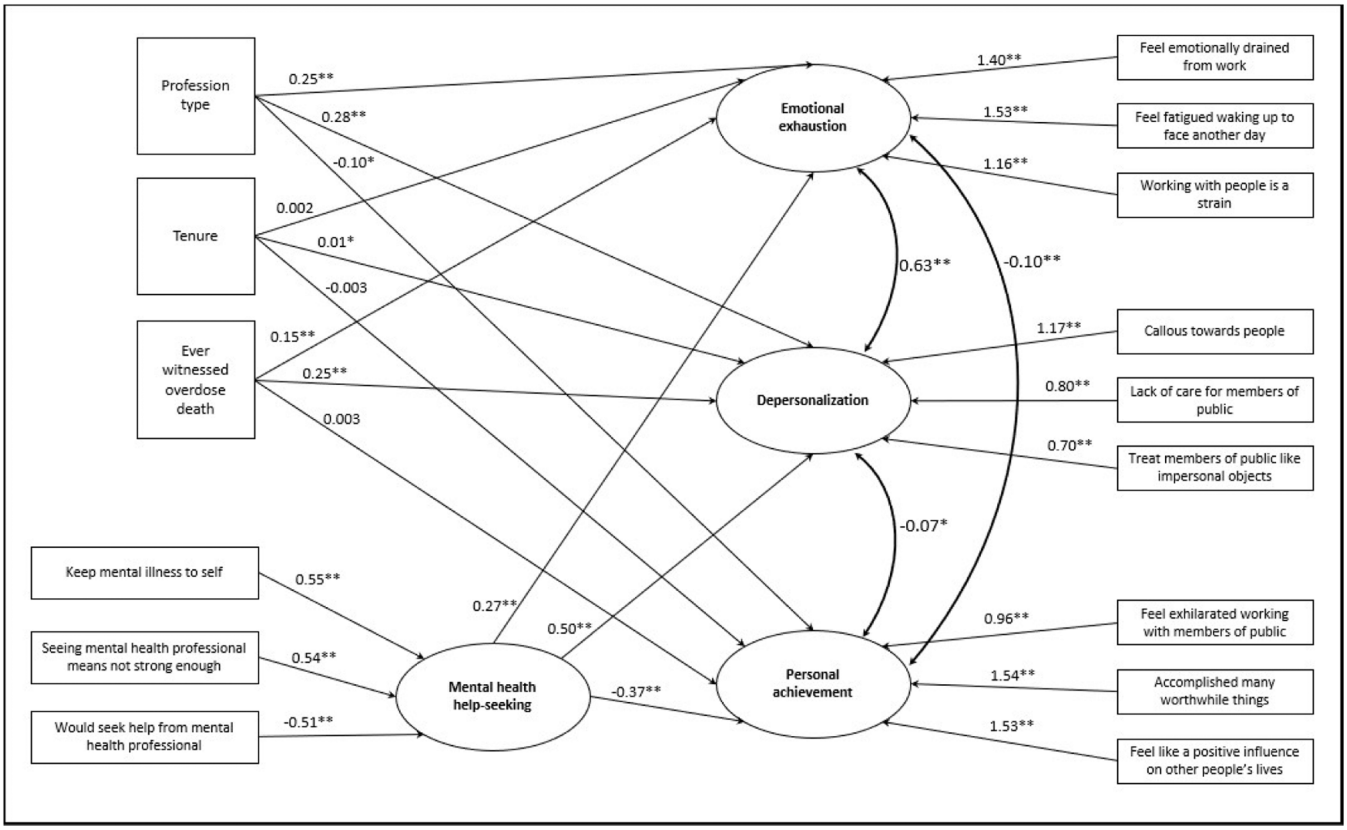

Fig. 1. Path diagram illustrating relationships and effect estimates of independent variables and the latent mental health help- seeking variable on the three burnout dimensions, as well as covariance estimates between burnout dimension.

3.3. First responder burnout by field experience

From the SEM analysis, tenure had a positive association with depersonalization ($\beta = 0.01$, p = .036), and ever having witnessed an overdose death was associated with higher levels of emotional exhaustion ($\beta = 0.15$, p = .001) and depersonalization ($\beta = 0.25$, p < .001).

3.4. Extent of first responders' experience of burnout

Overall, respondents reported mean emotional exhaustion levels of 2.78 out of 7.00 (SD = 1.50), depersonalization levels of 2.00 out of 7.00 (SD = 1.17), and personal accomplishment scores of 4.20 out of 7.00 (SD = 1.60).

3.5. Burnout experience by first responder profession type

LEO reported significantly higher levels of emotional exhaustion (M=2.83, SD=1.53) than EMS/FF (M=2.61, SD=1.40, p = .002). LEO also reported significantly higher levels of depersonalization (M=2.04, SD=1.20) than EMS/FF (M=1.89, SD=1.08, p = .014). There was no statistically significant difference in personal accomplishment between LEO (M=4.18, SD=1.61) and EMS/FF (M=4.25, SD=1.57, p = .500).

Based on SEM analysis, profession type had a significant association with emotional exhaustion ($\beta = 0.25$, p < .001) and depersonalization ($\beta = 0.28$, p < .001). However, the association of profession type with personal accomplishment was inverse ($\beta = -0.10$, p = .046), such that EMS/FF had higher personal accomplishment scores than LEO.

3.6. First responders' willingness to seek mental health help

For MHHS item "If I had a mental illness, I would keep it to myself", respondents EMS/FF had a mean of 2.73 out of 5.00 (SD = 0.926), while LEO had a comparatively low mean of 2.66 (SD = 0.97) (p < .001). In the case of whether seeing a mental health professional depicted weakness, EMS/FF scored 1.88 (SD = 0.86) compared to 1.91 for LEO (SD = 0.94) with the difference not statistically significant (p > .900). On whether they would seek help from a mental health professional, EMS/FF respondents scored 3.78 (SD = 0.84), while LEO scored 3.86 (SD = 0.92) (p = .002).

3.7. Burnout and mental health help-seeking variation across first responder profession

Mental health help-seeking score showed a positive association with emotional exhaustion ($\beta = 0.27$, p < .001) and depersonalization ($\beta = 0.50$, p < .001), and an inverse association with personal accomplishment ($\beta = -0.37$, p < .001).

4. Discussion

4.1. Summary of findings

The significant link between heightened burnout levels and the experience of witnessing an overdose death highlights the occupational stressors contributing to mental distress among first responders, consistent with prior research (Pike et al., 2019). These findings underscore the urgent need to shift responses to the overdose crisis away from reliance on emergency services and the justice system. Strategies supporting science-driven, evidence-based approaches to reduce overdoses requiring first responder intervention, such as expanding access to supervised consumption sites, increasing community availability of naloxone, and implementing peer navigators/OD response teams (Witkowski, 2023), could mitigate burnout among these professionals. Such services would allow non-first responders to conduct overdose

rescue, help bridge overdose survivors to seeking treatment (Samuels et al., 2018), and reduce the despondency of first responders from seeing repeat overdoses. Additionally, these strategies not only improve community health outcomes but also create opportunities to deflect individuals away from criminal legal involvement and toward supportive, treatment-focused interventions. Such approaches reduce the justice system's overreach while fostering better outcomes for those impacted by substance use disorders.

The correlation between higher tenure and increased depersonalization suggests a potential progression or intensification of burnout over time due to prolonged exposure to traumatic events, elevated job demands, or evolving workplace dynamics, aligning with literature on high-stress professions (Kelly et al., 2015). Professionals engaged with PWUD and its associated devastating consequences require more mental health support to foster resilience and mitigate negative health impacts (Patch et al., 2023). Organizations should consider long-term employee well-being and implement strategies and measures to regularly assess and address burnout (O'Dare and Atwell, 2023), particularly starting during the on-boarding and early employment process (Wild et al., 2020).

Notably, the SEM results reveal that LEO report higher levels of emotional exhaustion and depersonalization compared to EMS/FF personnel, contrary to previous findings (Pike et al., 2019), warranting further investigation. Lower levels of burnout subtypes among EMS/FF personnel may be attributed to overdose events aligning with their designated scope and duties, whereas for law enforcement officers, these events may be perceived as additional responsibilities outside their typical scope of work (Hofer, 2022). Among LEO, overdose response is often viewed as a hindrance to primary job duties (Zakimi et al., 2022). Law enforcement report struggling with priorities at the scene of overdose, often feeling a need to protect medical staff first, coupled with experiencing feelings of inefficacy and powerlessness against the massive waves of the overdose crisis (Green et al., 2013).

Continuous exposure to challenging situations can lead to physical and mental repercussions, as seen in high-intensity professions (Sullivan et al., 2022). The study found a significant relationship between mental health help-seeking and burnout levels among first responders, showing that emotional exhaustion and depersonalization may hinder seeking mental health assistance, while personal accomplishment may promote mental health support-seeking behaviors. These findings can help identify how various components of burnout increase risk of resistance to seeking support or increase willingness to engage in mental health hygiene (Jones et al., 2020). Recognizing the importance of seeking support as a constructive coping strategy is crucial, with interventions tailored accordingly.

Professional efficacy is associated with increased help-seeking, highlighting the importance of awareness, policies, and training programs to bolster first responders' perceived effectiveness and minimize feelings of futility (Horan et al., 2021). Sharing success stories or closing the feedback loop may be an element which supervisors may want to include in their weekly or monthly debriefs to staff (Dahlem et al., 2022). This can also be done through engagement with people in recovery, as putting a face to a story can be hugely impactful. Occupational safety training like the Safety and Health Integration in the Enforcement of Laws on Drugs (SHIELD) training, created by the SHIELD Training Initiative at Northeastern University, has the potential to decrease burnout and improve openness to mental health help- seeking among first responders. The SHIELD training aims to increase personal accomplishment and decrease workload by giving first responders practical tools and knowledge (Baker et al., 2022), and reduce occupational stress, such as by improving LEO understanding of incidental fentanyl exposure (Del Pozo et al., 2021).

First responders who feel effective may seek mental health support as part of their commitment to ongoing personal and professional development, enhancing overall well-being and performance (Horan et al., 2021). To increase mental health help-seeking among first responders, they need to be able to access trauma-informed therapists and/or therapists who specialize in first responder experiences, as past studies have found that "therapists that did not understand the job" are a barrier to seeking mental health help (Jones et al., 2020). Within first responder agencies, the increasing availability of peer support services such as critical incident debriefings have potential significant benefits (Donovan, 2022). First responder leadership involvement is key to shift organizational culture towards destigmatizing mental health services.

Expanding this work to criminal attorneys, judges, drug courts, correctional officers, probation and diversion programs is a critical next step. Training programs like the SHIELD initiative and other trauma-informed interventions can equip legal professionals with tools to address the unique needs of individuals involved in substance use-related cases. Judges, attorneys, drug court and supervisory personnel play pivotal roles in breaking the cycle of incarceration by advocating for harm reduction, treatment access, and community reintegration. These efforts can create pathways for individuals to avoid incarceration altogether, redirecting them toward health-focused solutions and minimizing the long-term consequences of the war on drugs.

The implications of this work are particularly pressing given the historical and ongoing impacts of incarceration and drug criminalization. Policies born out of the war on drugs have perpetuated systemic inequities, disproportionately affecting marginalized communities-deepening the overdose crisis (Alexander, 2010) and further placing overreliance and pressure on first responders. By addressing the mental health and occupational needs of first responders, while simultaneously expanding harm reduction and decriminalization efforts, we can begin to dismantle the punitive systems that exacerbate these crises. Future research should explore the integration of these strategies within broader public health and criminal legal reform initiatives, ensuring that responses to substance use are grounded in compassion, evidence, and equity.

4.2. *Limitations and future research*

Several limitations are worth noting in this study. Firstly, it is a cross-sectional analysis based on data from a pre-training survey, precluding the examination of causal relationships between burnout and mental health help-seeking. Secondly, while burnout was measured using a validated scale, reliance on self-reported levels introduces potential bias, and physiological markers were not assessed. Thirdly, the study focused solely on first responders in Missouri, limiting generalizability to other regions. Further research is warranted to explore first responders' experiences in diverse geographical contexts. Lastly, even though we treated mental health help-seeking as a latent variable constructed through three MHL-scale items in our analysis, they may not have been sufficient in presenting a complete picture of mental health help-seeking among first responders. Additional analysis with a more comprehensive measurement of help-seeking is warranted.

Additionally, the study did not investigate the impact of COVID-19 on burnout levels, overlooking a potentially influential factor. The absence of pandemic-related inquiries restricts understanding of unique stressors faced by first responders during this global event. Furthermore, lack of pre- and post-COVID-19 comparisons hinders assessment of pandemic effects on observed burnout levels, indicating a need for comprehensive analyses incorporating pandemic-specific experiences.

Longitudinal studies with enhanced measurement of mental health help-seeking are essential to evaluate the effectiveness of interventions in reducing burnout. Such studies can elucidate the relationship between mental health help-seeking and burnout, identify facilitating and impeding factors. Additionally, there is a need to understand burnout at the physiological level to validate self-reported burnout dimensions.

5. Conclusion

This study sought to understand how experiences during the

overdose crisis impact first responder burnout and mental health help-seeking. The findings highlight the necessity for intentional efforts made by first responder agencies to improve mental health help-seeking attitudes, reduce burnout, provide knowledge and support regarding responding to overdose calls, and explore alternatives response strategies. This paper suggests that interventions should prioritize enhancing personal accomplishment, implementing specific training for interactions with PWUD, and incorporating partnerships with agencies that are more readily trained and/or equipped to respond to overdoses. Working towards these goals requires buy in from local, state, and national stakeholders.

Additionally, identifying and addressing the unique occupational cultures of each first responder profession type is crucial for creating effective mental health interventions. For example, LEO-focused mental health initiatives might benefit from addressing stigma, misinformation, and structural biases toward the populations they serve. In contrast, interventions for EMS/FF could focus on normalizing vulnerability and fostering peer support systems to counteract the isolating effects of occupational burnout (Carleton et al., 2018).

Addressing these cultural and perceptual differences is also essential for designing trauma-informed approaches that integrate mental health and wellness comprehension, principles of harm reduction and community engagement. By acknowledging the distinct occupational cultural frameworks and attitudes of each group, intervention strategies can be tailored to mitigate stigma, enhance wellness engagement, and ultimately improve both occupational health for first responders and outcomes for vulnerable, marginalized, and highly stigmatized populations such as PWUD.

Overall, funding the appropriate training and mental health resources for first responders (e.g., SHIELD), partner agencies for overdose response, and dedicated mental health positions within agencies positions (for first responders in distress to access) is crucial. Such initiatives, supported by public endorsement, can facilitate open and destigmatizing discussions on mental health within agencies, improve retention, enhance first responder mental health, promote public health, and foster positive community interactions.

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CRediT authorship contribution statement

Gerber Garland: Writing – review & editing, Writing – original draft, Resources, Conceptualization. **La Manna Anna:** Writing – review & editing, Writing – original draft, Resources, Project administration, Methodology, Investigation, Conceptualization. **Siddiqui Saad:** Writing – review & editing, Visualization, Formal analysis, Data curation. **Goulka Jeremiah:** Writing – review & editing, Supervision, Methodology, Investigation. **Beletsky Leo:** Writing – review & editing, Supervision, Methodology, Investigation. **Marotta Phil:** Writing – review & editing. **Winograd Rachel:** Writing – review & editing, Supervision, Methodology, Investigation, Funding acquisition. **Budesa Zach:** Writing – review & editing, Supervision, Formal analysis, Conceptualization. **Vance Kyle:** Writing – review & editing.

Declaration of Competing Interest

No conflict declared.

Appendix

Shortened version of the Maslach Burnout Inventory, as employed by Riley and colleagues (2018), consists of nine items measured across three latent dimensions (depersonalization, emotional exhaustion, and personal accomplishment)

Depersonalization

1. I've become more callous toward people since I took this job
2. I don't really care what happens to some recipients
3. I feel that I treat some recipients as if they were impersonal objects

Emotional exhaustion

4. I feel emotionally drained from my work
5. I feel fatigued when I get up in the morning and have to face another day on the job
6. Working with people all day is really a strain for me

Personal achievement

7. I feel exhilarated after working closely with my recipients
8. I have accomplished many worthwhile things in this job
9. I feel I'm positively influencing other people's lives through my work

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