

Navigating the Firefighters' Experiences in Responding to Fire Incidents: Through Photovoice

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Abstract:- This study explores the challenges faced by firefighters during fire incidents, focusing on their emotional experiences, the impact of negligence, and the critical role of preparedness. Conducted with 20 firefighters selected through purposive sampling, the research utilized a photovoice methodology to collect data, combining interviews and photographs to capture the lived experiences of participants. The study identified four key themes: (1) Fear and Responsibility in responding to fire; (2) The Battle Against Negligence; (3) The Emotional Rollercoaster of Firefighting; and (4) Failure to Prioritize Personal Protective Equipment. The findings underscore the need for improved public fire safety education, emotional resilience training for firefighters, and ongoing investment in proper equipment and team coordination. Recommendations include enhancing firefighter training programs, increasing community awareness of fire risks, and ensuring mental health support for first responders. These insights contribute to a deeper understanding of the multifaceted challenges of firefighting and the strategies that can improve safety and effectiveness in the field.

Keywords:- Emotional Resilience, Firefighter Challenges, Fire Safety Education, Firefighting Training, Personal Protective Equipment.

I. INTRODUCTION

The purpose of the existence of the Bureau of Fire Protection is to protect the property and lives of those who are in danger of facing fire outbreaks. According to the statistical results of Phil Star, throughout the year 2023, MANILA, Philippines, there were 15,900 fire occurrences in 2023; the Bureau of Fire Protection (BFP) has noted a 21.1 percent rise in fire events nationwide. This shows that fire outbreaks are one of the most destructive phenomena that happen within a year. In these situations, the skills and knowledge of the fire-fighters on how to deal with these situations at a given time with certainty of their abilities to control the fire from spreading (Urriza 2023). Their role has a significant impact in suppressing and preventing fires in the community and maintaining the safety and security of property and lives (Kumar & Paul, 2023).

There are equipment or safety measures that every firefighter must obtain for their safety, like personal protective equipment (PPE). Firefighters must obtain and have personal protective equipment (PPE) to help keep

themselves safe from fires and protect themselves from heat, smoke, and hazardous materials. It has helmets, gloves, boots, and fireproof suits (Smith et al., 2020). Training gives the idea of how they will utilize and understand the correct usage and maintenance of their equipment, and it is also critical for firefighters to know what hazards their equipment cannot and will not shield them from (Khan et al., 2020). Firefighters will be able to perform their duties more safely and effectively, preventing injuries and better-safeguarding people and property by adhering to PPE regulations (Penney et al., 2022).

When responding to fire situations, firefighters may encounter physical harm such as extreme heat, smoke intake, and the possibility of building collapse. They may also experience much psychological stress because of having to make tough choices and seeing traumatic events. Managing intricate construction designs and guaranteeing a sufficient water supply pose significant logistical obstacles (Lagata et al., 2022). Noise, construction materials, and the chaotic nature of fire scenes can all hinder effective communication, which is why it is so important. Their already difficult jobs are further complicated by handling hazardous items and making sure they stay safe while saving others (Florentin et al., 2022).

The psychological burden of their job is something that firemen frequently deal with in addition to the logistical and physical difficulties. Firefighters who witness the aftermath of fires, including property destruction and even fatalities, may experience psychological discomfort and develop post-traumatic stress disorder (PTSD). Their mental health may suffer greatly from the ongoing exposure to terrible experiences and the pressure to perform well in difficult situations (Guilaran et al., 2021). Additionally, their personal life and relationships may be disrupted by long hours and erratic schedules, which can lead to emotional tiredness and burnout (Houton et al., (2022). Firefighters are committed to their work despite these obstacles, and they frequently turn to peer support, counseling, and resilience training to help them handle the pressures of their line of work (Conway & Waring, 2021)

This study provided insight into the difficulties and dangers that firefighters encountered in emergencies. The study highlighted the psychological and physical challenges of the work by investigating their experiences. It identified the essential abilities and methods that firefighters employed to manage these stressful circumstances. The purpose of the study was also to assess the effectiveness of the safety

procedures and training programs in place at the time. The ultimate objective was to offer guidance for improving firefighter welfare, performance, and training, as well as safety protocols.

Despite a wealth of research on firefighting tactics and equipment, there was still a methodological gap regarding the individual experiences and psychological effects that firefighters faced during fire incidents, which could be effectively explored through the Photo Voice method. Studies that primarily focused on the technical aspects of firefighting often overlooked the emotional and mental health challenges that firefighters encountered. Research on how firefighters' real-world experiences influenced their decision-making and teamwork under pressure was also scarce. Understanding these factors was essential for developing more comprehensive training programs and support systems.

Conducting this study on the experiences of firefighters in responding to fire incidents proved significant in enhancing the understanding of the key roles they played in emergency response. It provided valuable insights into the real-life obstacles and decision-making processes that they encountered. The study highlighted the psychological and physical challenges faced by the fire service by examining individual firefighter experiences. It also underscored the need for extensive support networks and mental health resources. The results emphasized the importance of advanced training and readiness, demonstrating how situational awareness and experiential knowledge contributed to efficient firefighting and public safety. Policymakers and fire departments greatly benefited from the data this study provided, which they used to improve safety procedures, resource allocation, and emergency response tactics and enhance the safety of both firefighters and the communities they served.

II. METHODS

This study employed a phenomenological research design using photovoice methodology to explore the experiences of firefighters dealing with Post-Traumatic Stress Disorder (PTSD). Phenomenology, which aims to understand the shared meanings of individuals' lived experiences (Williams, 2021), was well-suited for uncovering the transformative experiences of participants in their line of duty. Photovoice, a visual research methodology that uses photographs and narrative to explore people's perceptions, was used to help participants document and reflect on their experiences. The three main purposes of photovoice are to document community strengths and challenges, engage participants in relevant discussions, and empower them to influence decision-makers (Mukumbang et al., 2020; Simonofski et al., 2021). The study took place in Misamis Occidental, Philippines, a province in northern Mindanao with several fire-prone areas due to urbanization and the presence of flammable materials. The participants were ten firefighters who were selected through purposive sampling. Criteria for inclusion included being assigned to urban fire stations, having experience responding to fire

incidents, and being willing to participate in the study. Data collection involved interviews guided by the SHOWED framework, a tool used in photovoice to facilitate reflection on photographs. Participants were asked questions such as, "What do you see here?", "What is happening here?", and "What can we do about it?" (Witkowski et al., 2024). The interviews allowed participants to explain their photographs and connect them to their experiences with PTSD and reintegration into society. Open-ended questions were also used to encourage deeper reflection. The interviews were audio-recorded and transcribed for analysis. Before data collection, permission was obtained from the Dean of the College of Criminology and the local fire protection agency. Informed consent was secured from all participants, ensuring their voluntary participation and understanding of the study's objectives. Ethical considerations were strictly followed, including ensuring privacy and confidentiality in compliance with Republic Act No. 10173 (Data Privacy Act of 2012). Participants were assured that their identities would remain confidential and were given the option to withdraw from the study at any time. Data analysis was conducted in two stages. First, thematic analysis was performed using NVivo software to identify recurring themes in the interview transcripts and photographs. Second, the researchers employed a phenomenological analysis approach, with an external researcher validating the themes to ensure they reflected the participants' lived experiences. The data analysis followed the five phases of photovoice: orientation to photovoice, photography training, theming, picture-taking, and critical reflection. During critical reflection, participants shared the stories behind their images, guided by the SHOWED framework, allowing for a deeper understanding of their experiences with trauma and healing (Kim et al., 2021; Younis, 2021).

III. RESULTS AND DISCUSSIONS

➤ Fear and Responsibility in Responding to Fire

Fear and responsibility in responding to fire explore the emotional complexities firefighters face when balancing their innate fears with the sense of duty that drives their actions during fire emergencies. This theme highlights how fear, while a natural response to danger, is often overridden by the responsibility to protect others and complete their mission despite personal risks. Participants discussed their feelings of fear and nervousness when responding to fires. Participants acknowledge how the unpredictable nature of fire incidents can test their emotional resilience. Participant 1 shared, "When I look at the photograph of used-up wheels, it takes me back to my first fire response. That memory is tied to a fire at a junk shop, which we suspected started from embers of a cigarette, though we could not say for sure." Participant 7 stated, "Controlling emotion, I can't fathom how terrifying it is to go and put out the flames." He discussed this with certainty in his voice, as he said what he experienced was not common and terrifying. He also mentioned that having PPE would be best.

"When I look at the photograph of used-up wheels, it takes me back to my first fire response. That memory is tied to a fire at a junk shop, which we suspected started from

embers of a cigarette, though we couldn't say for sure. It made me realize how important it is to restrict smoking in areas with easily combustible materials".(P1)



Fig 1 Used Tires

"Fires often happen because of this carelessness. That's why we emphasize education through lectures and orientations, teaching and guiding communities to be more cautious and proactive. For me, controlling my emotions during a fire is one of the hardest parts. The fear and terror of going into a burning building are unimaginable, but it is something I have learned to face."(P7)



Fig 2 PPE (Personal Protective Equipment)

The duties of firefighters face the intense fear of danger and the heavy responsibility of saving lives, protecting property, and preserving the environment.

(Bautista 2020). Firefighters must confront the immediate threat of fire, often in unpredictable and life-threatening conditions where fear is a natural response to the unknown risks they face (Sandua, 2024). However, their sense of responsibility drives them to act swiftly and decisively, often at great personal risk, knowing that their actions can mean the difference between life and death for those caught in the blaze.

This theme underscores the critical role of firefighters as first responders, balancing courage with the profound duty to protect others in the face of overwhelming danger. Firefighters' responsibility is closely linked to the fear they face in dangerous situations. While they fear the risks of injury, failure, or not being able to save lives, their sense of duty pushes them to act despite those fears (Heydari et al., 2022). This fear makes their responsibility even more important, as it drives them to work quickly and carefully in high pressure situations. Over time, firefighters learn to manage this fear, using it to stay focused and make decisions that protect others, even when danger is at its highest. Responding to fires highlights the intense mix of fear and responsibility that firefighters face (Sørensen et al., 2024). The fear is not only about the immediate dangers of fire but also about the possibility of failure failing to save lives, failing to control the fire, or not making it out safely themselves. However, despite this fear, their sense of responsibility to others pushes them to act. As one participant put it, "You go in knowing that you might not come back, but you also know that someone else might not make it if you do not act."

This sense of duty keeps them moving forward, even when fear tries to hold them back. Over time, firefighters learn to manage this fear through training, teamwork, and experience, turning it into focus and motivation rather than something that stops them. The strong bonds they share with their fellow firefighters help them stay calm and work together in dangerous, high-pressure situations (Hudson, 2022). Ultimately, the balance between fear and responsibility shapes the core of their work, putting others' safety first, even when facing great personal risk.

➤ The Battle Against Negligence

The critical issue of negligence is the root cause of many fire incidents. Participants consistently emphasized how carelessness often involves everyday objects like phone chargers, electrical outlets, and cigarettes, leading to preventable fires. Whether it is leaving phone chargers unattended or smoking near combustible materials, these seemingly small actions can have devastating consequences. Participants pointed out that fires often result from people not paying attention to potential hazards. For instance, Participant 3 reflected on a fire caused by an unattended outlet (see figure 1), noting that "people cannot seem to remember their electrical belongings and leave them connected to the outlet, causing accidents." In addition, participant 6 similarly identifies negligence, saying, "People ignore their safety and the safety of others sometimes." as well as participant 8 states, "There was a time that an outlet was sparking (see figure 2), and nobody noticed it."

Participant 5 mentioned how carelessness around LPG tanks (see figure 4) could lead to explosions: “Our priority was to turn off the LPG, so it does not explode and cause more damage” Participant 2 mentioned, “Always be in the presence of mind.” Several respondents highlighted negligence as a common cause of fires, specifically related to everyday items like outlets, phone chargers (see figure 5), and cigarettes. He also stated that “people tend to leave their phone chargers unchecked, causing it to overheat.”

“People forget or ignore the dangers of leaving electrical appliances connected to outlets, leading to accidents and uncontrolled fires. This is connected to my experiences because I’ve seen firsthand how carelessness with electrical belongings can lead to disaster. Prevention is key. We need to teach people how to avoid these situations before they happen.” (P3)



Fig 3 Outlet

“Like many others, happened due to negligence—people often ignore their own safety and that of others, leading to avoidable accidents. To address these issues, the BFP conducts RECOREDA, a program where we hold lectures in barangays to teach fire safety.” (P6)



Fig 4 Outlet Sparkling

“Negligence eventually led to flames. As part of the BFP, we not only respond to these incidents but also work proactively by inspecting buildings and establishments. The job itself is nerve-wracking, especially since I often don’t know exactly what to do until I receive orders from my superior. But over time, I’ve learned to adapt. My first fire response taught me how exhausting this work can be, both physically and mentally. If I could give advice, it would be this: be extra careful. Fires are unpredictable, and safety should always come first.” (P8)



Fig 5 Outlet (Unattended)

“Fires involving LPG can escalate quickly, and it’s often due to ignorance. We’re all human, and mistakes happen, but when it comes to fire safety, we need to be extra careful. That’s why part of our job is teaching barangays and establishments about fire safety. We provide essential information and inspect their fire equipment, like extinguishers, to ensure everything is in working order.” (P5)



Fig 6 LPG

“People often leave their chargers unattended, causing them to overheat and start fires. This resonates deeply with me since I’ve personally been part of investigations where we traced the cause back to such negligence. That’s the word I’d use—negligence. To prevent these incidents, I’d tell people to always stay present and alert.”(P2)



Fig 7 Charger

“It showed me how unpredictable this job can be. That’s why we always need to be extra cautious—our lives hang in a delicate balance, 50/50 between living and dying. The best way to avoid such accidents is through proper training. It’s crucial to be prepared and know how to handle risky situations before they happen. One of the most challenging moments I’ve faced was rescuing someone from inside a building while the fire was spreading. It’s terrifying because you don’t know what could happen next.”(P4)



Fig 8 Outlet

Negligence is a major cause of preventable fires, often due to small, careless actions that people do not think twice about (Singer, 2022). Firefighters highlighted risks from everyday items like phone chargers, electrical outlets, and cigarettes (Zhang, 2023). Firefighters stressed that many fires could be avoided if people were more aware of potential risks, like checking electrical devices or smoking in safe areas. Staying focused on safety, despite their efforts to educate the public, firefighters remain frustrated by how

often negligence leads to fires. Better education and more people following basic safety rules could prevent many of these avoidable fires, saving lives and protecting communities.

The findings highlight the significant role of negligence in causing preventable fires, particularly through everyday items like phone chargers, electrical outlets, and cigarettes (Glauberma& Qureshi, 2021). Firefighters and participants consistently stressed that these seemingly minor oversights, such as leaving chargers plugged in or smoking in unsafe areas, can have catastrophic consequences. Despite ongoing efforts to educate the public on fire safety, the frustration among firefighters is palpable, as many fires are a result of simple, avoidable mistakes (Rafi et al., 2020). This underscores the need for more effective public education and greater adherence to basic safety measures, such as regularly checking electrical devices, being mindful of potential hazards, and avoiding risky behaviors like smoking near combustibles (Cvetković et al., 2022). Implementing consistent fire safety awareness could significantly reduce the frequency of preventable fires, ultimately saving lives and safeguarding communities (Holmes, 2020).

➤ The Emotional Rollercoaster of Firefighting

The intense emotional experiences firefighters go through before, during, and after responding to fire incidents. Firefighting is not only a physically demanding job but also an emotionally taxing one, as participants described the adrenaline, fear, and eventual relief they feel during their work. Participants admitted to feeling a range of emotions while responding to fires. Participant 9 described a "mix between fear and excitement, but mostly fear," showing that while there can be some exhilaration in the high-stakes nature of firefighting, the underlying emotion is anxiety.

“I listened closely and followed the orders given by my ground commander, knowing how critical it was to stay focused and responsive. My eyesight proved to be one of my most important assets, especially as visibility near the fire was challenging due to thick smoke and the danger of electrical hazards if the power hadn’t been turned off yet. This job isn’t easy—it’s tiring, physically demanding, and requires unwavering dedication.”(P9)



Fig 9 Bell Alarm

“What’s more important is helping one another when it counts. I’ve often found myself assisting the firefighters, yet feeling a sense of helplessness in critical moments because I’m just a lineman. But through gradual training and learning from each experience, I’ve grown. I believe that both experience and knowledge are crucial. They prepare you to act effectively when the moment arises, giving you confidence to make the right choices under pressure. Aside from the rush of excitement, there’s also fear, worry, and an undeniable physical exhaustion that comes with every response.”(P10)



Fig 10 Fire Truck

“For me, controlling my emotions during a fire is one of the hardest parts. The fear and terror of going into a burning building are unimaginable, but it is something I have learned to face. I rely on keeping a presence of mind, staying calm, and always considering my own safety as I work. Experience has been my best teacher, and I use what I have learned to guide others and ensure the job gets done effectively. Responding to a fire comes with mixed emotions—fear, excitement, nervousness—but I’ve come to realize that this job is inherently dangerous.”(P7)



Fig 11 PPE (Personal Protective Equipment)

“That sense of purpose—to save lives and protect property—helped me manage my emotions in the moment. After the fire was out, the aftermath stuck with me. Seeing the people affected and knowing the minimal damage we were able to prevent made me proud of what our team achieved. It proved to me just how effective we can be when we work together. The emotions that day were intense—pure fear during the fire and immense relief afterward. Knowing we saved lives and prevented further destruction was a huge comfort. That experience gave me a new understanding of what this job truly is.”(P1)



Fig 12 Used Tires

The ability to manage emotions, particularly fear, is a key skill for firefighters. They must learn to suppress or control their emotions during a crisis to stay focused on the task at hand. This is critical for ensuring the safety of both them and those they are helping (Herberg&Torgersen, 2021).

The intensity of the situation forces firefighters to compartmentalize their emotions, often putting their personal feelings aside until the job is done (Hudson, 2022). Relief and Fulfillment: After the fire is extinguished, many firefighters experience a sense of relief, knowing that lives were saved and further damage was prevented. However, this relief is often tempered by sadness when they see the impact on those affected. Despite the emotional toll, the fulfillment that comes from saving lives and protecting property motivates them to keep going.

Firefighting is not just physically demanding but also emotionally challenging. Firefighters often face a mix of emotions during and after responding to fires, from fear and anxiety to relief and fulfillment (Sandua, 2024). The ability to control emotions helps them focus on the job and stay

safe. While the adrenaline can be intense, firefighters must push aside their personal feelings to handle the crisis at hand. After the fire is out, there is a sense of relief, but it is often mixed with sadness when they see the impact on those affected (Hudson, 2022). Despite the emotional toll, the satisfaction of saving lives and protecting others keeps them going. Showing that the emotional ups and downs are part of the job, but the sense of purpose and accomplishment drives them forward.

➤ Failure to Prioritize Personal Protective Equipment

Preparedness, both in terms of personal protective equipment (PPE) and continuous training, is crucial in ensuring firefighters' safety and effectiveness during fire incidents. Firefighters know that their ability to respond to emergencies hinges on their readiness and the tools at their disposal. Participants discussed the vital role that proper equipment, particularly PPE, plays in protecting them from harm while on the job (Nazara et al., 2024).

Participant 7 shared how PPE gives them a sense of safety: "The PPE reminded me of how much safety it can provide. For example, if debris falls on you, you will be safe because you are wearing a PPE." (see Figure 7) Similarly, Participant 6 mentioned the importance of wearing PPE to get close to a fire without putting oneself in immediate danger. Beyond equipment, continuous training is critical in ensuring firefighters are ready for any situation. Training not only helps them navigate dangerous environments but also equips them with the techniques needed to extinguish fires (Grabowski, 2021) efficiently.

Participant 6 stated: "We need techniques and knowledge to be able to put out the flames," while Participant 4 emphasized the life-saving importance of training: "Training is important; it can save your life." Participant 10 reflected on this, saying, "Experience and knowledge are effective because you will know what to do when the time comes." "Even with the best training, however, unpredictable situations arise, requiring us to always be aware of the situations we are in. Plus, the infrastructure of buildings is different, so we can't always navigate our way through." In addition to their preparedness, firefighters rely heavily on their team's coordination to ensure everyone's safety (Romain, 2023). Firefighters also stressed how real-world experience complements formal training. Over time, their experiences responding to different fire incidents sharpen their ability to handle emergencies (Cahill, 2023). Participant 7 said, "Experience and teamwork are what get the job done." Having a well-trained team not only makes their job easier but also ensures that each person can come home safely at the end of the day (Lin et al., 2023).

"Responding to a fire comes with mixed emotions fear, excitement, nervousness but I've come to realize that this job is inherently dangerous. You never truly know what will happen when you're on the scene, but that unpredictability is part of the work. My advice is simple: work hard. This job requires everything you've got, but it's worth it when you know you're making a difference." (P7)



Fig 13 Roof

"The rush of excitement, there's also fear, worry, and an undeniable physical exhaustion that comes with every response. But through it all, I realized something profound—I truly want to be part of the Bureau of Fire Protection (BFP). It's not just a dream; it's something I'm committed to pursuing. And if there's one piece of advice I could give: always keep the BFP's hotline number on hand. It's a small step that could make all the difference in an emergency." (P10)



Fig 14 Fire Truck

"It's terrifying because you don't know what could happen next. In those moments, I rely heavily on teamwork. Trusting one another and working together is the only way

to ensure success. If everyone on the team gets to go home unharmed after a mission, that's when I know our efforts were effective. I won't lie—fear is always present during fire incidents. We can't predict what's going to happen to us. But despite the fear, I've realized how much this job means to me. It's incredibly risky, but I'm willing to face the challenges to save lives.”(P4)

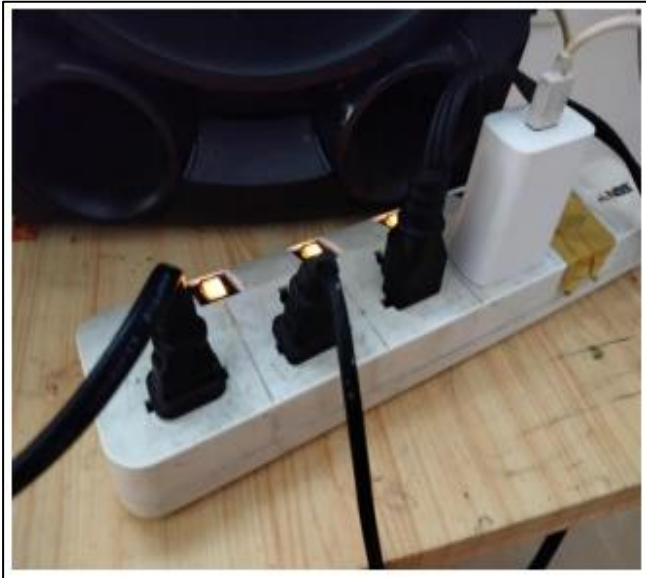


Fig 15 Outlet (Unattended)

“Every fire incident is a tough experience, and just being there in person is already a challenge. It's natural to feel nervous, especially during fires or vehicular incidents, but nerves can't get in the way—it's our responsibility to get the job done. There's no room for hesitation. After the fire is out, there's always a mix of emotions. We feel relief and happiness knowing we've done our job, but seeing the citizens crying over their losses is heartbreaking. Still, we find comfort in knowing they're alive, and that's what matters most in the end.”(P6)



Fig 16 Outlet (Sparkling)

This emphasis on teamwork and real-world experience highlights how firefighting is not just about individual skill but about relying on the collective strength of the team. While formal training provides the necessary knowledge and techniques, it is the hands-on experience gained from responding to a variety of incidents that truly sharpens a firefighter's judgment and ability to react under pressure (Grabowski, 2021). The importance of coordination cannot be overstated, as each firefighter must trust that their teammates are fully prepared to handle their specific responsibilities, whether it is controlling the fire, rescuing victims, or ensuring safety at the scene (Romain, 2023). The ability to work seamlessly together, often in chaotic and dangerous environments, directly impacts not only the success of the mission but also the safety of everyone involved. This collaboration ensures that, no matter how intense the emergency, the team can rely on each other to mitigate risks and overcome challenges (Cahill, 2023).

Preparedness is key to firefighter safety and effectiveness, with both proper equipment and ongoing training playing a vital role. Personal protective equipment (PPE) is crucial for keeping firefighters safe from hazards like falling debris or burns. However, having the right gear is only part of the equation. Continuous training helps firefighters stay ready for any situation by teaching them the skills and techniques needed to put out fires and navigate dangerous environments (Grabowski, 2021).

Real-world experience also sharpens their ability to handle unexpected challenges. Beyond individual skills, teamwork is essential; firefighters rely on each other for support, knowing that good coordination can make all the difference in an emergency. When firefighters work well together, they can safely manage the risks of the job and ensure everyone makes it home safely at the end of the day (Heydari et al., 2022).

IV. CONCLUSION

The study concludes that firefighters balance fear with responsibility, facing life-threatening situations with courage and a deep commitment to safeguarding others. Their ability to manage fear relies on intensive training, hands-on experience, and teamwork, which empower them to act decisively in emergencies. Negligence is identified as a key factor in preventable fires, emphasizing the critical need for public education on fire safety and vigilance to reduce hazards and save lives. The emotional demands of firefighting—fear, anxiety, and relief—are part of the job. Firefighters' resilience and dedication stem from their sense of duty and fulfillment in saving lives. Finally, effective firefighting relies not just on protective gear but also on continuous skill development. A well-trained firefighter, armed with proper equipment and team support, is better prepared for emergency responses, ensuring both personal safety and the protection of the community.

RECOMMENDATIONS

The study offers several key recommendations to improve firefighter well-being and safety. First, firefighter training should focus on emotional resilience, stress management, and teamwork to enhance decision-making and safety under pressure. Additionally, integrating fire safety education into community outreach programs is vital for raising awareness about risks like improper use of electrical outlets and chargers, which can help prevent fires. Training programs should also teach emotional coping techniques, while ongoing mental health support and debriefing sessions can address the psychological impact of the job. Fire departments are encouraged to invest in advanced training, up-to-date personal protective equipment (PPE), and collaborative exercises to improve preparedness. Finally, future research should explore the long-term psychological effects of firefighting, particularly how emotional resilience training and mental health support impact firefighter well-being, job satisfaction, and retention, which could enhance both performance and career longevity.

➤ Declarations

• Source of Funding

This study did not receive any grant from funding agencies in the public, commercial, or not-for-profit sectors.

• Competing Interests Statement

The authors declare no competing financial, professional, or personal interests.

• Consent for Publication

The authors declare that they consented to the publication of this study.

• Authors' Contributions

All the authors took part in literature review, analysis, and manuscript writing equally.

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