| **RESEARCH ARTICLE**

# Beyond the Ire of Flames: Work Experiences of Bureau of Fire Protection (BFP) Station Chiefs

**Cris A. Sabalosa**

*College of Criminology, Assistant Professor IV, Northern Iloilo State University – Ajuy  Campus, Ajuy, Philippines*

**Corresponding Author:** Cris A. Sabalosa, **E-mail**: crissabalosa@gmail.com

| **ABSTRACT**

Fire occurrences have significantly risen in recent years. These fires endanger lives, cause economic damage, and harm the environment. Uncontrolled fires are a major reason for building collapses and injuries. Building fires cause trauma due to the loss of belongings and the building itself. Existing fire safety systems are failing due to unaddressed factors causing building fires (Rathnayake et al., 2020). This study explored the experiences of the station chiefs of the Bureau of Fire Protection in Iloilo Province, Philippines, through a qualitative research method. The participants of this study were the selected ten (10) BFP station chiefs. All participants were subjected to an individual in-depth interview. The findings of this study are described in emergent themes. Six (6) emergent themes described the positive and negative experiences of the informants in the performance of their duties. For the positive experiences, two (2) emergent themes were developed, namely *Personal Satisfaction Through Job Fulfillment* and *Workplace Camaraderie and Support*. For the negative experiences, four (4) emergent themes were also developed, namely: *Inadequate Resources and Financial Challenges*, *Complexity of Leadership and Personnel Management, Bombarded with Public Dissatisfaction,* and *Operational Delays and Equipment Failures*. Meanwhile, three (3) emergent themes were formulated to explain how the participants address the challenges encountered in the performance of their duties, namely: *Empowering Collaboration and Support Networks, Bolstering Preventive Measures and Education*, and *Embodying Resilience and Adaptability*. Finally, three (3) emergent themes were created to express the aspirations of participants to improve the quality of their services, namely *Continuous Training and Professional Development, Adequate Fiscal Allocation and Service Facilities*, and *Improvement of Personnel and Staffing Issues*. Based on the emergent themes identified, it is recommended that the fire station chiefs be enhanced by providing them with specialized training and career development programs. This can be accomplished by the successful integration of the latest firefighting technologies in the specialized training to enhance the response effectiveness of their station.

## 1. Introduction

The human toll of fire is immense. Globally, each year, more than 150,000 people die, and more than 7,000,000 people sustain non-fatal injuries from burns associated with fire and other sources.  This translates to a staggering global average of more than 400 deaths and 19,000 injuries from fire each day, which results in great physical, emotional, psychological, and financial suffering to those directly impacted – as well as to society as a whole. A particular challenge is informal construction and settlements, which are often prone to rapid fire growth and spread and which can displace thousands of people, even if casualties are low (Meacham, 2021).

Fire occurrences have significantly risen in recent years. These fires endanger lives, cause economic damage, and harm the environment. Uncontrolled fires are a major reason for building collapses and injuries. Building fires cause trauma due to the loss of belongings and the building itself. Existing fire safety systems are failing due to unaddressed factors causing building fires (Rathnayake et al., 2020).

Public perception often equates the Bureau of Fire Protection (BFP) with the courageous act of firefighting. While battling blazes is undeniably a core responsibility, the work of BFP-designated chiefs of office extends far beyond the flames. This research study delves into the rationale behind exploring the work experiences of these chiefs.

The country's firefighters deal with daily challenges, responding to fire incidents and natural and artificial calamities. However, aside from external challenges, the men and women of the Bureau of Fire Protection (BFP) also need help with their organization. The BFP, with the strength of 32,892 officers and personnel, does not have adequate firefighting equipment, which puts the lives of firefighters at risk every time they go out in the field. The Bureau of Fire Protection (BFP) is responsible for the prevention and suppression of all destructive fires in buildings, houses and other structures, forests, land vehicles, and equipment, ships or vessels docked at piers or wharves or anchored in major seaports, petroleum industry installations, plane crashes, and other similar incidents. The BFP enforces the Fire Code and other related laws, investigates all causes of fires, and, if necessary, files formal complaints with the city or provincial prosecutor who has jurisdiction over the case (Urriza, 2023).

In Iloilo City and Iloilo province, the Bureau of Fire Protection has recorded several fire incidents that destroyed properties and killed the lives of individuals. The BFP-Iloilo likewise reported a significant increase of 89.62% of fire incidents recorded in the first quarter of 2024 compared to 2023 of the same period. Based on the data, there are 347 fire incidents recorded in the first quarter of this year compared to 183 fire incidents in the same period of 2023 here in Iloilo province. Meanwhile, the estimated damages brought by fire reached P85,603,327 for the first quarter (BFP-Iloilo, 2024).

A comprehensive understanding of the BFP's effectiveness relies on acknowledging the multifaceted nature of the designated chiefs of office roles. Their duties encompass not only emergency response but also strategic planning, administrative tasks, and community engagement. Examining these diverse aspects allows for a more nuanced appreciation of their contributions and the complexities they navigate.

Research on BFP leadership has often focused primarily on the heroic actions taken during emergencies. This study aims to fill a gap in knowledge by exploring the unseen challenges and triumphs of these designated chiefs of office. Understanding the broader scope of their work experiences can inform future policies and programs that better support them in their leadership roles, ultimately strengthening the BFP's overall service to the public.

As a criminologist, this study will be undertaken to explore the challenges encountered by the Bureau of Fire Protection designated chiefs of office to address their needs for them to deliver the best services to their stakeholders.

## 2. Literature Review

This study is anchored mainly on the Self-Efficacy Theory of Bandura (1977), supported by the Safety Culture Theory by Hudson (1999) and the Self Determination Theory by Deci and Ryan (1985).

Self-efficacy refers to one's belief in her/his ability to succeed in specific situations or accomplish a task. This concept was defined by Bandura (1977). In his opinion, a sense of self-efficacy is a prerequisite for behavior change (Alimohammadi et al., 2020). Self-efficacy concerns the extent to which people develop behaviors that allow them to persist within potentially stressful situations (Graham, 2022). It is an important motivational construct that can affect choices, effort, persistence, and achievement (Schunk & DiBenedetto, 2021).

Albert Bandura's (1977) self-efficacy theory was intended to unify successful coping and goal achievement and focused on outcome and efficacy expectations as the key ingredients. He also proposed four antecedents to self-efficacy, including vicarious learning and modeling. Self-efficacy theory has been influential in social, developmental, and clinical psychology, spawning many experiments, measures, interventions, and even components of other theories (Vaughan-Johnston & Jacobson, 2020). People who underwent desensitization treatment and reported increased self-efficacy showed more significant positive behavioral changes. Self-efficacy was a better predictor of behavior change than the actual level of anxiety experienced during treatment (Bandura, 1977).

A sense of control over our lives is crucial for good psychological well-being. Believing in your ability to achieve something is the key driver for behavioral change (Sherer et al., 1982). The concept of self-efficacy builds upon earlier ideas of "expectancy" explored

by other theorists. However, self-efficacy theory makes a key distinction between expectancies about personal capabilities or self-efficacy and expectancies about external factors or general expectancy (Kirsch, 1995).

Another theory that supports this study is the safety culture theory. Safety Culture is seen as a way of ensuring high levels of safety performance in organizations, in contrast to the systematic engineered management of hazards and effects. Cultures are defined by their values, beliefs, common working practices, and the ways in which they respond to unusual situations. In a safety culture, these are all aligned to ensure safe operation, even when hazardous operations are undertaken (Hudson, 1999). Safety culture captures most of its essentials: 'Shared values (what is important) and beliefs (how things work) that interact with an organization's structures and control systems to produce behavioral norms or the way we do things around here (Reason, 1998).

Additionally, safety culture means different things to different people, which subsequently guides their improvement efforts. Providing clarity, the essence of the safety culture construct is that it reflects a proactive stance to improving occupational safety and reflects the way people think and/or behave in relation to safety (Cooper, 2018). In order to contribute to the overall reduction of workplace accidents, workplace safety has been studied from different points of view. Whether technical or psychological, these viewpoints promote a positive safety culture, a concept intrinsically linked to organizational culture that has attracted much attention across a broad spectrum of industries (Choudhry et al., 2007).

Safety culture has been defined as "the product of individual and group values, attitudes, perceptions, competencies, and patterns of behavior that determine the commitment to, and the style and proficiency of, an organization's health and safety management (Lee et al., 2019). Safety culture has been recognized as a crucial factor in influencing the state of safety in enterprises, which provides a global characterization of some common behavioral preconditions for disasters and accidents in high-risk socio-technical systems (Zhang et al., 2020).

The self-determination theory is another theory that supports this study. The Self-Determination theory proposes that employees have three core needs: competence, autonomy, and relatedness which, when satisfied, lead to greater well-being and performance (Deci & Ryan, 2008). Self-determination theory is a prominent theory in motivation and well-being research. Unlike traditional approaches that view motivation as a single concept, SDT emphasizes various forms, the autonomous vs. controlled.

Additionally, this theory is particularly interested in behaviors driven by our own will and choice (called self-determined behavior) and the social and cultural factors that encourage it. It also proposes that all humans have three fundamental psychological needs: feeling in control (autonomy), feeling capable (competence), and feeling connected to others (relatedness). Fulfilling these needs is considered essential for healthy development and well-being, regardless of background or age (Ryan, 2009).

Moreover, Self-determination theory (SDT) is an empirically based theory of human motivation, development, and wellness. The theory focuses on types, rather than just amounts, of motivation, paying particular attention to autonomous, controlled, and motivation as predictors of performance, relational, and well-being outcomes. It also addresses the social conditions that enhance versus diminish these types of motivation, proposing and finding that the degrees to which basic psychological needs for autonomy, competence, and relatedness are supported versus thwarted affect both the type and strength of motivation (Deci & Ryan, 2008).

The Bureau of Fire Protection was established by virtue of Republic Act 6975 or the DILG Act of 1990. This law created the BFP from the Integrated National Police's Office of Fire Protection Service and placed services under the control of the Interior Department. In 2008, congress passed RA 9514, also known as the "Fire Code of the Philippines of 2008," which governs the prevention and suppression of destructive fires and professionalizes the fire service. In 2021, Republic Act No. 11589, or the BFP Modernization Act, was enacted into law, mandating the implementation of a 10-year program to modernize the BFP. The law also enabled the creation of security and protection units (SPUs) in each city fire station and allowed 14 members at most per SPU to bear Firearms.

The Bureau of Fire Protection (Fire Bureau) was established with existing officers and uniformed members from the Integrated National Police tasked with preventing and suppressing destructive fires across various sectors, including buildings, forests, transportation vehicles, and petroleum industry installations. The Fire Bureau investigates fire causes, files complaints when necessary, and is headed by a chief assisted by a deputy chief. It is organized into provincial offices, district offices, and city/municipal stations, with key positions such as Chief of Fire Bureau, District Fire Marshall, Provincial Fire Marshall, and Chief of Municipal/City Fire Station. The Department prescribes qualification standards and rank classifications, and each provincial capital, city, and municipality is mandated to have at least one fire station meeting specified standards (Republic Act No. 6975, 1990).

The Bureau of Fire Protection (BFP) in the Philippines serves as the vital line of defense against fires and other calamities. Firefighters, designated as chiefs of office, play a crucial role in ensuring the safety and well-being of the public. The BFP's mission

and vision center on attaining a fire-safe nation and improving the organization's performance in delivering public service. Moreover, this is feasible because it mandates saving lives and properties, enforcing the fire code and other related laws regarding relationships with clients and society, and responding to emergencies (Mendoza, 2023).

Another law passed was the Republic Act 9263, or the Bureau of Fire Protection and Bureau of Jail Management and Penology Professionalization Act of 2004. The State of the Philippines aims to maintain peace, protect life, liberty, and property, and promote the general welfare of all citizens, as outlined in Article II, Section 5 of the Philippine Constitution. This includes strengthening government capabilities, particularly in fire protection and jail management, through the Bureau of Fire Protection (BFP) and the Bureau of Jail Management and Penology (BJMP).

Section 7 of RA 9263 provides that the Bureau of Fire Protection (BFP) has established qualification standards for key positions within its organization. These standards require specific ranks and educational backgrounds for personnel to be designated to positions such as Municipal Fire Marshal, City Fire Marshal, District Fire Marshal, Provincial Fire Marshal, Assistant Regional Director, Regional Chief of Directorial Staff, Deputy Chief for Administration, Deputy Chief for Operations, and Chief of Directorial Staff. These qualifications include ranks ranging from senior inspector to senior director, along with educational requirements such as Bachelor of Law or master's degrees in various disciplines related to public administration, management, engineering, public safety, or criminology from recognized institutions. Additionally, candidates must have completed relevant training or career courses as established by the Fire Bureau to be eligible for these key positions.

Republic Act 11589 is another law enacted to strengthen and modernize the Bureau of Fire Protection and to appropriate funds. The Bureau of Fire Protection (BFP) is mandated to prevent and suppress destructive fires in various settings, including buildings, economic zones, IT parks, tourism zones, and airports, and collaborate with local government units (LGUs) on fire protection services and disaster response planning. Additionally, the BFP responds to natural or man-made disasters, conducts rescue operations, and handles hazardous materials (HAZMAT) incidents while coordinating with the National Disaster Risk Reduction and Management Council and LGUs. The BFP issues regulations, evaluates building plans for fire safety compliance, investigates fire causes, maintains regional offices and research facilities, conducts personnel training, and engages in fire prevention campaigns and information drives with government and private partners. The BFP shall, in coordination with the DILG, establish and implement the BFP Modernization Program, which shall be geared towards the enhancement of the capability of its personnel and acquisition of state-of-the-art fire prevention, fire suppression, fire investigation, and emergency medical and rescue services facilities and equipment (Republic Act No. 11589, 2021).

Moreover, the BFP develops comprehensive fire safety programs, strengthens national and local government capacities for disaster resilience, empowers community-based fire volunteer brigades, enters into property-related agreements, requests assistance from other government agencies and institutions, and performs additional functions as assigned by the President or the Secretary of the Department of the Interior and Local Government (DILG). These responsibilities aim to enhance fire prevention and emergency response capabilities, ensure compliance with fire safety standards, and promote collaboration among stakeholders in addressing fire and disaster-related challenges across the Philippines.

Furthermore, in the context of the BFP (Bureau of Fire Protection), which is responsible for firefighting and other emergency services, personnel may encounter various occupational risks. Coping mechanisms are strategies and practices individuals employ to deal with and mitigate the negative effects of these risks. Moreover, exposure to occupational risks in the Bureau of Fire Protection (BFP) poses significant challenges to the well-being of its personnel. Studies on occupational risks and coping mechanisms within the firefighting sector shed light on effective strategies (Etucas et al., 2023).

Fire is defined as a "rapid burning of a combustive material with the evolution of heat and usually accompanied by flame, and is used by human beings (Cabañas et al., 2017). Fire prevention is a never-ending process of recognition, development, implementation, and reevaluation of programs, strategies, and technologies to deal with varied hazards and risks that exist in a community (Diamantes & Jones Jr., 2020). Fire prevention is intended to reduce the source of ignition and is partially focused on programs to educate people about starting fires (Lawal et al., 2018). The traditional role of the fire department was limited to fire suppression. Many contemporary fire departments now deliver various services that include prevention and response activities (Fleming & Zhu, 2009).

Fire officers face numerous challenges in their daily lives, including disasters, relief operations, and community service. Their safety is at risk if they are not properly equipped and their morale and physical integrity are tested professionally and personally. Firefighting can pose a number of psychological health risks due to the nature of the job (Hashempour et al., 2023). A high-risk job, firefighting involves a wide range of tasks. Given the difficult nature of the job, with all the responsibilities included, and in addition to the impending physical injuries, firefighters undergo several emergencies that can endanger their psychological health

(Zeraat Herfeh et al., 2021).  The initial survey showed that 80% of firefighters have moderate-heavy work stress (Sianturi et al., 2021). They are exposed to adverse mental health consequences such as depression, posttraumatic stress disorders (PTSD), acute stress, and anxiety (Mousavipour et al., 2022). Given the demanding and often stressful nature of firefighting and rescue operations, Psychological Stress and Coping Theory can help in studying how BFP personnel experience and cope with stressors such as high-risk situations, shift work, and trauma exposure.

A fire emergency response system is part of the process of fire management in the preparation of building management in anticipation of a fire emergency in a building. Firefighting operations in the Philippines take too much time to finish due to the minimal resources and low upgrades in technologies in the Bureau of Fire Protection (BFP); the poor performance results in increased damage that makes it close to impossible to save all of the lives affected by the fire incident (Lagata et al., 2022). The community was dissatisfied with the performance of the firefighters in extinguishing the fire at the fire site due to the delay in the fleet of cars arriving at the location to extinguish the fire (Risondi et al., 2022).

Human characteristics significantly influence how critical infrastructure systems operate and are managed and can even contribute to failures within these systems.  To better understand how human actions and decisions impact CISs, the article proposes a new framework for simulating these interactions.  This framework would combine models that represent both the technical aspects of CISs and the performance of human operators.  By simulating these systems together, researchers can analyze the complex feedback loops between people and technology.  This information is valuable for CIS managers because it can help them identify potential weaknesses caused by human factors.  With this knowledge, managers can make better decisions to improve critical infrastructure systems' overall reliability and resilience.

Among the various occupations, firefighters are exposed to stress due to the nature of their occupation (Sepidarkish et al., 2014). Firefighters, as the first responders to disasters, are exposed to dangerous and stressful situations and experience high job stress due to the nature of their work, affecting various physical and mental health dimensions (Mousavipour et al., 2022).  There were four higher-order causes of firefighter death and injury: insufficient resources, inadequate preparation, insufficient incident command structure, and suboptimal personnel readiness (Slaughter, 2017). Depression, anxiety, and stress among emergency responders are emerging issues as they can affect psychological well-being. Firefighting is a highly stressful occupation and highly demanding in terms of physical and psychological capacities (Samsudin et al., 2022).

Firefighters are exposed to various harmful factors, such as urgent calls and an irregular daily schedule. This kind of occupational environment can lead to various health problems, such as physical and mental distress. Anxiety and depression, abuse risk, and burnout symptoms can be more prevalent in this population. A recent study has reported that about 5% of firefighters suffer from depression and 8% from post-traumatic stress disorder. In the Fullerton et al. study, the prevalence of depression was even higher and reached 22%. These health problems may be thought of as personal problems but should also be considered social issues because firefighters serve as government officers in charge of social well-being (Konopko et al., 2018).

Firefighters are often under pressure and get complaints from the public when extinguishing fires. They are often having heavy workloads and time targets to extinguish fires. It causes them work stress (Sianturi et al., 2021). Moreover, firefighters in Ozamiz City face challenges when responding to fire incidents. These challenges include Scarcity of resources, physically and mentally demanding work, and frustration (Lagata et al., 2022). Given the difficult nature of the job, with all the responsibilities included, and in addition to the impending physical injuries, firefighters undergo several emergencies that can endanger their psychological health (Zeraat Herfeh et al., 2021). Although firefighters have been trained during their recruitment or throughout their services, and they might develop resiliency upon attending emergency incidents, previous researches suggest that prolonged, repeated exposure may cause negative psychological consequences from their experiences (Samar et al., 2023).

Mata & Bermudez (2017) conducted a study of the personnel of the Fire Safety Enforcement Section of the BFP. It revealed that the new process for applying for a fire safety certificate would address the shortcomings of the existing process, which, among others is the following: cumbersome process in processing fire safety certificates, delays in the issuance of fire safety certificates, cumbersome record keeping, and difficulty in informing the applicant about the release date of the fire safety certificate and notification to renew the fire safety certificates.

In a study by Ferrer (2021), he found that Aparri Fire Station's fire safety assessment and inspection, as well as its fire safety for hazardous materials, were excellently conducted fire prevention programs. The fire safety inspection certificate program was also excellently implemented. A portion of the Aparri fire station's occupancy does not adhere to Philippine fire code requirements. In such a case, the number of fires may rise in locations or businesses that do not have a fire safety inspection certificate. The Aparri Fire Station in Cagayan should keep an eye on and visit non-compliant establishments on a regular basis.

The biggest obstacle to the implementation of fire prevention programs was a shortage of staff, which was followed by inadequate inspection tools, a dearth of equipment for conducting investigations, and a lack of equipment for conducting fire safety inspections. The bureau's overall strength has a significant impact on how its fire prevention activities are carried out. To further support the execution of their fire prevention initiatives, it is proposed that BFP personnel be deployed to the Aparri Fire Station in greater numbers (Ferrer, 2021).

Firefighting practices are conducted to educate not only the Bureau of Fire Protection (BFP) personnel but also the community residents regarding the ill effects of fire. The challenge of firefighting lies in the sole dedication and competence of the officers in the BFP. Damuag et al. (2017) in their study, aimed to assess the firefighting practices of the personnel of the Bureau of Fire Protection. The findings revealed that the BFP personnel encountered some minor unavailability of some firefighting equipment but could still competently address the needs of the civilians to put off the fire with the cooperation and willingness of other firefighting personnel. It was concluded that firefighting skills are a defendant in the quality of the equipment used. The researchers strongly recommend further studies be conducted to supplement the preliminary findings.

Alfaro et al. (2013) conducted a study that aimed to determine the challenges of personnel of the Bureau of Fire Protection in Selected Municipalities of the 1st and 2nd Districts of Quezon Province. Findings revealed that challenges result in the failure of fire extinguishers and lead to ineffective service to the public. In terms of work demands, the respondents perceived that the hazardous nature of their work gave them challenges. In terms of salaries and benefits, they said that they encountered problems such as low salaries and insufficient benefits. In terms of facilities and equipment, the respondents said that the absence of a permanent fire station and insufficient active fire station was their main concern.

Meanwhile, the BFP provided many services in spite of these hindrances, and they continued to work even though they faced many challenges. These services include the prevention and suppression of all destructive fires on different buildings and establishments, conducting of different programs, participation in inter-agency activities, conduct of regular fire drills and demonstrations in different barangays, investigation of all causes of fires, assistance in the evacuation of people in distress, assistance to AFP in times of national emergencies, assistance to PNP in crowd control and filing of appropriate complaints and cases in proper courts were just a few of their many work as BFP personnel (Alfaro et al., 2013).

Since the Bureau of Fire Protection is concerned with the protection and safety of the lives and properties of everybody, it is recommended that they exert more attention to their health, need for additional equipment such as personal protective equipment (PPE), equipment for the extinguishment of fires and saving lives. In addition to these, the sufficient number of electronic equipment for releasing clearances and permits helps BFP personnel perform their primary duty, which is to inspect buildings and establishments for the prevention of fire incidents (Alfaro et al., 2013).

Lagata et al. (2022) explored the challenges encountered by the BFP of Ozamiz City in responding to fire incidents. As a result, most of the participants have different challenges encountered in responding to fire incidents. These challenges made an impact physically and mentally, which was extremely stressful and draining during a fire incident. On the other hand, the participants have learned how to maintain an active connection with the public, promote fire safety, and raise the number of force multipliers. Further, the BFP should have the full support of the community when an emergency occurs. Lastly, the participants were sensible of their actions. To mitigate firefighter life-safety concerns and achieve successful fireground outcomes, it is critically important for firefighters to have the necessary preparedness capabilities to respond. Firefighter preparedness consists of technical and contextual knowledge, specialized training, and firefighting experience.

Lagata et al. (2022) also revealed that the scarcity in responding to fire incidents, arduous work, frustration in work, collaboration and cooperation in fire safety and prevention, and serving the people could be mitigated by adding more resources, improving the efficiency of the existing sources, and restrict using of existing resources which are not effective. The firefighters were encouraged to exercise while on duty. Those who engaged in regular physical training were less likely to have a serious injury on the fire ground. The bureau's modernization law assists in resolving these challenges by upgrading their equipment and providing training to their employees. The plans may also be their first step in establishing a relationship in the community in order to provide lectures and seminars for their own safety in the event of a fire. The best weapon in resolving those challenges in terms of fire incidents is to always be patient with those who are hostile during a fire, to stay away from those who act violently during a fire incident, and to be approachable at all times in the community for our own safety. Also, those who are trained regularly perform job-specific tasks more efficiently than untrained firefighters. Thus, it is recommended that an exercise program for firefighters be implemented.

Despite significant hurdles, fire personnel respond to numerous situations to preserve valuable items and save lives, making the work hazardous and challenging for the rescuers and the firemen (Veszprémi & Pántya, 2021). It is evident that fire occurrences

are quite expensive. It causes suffering, death, and time wastage for the victims' financial resources and supplies and harm to structures and equipment (Adegboro & Ojoye, 2019). In previous years, fire events have grown to be a major issue for the Philippines since they impede the nation's socioeconomic development (Asor et al., 2021).

The Philippines' firefighting operations are excessively delayed because of the Bureau of Fire Protection's (BFP) limited resources and low technological advancements. Inadequate execution exacerbates the harm, rendering it nearly difficult to rescue every damaged life (Zadeh et al., 2021).

More than 1,300 fire events took place in the Philippines between 2011 and 2019, leaving thousands of people dead and causing property damage of more than 4 billion pesos (Villa & Ceballos, 2021). The fire department's delay The difficulties encountered in getting to the fire's site, such as delays in receiving information about the fire from the neighborhood, a lack of knowledge among the populace that fire engines and related infrastructure should be prioritized fire engines whose age was so concerning that it was affecting the capabilities of the fire department (Kahanji, Walls & Cicione 2019).

The fire-fighting capacity of any fire station should conform to national and international standards. The location and the service area of the fire station are important factors in reducing fire risk. Along with these spatial requirements, a number of non-spatial issues, such as staff, equipment, vehicle, function, organization technology, etc., are also related to efficient fire services (Tishi & Islam 2019). The optimum level of staff in accordance with the population demand is also important in order to effectively perform fire extinguishing activities (Brzezińska, Bryant & Markowski, 2019).

To mitigate firefighter life-safety concerns and achieve successful fireground outcomes, it is critically important for firefighters to have the necessary preparedness capabilities to respond. Firefighter preparedness consists of technical and environmental/contextual knowledge, specialized/focused training, and firefighter experience (Coulthard, 2018). Saving lives from fireground is the primary task in firefighting, in which the speed of effective search largely relies on sufficient and instant information. When insufficient information situation follows firefighter tightly, the firefighter's life can be jeopardized (Hui et al., 2018).

Effective suppression response and rescue operations require efficient and advanced training. An equipped firefighter with advancing information technology, such as IR, laser range-finder, camera, augmented reality, and an unmanned aerial vehicle for acquiring more fireground information may be useful for firefighting tasks (Hui et al., 2018). Modern technologies improve this training and drill and decrease the expenses and price of a firefighter's teaching program (Hozjan, Kempna, & Smolka, 2020).

Moreover, adequate provisions of fire service facilities are essential to ensure sustainability through life safety, property protection, continuity of operations, environmental protection, and heritage conservation. With the aim to assess sustainable urbanization with the adequacy of fire service provision, it is essential to identify the substantial service gaps for up-gradation in the fire service facility (Singh, Sabnani, & Kapse, 2021).

The Bureau of Fire Protection (BFP) is a public sector that provides services to prevent and suppress destructive fires. It is responsible for the enforcement of the Fire Code of the Philippines (Mendoza, 2023). This research study will deal with the work experiences of BFP station chiefs, specifically exploring their experiences beyond the flames. While firefighting duties are undoubtedly central to their profession, this study aims to shed light on the untold stories of these chiefs and the various facets of their work that go beyond emergency response. An investigation into the challenges and triumphs they encounter in their leadership roles, the administrative and strategic aspects of their work, and the impact their service has on their personal lives. This study aims to provide a nuanced understanding of the BFP station chiefs' experience, recognizing not only their bravery in battling fires but also their dedication and commitment to various aspects of their service.

It is evident that there was a lot of published literature pertaining to fire incidents, fire officers, and the like. However, a study unveiling the lived experiences encountered by the Station chiefs of the Bureau of Fire Protection (BFP), how they address the negative experiences and challenges, and their aspirations to improve the quality of their performance is under represented in the literature.

To end, examining the work experiences of BFP station chiefs can help contribute to a more comprehensive appreciation of their profession. The findings of this study can inform policies and programs that support these critical leaders and enhance the effectiveness of the BFP in serving the public.

## 3. Methodology
This section presents the research design, research environment, research participants, research instrument, research procedures, collection of data, analysis of data, ethical considerations, and trustworthiness of the study.

### 3.1 Research Design
A qualitative research design was utilized to explore the experiences of the Bureau of Fire Protection (BFP) station chiefs employing the phenomenological approach. Phenomenology is a method that focuses on an individual's driver's view experiences with a particular event. Qualitative research is a form of socially responsive action that stresses how people interpret and make sense of their experiences to understand the social reality of individuals in order to gain a deeper understanding of the surrounding circumstances (Muzari et al., 2022). The qualitative research design for the study on the work experiences of the Bureau of Fire Protection (BFP) Designated Chiefs of Office employed a phenomenological approach.

Phenomenology is a philosophical movement investigating and describing phenomena as they were consciously experienced. The focus of a phenomenological inquiry into lived experiences in human science research and professional practice illustrated the potential of the phenomenological method to investigate the learning experience (Yee & Yee, 2019). Phenomenological studies looked at human behavior, what they said and what they did, as a product of how people did their own interpretation of the world (Umanailo, 2019).

Phenomenology was a suitable methodology as it aimed to explore and understand the lived experiences of individuals within a specific context. In this case, the focus was on gaining a deep and nuanced comprehension of the multifaceted roles, challenges, and successes encountered by BFP Chiefs of Office in the dynamic field of fire protection. Semi-structured interviews were conducted with a purposive sample of designated Chiefs of Office, allowing for an in-depth exploration of their subjective experiences, perceptions, and insights.

Transcendental phenomenology attempts to grasp the essential nature of the social world, unencumbered by assumptions, prejudices, and scientific theories. Transcendental phenomenology, as developed by Edmund Husserl, wanted to transcend surface interpretation and uncover the essence of social phenomena. To achieve this, Husserl argued that all non-existential aspects need to be bracketed away. The process is usually seen as involving a double bracketing or epoché, as he referred to it. The first level of bracketing dispenses with peripheral notions, actions, and so on, and the second, more difficult epoché sets aside all one's preconceptions, assumptions, and prejudices about a particular phenomenon, including all so-called scientific knowledge. Transcendental phenomenology thus leads to a new, cleaner, uncluttered, essentialist perception of the world.

### 3.2 Research Environment
This research was conducted across Iloilo Province, capturing the experiences of Bureau of Fire Protection (BFP) fire station chiefs across various municipalities. Iloilo Province has forty three (43) fire stations distributed across its 42 municipalities and one highly urbanized city spread over five districts. The study investigated the impact of community demographics, fire hazards specific to the region, and the categories of fire stations on the work experiences and challenges encountered by BFP leadership in these districts. This exhaustive approach facilitated a thorough examination of the operational dynamics within the BFP in Iloilo.

The study was conducted in the ten (10) selected fire stations in the province of Iloilo, namely: Miag-ao and Oton Fire Stations in the first district, Santa Barbara and Pavia Fire Stations in the 2nd district, Lambunao and Janiuay Fire Stations in the 3rd district, Passi city and Banate Fire Stations in the 4th district, and Sara and Estancia Fire Stations in the 5th district (Philatlas.com, 2023).

### 3.3 Research Participants
The research participants of this study comprised a carefully selected group of fire station chiefs in the Province of Iloilo. Participants were selected based on a purposive sampling strategy, considering factors such as experience, tenure, and diversity in operational contexts. There was a total of ten (10) participants in the study, specifically those who had served as designated chiefs of office for a period of 3 years. The ten (10) station chiefs are all subjected to individual in-depth interviews.

### 3.4 Research Instrument
The research instrument primarily consisted of a semi-structured Interview Guide (IG). The semi-structured interviews served as the primary means of data collection, allowing for in-depth exploration of the experiences, challenges, and successes of the selected station chiefs in the Province of Iloilo. The interview questions were carefully crafted to elicit detailed narratives, insights, and reflections on their roles, decision-making processes, and the contextual factors influencing their work in the dynamic field of fire protection. The interview guide was open-ended and divided into three sections. Part 1 discussed the experiences of the participants in the performance of their duties. Part 2 addressed the challenges encountered by the participants in the performance of their duties. Part 3 delved into the participants' aspirations to improve the quality of their services. The research instrument,

designed with methodological rigor, aimed to capture the depth and breadth of the station chiefs' professional journeys, contributing valuable knowledge to inform future policies, training programs, and organizational enhancements within the Bureau of Fire Protection.

The interview guide has been validated and verified by the panel of experts. The panel of experts checked the interview guide and the informed consent forms to check the correctness of the instrument. In addition, the validation guide has undergone an ethics committee. The researcher submitted all the requirements, including the interview guide, and waited for the ethics committee's protocol approval certificate.

### 3.5 Research Procedures

This study utilized a purposive sampling approach to find the specific informants needed for data collection on the Bureau of Fire Protection's performance as station chiefs in the Iloilo Province. Purposive sampling was used in a research endeavor to quickly and effectively narrow down the pool of potential participants (Thomas, 2022). Purposive sampling could be considered a subset of convenience sampling in that respondents were chosen subjectively (Klar & Leeper, 2019).

The researcher submitted the interview guide to the panel of experts and let them sign the validation sheet. The researcher proceeded by complying with the requirements needed in the ethics review. The requirements were passed through the ethics committee's email. While waiting for the approval, the researcher submitted the transmittal letter to the adviser and the chairman of the panel for their signatures. Once signed, he then passed the transmittal letter to the regional director of the Bureau of Fire Protection Region 6. After the approval of the transmittal letter and issuance of the protocol review certificate, the researcher proceeded to the different fire stations and had a courtesy call to the ten (10) station chiefs. Finally, an in-depth interview was conducted with the informants.

### 3.5.1 Data Collection

The study's data collection procedure followed a systematic and thorough process. Initially, the research involved obtaining ethical clearance and consent from relevant authorities and participants. The sample population of selected station chiefs in the Province of Iloilo was identified using a purposive sampling approach based on criteria such as experience, tenure, and diversity in operational contexts. The informants were chosen based on the length of service, specifically those who had served as designated chiefs of office for a period of 3 years. Additionally, the informants had responded to emergencies such as firefighting and vehicular accidents.

Data collection primarily relied on semi-structured interviews conducted with the identified station chiefs. These interviews were designed to elicit detailed narratives regarding their professional journeys, challenges faced, decision-making processes, and insights into their Bureau of Fire Protection roles. The interviews were audio-recorded with participants' consent and transcribed for thorough analysis.

Throughout the data collection phase, the researchers maintained a reflexive and iterative approach, allowing for adjustments to the interview process based on emerging themes and insights. The collected data were treated with confidentiality and handled in accordance with ethical guidelines.

Upon completion of the data collection, a thorough analysis was conducted, utilizing qualitative data analysis methods to identify patterns, themes, and meaningful insights derived from the station chiefs' work experiences. The research procedure was designed to capture the depth and complexity of the station chiefs' perspectives, contributing to a nuanced understanding of their roles within the dynamic field of fire protection.

### 3.5.2 Data Analysis

The study's data analysis was meticulous and systematic, aimed at uncovering meaningful insights from the collected data. The qualitative data obtained from semi-structured interviews and document analysis underwent a rigorous thematic analysis. Initially, the transcripts of the interviews were carefully reviewed, and relevant portions were coded to identify recurring themes, patterns, and key concepts related to the work experiences of the BFP station chiefs.

Following the initial coding process, the identified codes were organized into broader themes, allowing for the development of a comprehensive framework that captured the diversity and depth of the station chiefs' experiences. These themes were refined through an iterative process of constant comparison and discussion among the research team, ensuring the reliability and validity of the analysis.

The document analysis was integrated into the thematic analysis, providing additional context and validating the findings derived from the interviews. Relevant information from BFP reports, policies, and organizational records was cross-referenced with the interview data to enhance the overall richness and depth of the analysis. Throughout the data analysis phase, efforts were made to maintain reflexivity and transparency, acknowledging the researchers' perspectives and potential biases. Member checking was also employed, allowing participants to review and validate the emerging themes, ensuring the accuracy and authenticity of the findings.

The final stage of data analysis involved synthesizing the identified themes into a coherent narrative that captured the essence of the BFP station chiefs' work experiences. This narrative was presented in a detailed and organized manner, supplemented by direct quotes from participants to provide a compelling and authentic portrayal of their perspectives. The detailed data analysis process was designed to uncover nuanced insights, contribute to the existing body of knowledge in fire protection leadership, and inform future policies and practices within the Bureau of Fire Protection.

### 3.6 Ethical Considerations

The research study was committed to upholding the highest ethical standards throughout all phases of the research process. Prior to initiating the study, ethical clearance was sought from relevant institutional review boards or ethical review committees to ensure compliance with ethical guidelines and regulations. Informed consent was obtained from all participants, including the selected station chiefs, clearly outlining the purpose, nature, and potential implications of their participation in the study. Participants were given the right to withdraw from the study at any point without facing consequences.

### 3.6.1 Beneficence.

The research aimed to contribute positively to the understanding of BFP station chiefs' work experiences and potentially inform improvements within the organization. Harm was minimized by employing a thoughtful and considerate approach during data collection and analysis. The researcher was mindful of any potential emotional or psychological impact on participants, offering support and resources as needed.

### 3.6.2 Non-Maleficence.

The researcher was committed to nonmaleficence, ensuring that no harm came to participants due to their involvement in the study. Careful consideration was given to designing and implementing data collection methods to avoid physical, emotional, or psychological distress. The research process was conducted with sensitivity, especially when discussing potentially challenging or personal topics, and support was provided if any discomfort arose. The researcher took every precaution to mitigate risks and protect the well-being of all participants.

### 3.6.3 Justice.

The principle of justice guided the study to ensure all participants were treated fairly and equitably. Participants were selected based on clear, justifiable criteria that reflected the diversity of experiences among BFP station chiefs in Iloilo Province. The researcher strove to avoid bias or favoritism, ensuring that all voices were heard and respected. Findings were shared transparently, contributing to a broader understanding that could benefit the entire BFP community rather than privileging specific individuals or groups.

### 3.6.4 Autonomy.

Respect for participants' autonomy was a cornerstone of this research. Participants were fully informed about the study's objectives, methods, and potential outcomes, enabling them to make voluntary, informed decisions about their involvement. The researcher ensured that participants were free to express their views without pressure or coercion and retained control over their participation, including the right to withdraw at any point. By honoring their autonomy, the study empowered participants and upheld their dignity throughout the research process.

### 3.7 Trustworthiness of Research

The trustworthiness of the research study was paramount and was ensured through the incorporation of several strategies to enhance credibility, transferability, dependability, and confirmability. The use of a qualitative research design, specifically phenomenology, contributed to the depth and richness of the data, as it allowed for an in-depth exploration of the lived experiences of BFP Station chiefs. To ensure credibility, the research employed a purposive sampling strategy, carefully selecting fire station chiefs with diverse backgrounds and experiences within the Province of Iloilo. Additionally, member checking, whereby participants reviewed and validated the findings, was implemented to enhance the accuracy and authenticity of the data.

### 3.7.1 Credibility

The research employed a purposive sampling strategy, carefully selecting fire station chiefs with diverse backgrounds and experiences within the Province of Iloilo. Additionally, member checking, whereby participants reviewed and validated the findings, was implemented to enhance the accuracy and authenticity of the data.

### 3.7.2 Transferability

This was addressed by providing a thorough description of the research context, participant characteristics, and the study's methodology. This enabled other researchers to assess the applicability of the findings to different contexts within the field of fire protection or similar domains.

### 3.7.3 Dependability

It was established through a systematic and transparent research procedure, including a pilot study to refine interview questions and ensure clarity. Detailed documentation of the research process, from data collection to analysis, was maintained, allowing for the traceability and replicability of the study.

### 3.7.4 Confirmability

This was addressed through reflexive practices, where the researcher acknowledged their own biases and engaged in ongoing reflections throughout the research process. An audit trail documenting decisions made during data collection and analysis further enhanced confirmability.

### 3.8 Bracketing and Reflexivity

The researcher set aside his personal beliefs, biases, and preconceptions during the data gathering and throughout the completion of this study to maintain the reliability of the findings. He demonstrated awareness and critical reflection on his own role, biases, values, and influence in the research process by acknowledging and addressing the potential impact of his background, experiences, and perspectives on the research design, data collection, analysis, and interpretation.

To adhere to these trustworthiness criteria, the study aimed to produce reliable and valid insights into the work experiences of BFP station chiefs. The transparent and methodologically rigorous approach contributed to the credibility and applicability of the research findings, fostering confidence in the study's trustworthiness within the academic and professional communities.

### 4. Results and Discussions
### 4.1 Experiences of the Participants in the Performance of their Duties
### 4.1.1 Positive Experiences
### 4.1.1.1 Personal Satisfaction through Job Fulfillment.

The participants noted that being able to serve and protect the community brings the greatest sense of joy to being a fire marshal. The gratitude and appreciation from the public are incredibly fulfilling, whether through carefully planned events like school symposiums or through quick, life-saving responses to emergencies like fires and car accidents. This recognition not only assures the worth of their endeavors but guarantees that their contributions will be remembered, stressing the enduring influence of their commitment to public safety.

*(To serve and protect so that others may live, the time that you can save the lives and properties of the public that you can help them you can feel the happiness even though what hardships you have encountered just to help and extinguish the blazing fire sir, the happiness the contentment... Yes, sir truly rewarding in serving the public. Uh, as firefighters, we trying our best, even though our life is at stake, just to put out destruction of fires. The smile on your face, you see sir that no matter how difficult, seeing the people you helped saying "Thank you to you." it matters a lot sir). (Participant 3)*

*(After a response, when someone thanks you, that is the most rewarding. Hearing someone say, 'Sir, thank you,' is very rewarding). (Participant 6)*

*(When you are a fire marshal, you have planned activities and ideas that you can implement. For example, conducting kiddie fire safety shows, symposiums in schools, or establishing substations in barangays. The credit for these activities or projects is rewarding because they remember your contributions even if you are transferred to another station). (Participant 9)*

The emergent theme emphasizes the profound enjoyment and personal fulfillment that fire marshals derive from their work. According to the fire marshals, the primary source of satisfaction is serving and protecting the community. Their sense of fulfillment is also significantly influenced by their prompt and life-saving responses to emergencies, such as car accidents and

fires. This acknowledgment from the public validates their efforts and guarantees that their contributions to public safety will be remembered, emphasizing the enduring importance of their commitment.

Self-Determination Theory (SDT) is a theory that is relevant to the emergent theme. According to SDT, humans are driven to develop and change by three innate and universal psychological needs: autonomy, competence, and relatedness. For example, the autonomy of fire marshals in organizing and executing events is a factor in their job satisfaction. Their competence is demonstrated by their capacity to respond promptly and efficiently to emergencies. This adept management bolsters their capabilities, resulting in greater personal satisfaction and accomplishment. The public's gratitude and appreciation satisfy the relatedness requirement. Participating in community events cultivates a sense of mutual respect and belonging, improving job satisfaction. The satisfaction and fulfillment that fire marshals experience is a direct result of their autonomy in decision-making, competence in managing emergencies, and relatedness to the community they serve (Deci & Ryan, 2000).

Johnson (2021) examined the impact of community engagement on the employment satisfaction of public safety personnel. The results suggested that the participation of fire marshals and other public safety personnel in community safety and education programs resulted in substantial personal satisfaction. School programs, public safety events, and emergency response efforts were among the primary activities that contributed to this fulfillment. The research revealed that the community's recognition of the enduring impact of their work was a significant factor in their continued job satisfaction. Their sense of purpose and commitment to their duties were further solidified by the positive feedback and recognition they received from community members.

Santos (2020) investigated the relationship between employment satisfaction and community impact among fire marshals in various cities throughout Davao City, Philippines. The research demonstrated that the capacity to serve and protect their communities substantially impacted job satisfaction. Critical sources of fulfillment were identified as the construction of barangay substations, the presentation of child fire safety programs, and the response to emergencies. The public's gratitude and appreciation provided an enduring sense of accomplishment, reinforcing their dedication to public safety. The research determined that these factors were essential in guaranteeing fire marshals' long-term job satisfaction and personal fulfillment.

### 4.1.1.2 Workplace Camaraderie and Support.
The participants discussed the importance of learning how to get along with people and manage relationships well. This is important since it boosts workplace support and camaraderie. In their workplace, the informants saw cooperative and constructive relationships promoting a give-and-take dynamic where mutual learning occurs. The participants said that their strategy of encouraging and appreciating their personnel has paid off, garnering respect from others and guaranteeing efficient station operations with little oversight. Their group successfully multitasked without stringent enforcement, completing duties diligently and without continual guidance.

*(You encounter different cultures and personalities. You must learn how to coexist with them, manage your companions). (Participant 1)*

*(The positive experiences include my teaching and respecting my people, which became fruitful. They also respected me as their chief, and I observed that the station operated smoothly with minimal supervision. Even without me giving orders, they worked diligently. We also had tasks that we finished promptly because we agreed. We didn't have problems with how my people worked; they were multitasking, yes. I didn't strictly enforce rules on them; I just told them to do their work. There was no pressure, despite the pressure from above). (Participant 5)*

*(My experience in the short time from April up to now is the relationship, my relationship with the people is good, they are cooperative, and it's a give and take situation. For example, you learn from them, and at the same time, they learn from you. So, you work together to create a harmonious relationship.  Also, the local government here in Janiuay is very supportive to us). (Participant 10)*

The emergent theme demonstrates the critical importance of camaraderie and support in the workplace, particularly when interacting with individuals of varying backgrounds and dispositions. The informants emphasized the importance of cultivating effective relationship management and strong interpersonal skills to improve workplace harmony. They observe cooperative and constructive relationships to establish a dynamic of mutual learning characterized by a give-and-take approach. The informants ensured efficient station operations with minimal supervision by encouraging and appreciating their personnel, which earned them respect from others. The team's ability to multitask and complete tasks with diligence without requiring stringent enforcement or constant supervision demonstrated the advantages of a supportive and collaborative work environment.
Social Exchange Theory can elucidate the emergent theme, which discusses how positive and reciprocal relationships promote productivity and cooperation. The theory posits that employees are more inclined to reciprocate with loyalty, diligence, and

cooperation when they feel valued and supported (Blau, 1964). Fire marshals fostered a positive work environment emphasizing mutual respect and cooperation by encouraging and appreciating their personnel. This, in turn, resulted in efficient operations with minimal supervision, as fire personnel were motivated to work assiduously and felt valued. The personnel receive encouragement and appreciation, while the fire marshals acquire respect and efficient operations. This reciprocal relationship improves the productivity and harmony of the workplace.

Anderson et al. (2018) investigated the potential of workplace camaraderie to improve fire marshals' performance in their stations' management. The results suggested that it was essential to navigate a variety of cultures and personalities in order to cultivate workplace camaraderie and support. Fire marshals reported that cooperative and constructive relationships fostered a dynamic of mutual learning characterized by a give-and-take approach. The efficient operation of the station with minimal supervision was achieved by encouraging and appreciating personnel, which earned them respect. The research determined that the efficient administration of relationships in the workplace significantly facilitated the completion of tasks with diligence and the ability to multitask without constant supervision.

Cruz (2021) analyzed the strategies to foster collaboration and cooperation within Philippine public safety agencies. The results indicated that workplace camaraderie and support development depended on the ability to navigate various cultures and personalities effectively. Mutual learning and respect were demonstrated to be fostered by cooperative and constructive relationships, which resulted in minimal oversight and efficient operations. Several public safety personnel reported that their strategy of encouraging and appreciating personnel succeeded, ensuring that tasks were completed diligently without requiring stringent enforcement.

### 4.1.2 Negative Experiences
### 4.1.2.1 Inadequate Resources and Financial Challenges.
The participants emphasized the issue of insufficient resources and financial problems by citing the absence of financial assistance as a significant challenge in their activities. This limitation, a staff shortage, and outdated fire engines hamper most responses. Because of staffing shortages and limited resources, repairing outdated fire vehicles means temporarily losing the capacity to react to emergencies. Overcoming these resource limitations is one of the most challenging tasks for a municipal fire marshal while trying to keep the fire station operational despite a lack of funding and staff.

*(Yes, that's one big challenge, the lack of financial support. That's a big challenge. Of course, financial support is lacking. Another challenge is the shortage of personnel, the old fire trucks, and what do you call it, the problem is one of the associations, you have to solve it, and usually, our biggest problem is the old fire trucks that need repair. We want to repair them because if you repair them, the trucks that can respond in case of fire will be gone, and with the people, you want many of them to accomplish what you want to do, but your manpower is limited, your manpower is limited to do what you want to do, only what is there is what you can use). (Participant 2)*

*(As a Municipal Fire Marshal, you know, some of the biggest problems or negatives are our limited resources. We lack budget, we lack personnel. But despite these shortcomings, we still strive to keep our fire station functioning). (Participant 7)*

*(The most common challenge as a station marshal in the Bureau of Fire Protection is the lack of support from the national office, which requires us to coordinate with the local government unit for support in terms of fuel, maintenance of fire trucks, and other activities. To get their support, we need to impress them and gain their favor, which sometimes puts us in a position where we owe them. When they request something from us that goes against our principles, we have no choice but to comply because we need their support). (Participant 9)*

The emergent theme illustrates the substantial obstacles encountered by fire marshals as a result of financial difficulties and inadequate resources. The informants identified that the absence of financial support significantly impedes their activities. In addition to personnel shortages and outdated fire engines, this issue significantly impedes their capacity to respond to emergencies. Due to limited resources, the temporary loss of emergency response capacity results from the necessity to repair conventional fire vehicles. One of the most challenging tasks for a municipal fire marshal is to surmount these resource constraints as they endeavor to maintain the fire station's operational status in defiance of insufficient funding and staffing.

One theory that relates to this emergent theme is the Resource Dependence Theory (RDT), which posits that the procurement of external resources is essential for the survival and success of organizations, as they rely on them to function (Pfeffer & Salancik, 1978). Resource Dependence Theory is relevant in this context, as it elucidates the fire marshals' struggle with insufficient resources and financial obstacles. Organizations that lack essential resources are compelled to rely on external entities, which can result in vulnerabilities, according to RDT. This vulnerability is best illustrated by the fire marshals' reliance on external financial assistance

and a need for more resources, such as staff and operational fire engines. In order to address resource constraints, the fire marshals may pursue additional funding from governmental bodies, establish partnerships with private entities, or participate in community fundraising activities to ensure that they have the requisite resources to maintain operational efficiency.

Harris (2018) examined the financial obstacles that fire departments encounter when striving to preserve operational efficiency. The findings suggested that inadequate funding and resource constraints substantially impacted the capacity to respond to emergencies effectively. Reports from fire marshals indicated that outdated equipment, including fire engines and staff shortages were significant concerns. The transient reduction in emergency response capacity was frequently the result of the necessity to repair aging vehicles. The study noted fire departments' ongoing and critical challenges in managing these financial and resource constraints.

### 4.1.2.2 Complexity of Leadership and Personnel Management.

Participants underlined the difficulty of leadership and people management, pointing out that managing staff is difficult because of different mindsets and unavoidable factions. They said being a fire marshal involves more than simply issuing commands; it also entails actively engaging and collaborating with the team to complete duties. Better cooperation and leadership are fostered by this practical method. Promotions and more responsibility accompany service time, necessitating more education and training. Even if there are a few employees or tasks at first, learning many facets of the work through multitasking equips one to manage a station efficiently, even if they are not an officer.

*(Of course, before I used to think that being a chief means you just give orders, but when you're in the actual situation, it's not just giving orders, you should be better at acting, not just giving orders but doing the work yourself, not just working on what you want to do, but participating in how to accomplish the work of the station, you should participate, you should participate in the work of the people, you should be hands-on in what you're doing, so that you can say that you're a good chief). (Participant 2)*

*(As a lady fire marshal, I can say that, like you are, sir, you are considered the "mother" of the station. So, when you speak as a mother, you know that all the problems in the station rest on your shoulders. All the, uhm, shortcomings, just like your children, sir. Whatever the problems are, whatever the shortcomings are, whatever they need, you need to provide for them). (Participant 5)*

*(I guess, you can't say negative but rather challenging, is it, handling your personnel. Because of course, they have different attitudes, some have their own way of doing things. They are all different, there are factions that we cannot avoid. It's just natural, you know, even at work, there are those who would just gossip about people, because they think you're not performing your duties well. Like when they say there's a fire, they want you to be there immediately when you explain to them that of course, when we go to a fire, we are prepared, our firetruck is loaded with gallons of water, you just want to hurry, but it might lead to an accident. So, they don't understand, so they say, 'Take a video first before the people ask for help). (Participant 8)*

In the capacity of a fire marshal, informants discuss the difficulties of leading and managing personnel. The informants emphasized that staff management is challenging because of the team's inherent factions and varying perspectives. Effective leadership as a fire marshal necessitates more than just issuing commands; it necessitates active engagement and collaboration with the team to complete tasks. This practical approach fosters better leadership and cooperation. Over time, service tenure results in promotions and increased responsibilities, necessitating additional education and training. It is possible to effectively administer a station without being an officer by learning various aspects of the job through multitasking, even with small employees or limited tasks initially.

One theory pertinent to the emergent theme is Transformational Leadership Theory, which emphasizes the ability of leaders to motivate and inspire their followers to achieve higher levels of performance by altering their attitudes, beliefs, and values (Bass & Riggio, 2006). The transformational leadership practice of fostering collaboration and collective effort is consistent with the fire marshals' requirement to engage and collaborate with their team actively. Fire marshals foster trust and dedication by collaborating with their team. Consequently, transformational leadership assists fire marshals in managing the complex issues of personnel management and leadership by fostering an environment in which team members are well-trained, motivated, and capable of working together to achieve shared objectives.

Evans et al. (2018) investigated the complexities of personnel management and emergency services leadership, particularly in fire departments. The results suggested personnel management was difficult due to the team's inherent factions and varying perspectives. Informants emphasized that the role of a fire marshal was not limited to issuing commands; it necessitated active engagement and collaboration with the team to fulfill responsibilities. This pragmatic approach promoted enhanced leadership and collaboration. The research also revealed that promotions and increased responsibility were associated with service time, which required additional education and training.

**4.1.2.3 Bombarded with Public Dissatisfaction.**
During operations at fire scenes, the participants claimed that firefighters frequently encounter negative remarks from bystanders regarding their response times or methods. These comments may be disheartening and challenging to respond to. For example, erroneous claims like the fire truck does not have water and delayed responses are seen as laziness. The firefighters try to disregard these remarks and concentrate on their work, hoping to prove by their actions that the criticisms are unjustified. Despite this dissatisfaction among the public, firefighters are steadfast in their commitment to doing their duties accurately.

*(Sometimes at fire scenes, during our operations, there are bystanders who make negative comments about our response. As firefighters, well, it gets under our skin, but we just ignore them and focus on fulfilling our duties. We want to show them that their negative comments are wrong. That's what we do, sir, even when it hurts to hear those things, we keep performing our duties. We just ahh... Giving our best, sir). (Participant 3)*

*(That's it, being accused of the truck not having water, haha. Actually, it never runs out of water, it really can't be without water. It's just that some people are quick to judge). (Participant 4)*

*(Yes, there are probably many negative feedbacks from people, negativity towards the job. These are things we cannot really avoid. For example, maybe after a fire is out, there will be stories like "the fire wasn't even that big yet," or things like that. But it's important to remember that we at the Bureau of Fire are performing our jobs correctly). (Participant 7)*

The participants claimed that firefighters frequently receive negative comments from bystanders regarding their response times or methods during operations at fire scenes. These comments may be demoralizing and challenging to address. For instance, erroneous claims are considered indifferent, such as the fire vehicle lacking water and delayed responses. The firefighters attempt to disregard these comments and focus on their work, demonstrating that the criticisms are unfounded through their actions. Despite the public's dissatisfaction, they remain resolute in their dedication to performing their responsibilities with precision.

The Attribution Theory elucidates the emergent theme by explaining how individuals interpret events and how this interpretation influences their behavior and thought processes (Weiner, 1986). This theory is concerned with how individuals attribute causes to events and the consequences of these causal attributions. Bystanders may attribute the perceived delays or inefficiencies in firefighting operations to external factors such as equipment failure or external perceptions such as firefighters being lazy. On the other hand, firefighters prioritize internal factors, including their dedication, training, and commitment to their responsibilities; this explains why bystanders may form conclusions based on incomplete information and how firefighters' awareness of their dedication inspires them to disregard such comments and concentrate on their responsibilities.

Martin et al. (2019) investigated the influence of public perception on firefighter performance, particularly emphasizing the impact of negative feedback from bystanders on their work. The results suggested that firefighters frequently received negative feedback from bystanders regarding their response times or methods. They frequently inquired as to why firefighters choose to sprinkle water on other buildings rather than extinguish the fire, which underscores the misinformation regarding the techniques employed by firefighters, which involve cover exposure to prevent the spread of fire.

Villanueva (2022) assessed how firefighters addressed public criticism during their operations. Similarly, the results suggested that firefighters frequently encountered disheartening remarks from bystanders regarding their response times and methods. Frequently held misconceptions affected their reputation, such as the notion that fire vehicles were devoid of water or that delays resulted from simple tardiness. Firefighters frequently disregard these remarks and respond by demonstrating their commitment to their work.

**4.1.2.4 Operational Delays and Equipment Failures.**
The participants described the difficulties in reacting to emergencies involving equipment failures and operational delays. Even with the best of intentions, firefighters cannot always prevent unavoidable events like fire vehicle failures. These events may cause delays in response times. The public often complains about what they consider to be delays, although they frequently need to be made aware of the many variables that might impact response times, including distance, call timing, and road conditions. They emphasized that firefighters are not always in control of operational delays or equipment malfunctions.
*(Unavoidable, perhaps unavoidable would be when we respond suddenly, the truck breaks down, then no matter what we do, no matter how we fix it, there really are times when we encounter problems, sometimes accidents happen. So, those are really our unavoidable circumstances, so we just have to be careful). (Participant 6)*

*(It's common with the Bureau of Fire, especially during fires, that people always complain they arrive late. That's always the feedback. However, there are many factors to consider why firefighters might be delayed in reaching fires. These factors include the distance, when the fire department was called, and other things. Maybe there is a bit of a delay in getting there). (Participant 7)*

*(Yes, but on the negative side, during firefighting operations, I've also experienced this. Because of the remoteness of the place, the residents there get upset because they think it takes too long for us to respond. Here, the barangay areas are also high up, and the roads are rough. If it's also nighttime, by the time the firefighters arrive, the residents are already upset, and they harass the firefighters, preventing us from conducting firefighting operations. Because they blame us). (Participant 10)*

The emergent theme pertains to the obstacles firefighters encounter due to operational delays and equipment malfunctions during emergency responses. The participants clarified that, despite their best efforts, firefighters cannot consistently avert unforeseen events, such as fire vehicle malfunctions, resulting in delays in response time. The public frequently lodges complaints regarding these perceived delays; however, they need to be made aware of the numerous variables that can influence response times, including distance, the timing of the call, and road conditions. The informants highlighted that firefighters do not always control these operational delays or equipment malfunctions.

A theory that alludes to the emergent theme is the Contingency Theory, which posits that the efficacy of leadership and decision-making is contingent upon various situational factors (Fiedler, 1967). Contingency Theory posits that there is no universally applicable methodology; success is contingent upon the interaction of numerous variables within the environment. In grasping the obstacles of operational delays and equipment malfunctions in firefighting, the theory notes that the efficacy of any response is contingent upon situational factors that may be beyond the firefighters' control. Response times can be influenced by various situational variables, including the distance to the fire site, the timing of the emergency contact, road conditions, and equipment reliability. Contingency Theory emphasizes that these variables must be considered when assessing the efficacy of emergency responses.

Johnson et al. (2018) examined the influence of operational delays and equipment malfunctions on the performance of emergency services, with a particular emphasis on fire departments. The results suggested that firefighters could not consistently avert unavoidable events, such as fire vehicle malfunctions, despite their best efforts, resulting in response time delays. Although the public was frequently oblivious to the numerous variables that could affect response times, they frequently lodged complaints regarding these perceived delays.

Ramirez (2020) investigated the operational obstacles encountered by firefighters, emphasizing the challenges associated with responding to emergencies that firefighters were unable to prevent, resulting in a delay in response time. The study underscored variables influencing response times, including the distance between the emergency location and the fire station. The longer the distance, the longer the travel time and the time of day or night the emergency call is made. For example, response times may be impeded by heavy traffic during peak hours. Additionally, the delays are further exacerbated by road conditions, including traffic congestion and road construction, affecting the swiftness at which firefighters arrive at the scene.

### 4.2 Addressing the Challenges Encountered by the Participants in the Performance of their Duties
### 4.2.1 Empowering Collaboration and Support Networks.
The participants indicated that empowered cooperation and support networks become crucial when confronted with issues that cannot be resolved alone. They emphasized the need to call meetings to discuss problems and get counsel from experienced colleagues, such as previous fire marshals or those in the same division. It involves using the combined knowledge and expertise of others rather than relying just on one's intellect, authority, or ability to solve an issue. Furthermore, financial assistance from Local Government Units (LGUs) and guidance from higher offices are essential. For instance, they often depend on the LGU for help with truck and station repairs. To get the support required for station operations and activities, one must be adaptable and develop good relationships with the community, local government units, and other volunteer organizations.

*(If there are problems that I can't solve on my own, I seek advice from people I know who are knowledgeable in solving such issues. For example, when I was sitting in a position where I had no experience in firefighting, if there was an assignment for me in the province, it was not comprehensive because that was not my experience. As compared to those who work in the field, they are the ones who encounter the dirty work, not really dirty words, perhaps we can say they are the ones who do the accomplishments in the province or region, it depends on the field. So, similar to enforcement, I am not familiar with it, I read about it but I cannot fully understand it unless I experience it myself. So, what I do is, even if it's just a little bit related, I ask my classmates who have become chiefs in the past or in the same section. I ask them and if there is a problem, I call everyone to solve it. Maybe it's not just about having a mind, authority, or capacity, but it's no longer about you being the one to solve it. You solve it and they already know the problem of the people under you). (Participant 2)*

*(Yeah, advice coming from higher offices, higher officers, and then from the LGUs, financial support in terms of financial support, because like now, we're painting a station, we need the LGU to help, and if there are any problems with the truck, we go to the LGU for help more on LGU). (Participant 6)*

*(You need to be flexible and not always be stern. Establish rapport with the community, local government units, and other agencies. This way, you can get the support you need for your station's functions and activities). (Participant 9)*

When fire marshals encounter difficulties that cannot be resolved individually, the emergent theme emphasizes the significance of collaboration and support networks. The informants underscore the importance of organizing meetings to address issues and solicit guidance from experienced colleagues, including former fire marshals or those in the same division. Rather than relying merely on one's intellectual capacity, authority, or problem-solving abilities, this method capitalizes on the collective knowledge and expertise of others. Furthermore, it is essential to receive financial assistance from Local Government Units (LGUs) and guidance from higher-level offices to obtain the requisite support for station operations and activities. It is imperative to facilitate strong relationships with the community, local government units, and other volunteer organizations and be adaptable.

Social Capital Theory coincides with the emergent theme, which proposes that cooperation and coordination for mutual benefit are facilitated by social networks, relationships, and trust (Putnam, 2000). The value of social capital is derived from the networks of relationships between individuals and organizations. Fire marshals leverage the social capital of their professional network by conducting meetings and soliciting guidance from experienced colleagues. This collective knowledge and expertise significantly improve the capacity to address complex issues effectively. Additionally, building positive relationships with the community, local government units, and volunteer organizations is a method of developing social capital. These relationships enable fire marshals to obtain the necessary support for their operations and activities by facilitating cooperation and coordination.

Miller (2018) examined the role of support networks and collaboration in overcoming the obstacles encountered by emergency services, particularly in fire departments. The informants underscored the significance of convening meetings to address issues and seek advice from experienced colleagues, such as former fire marshals or those in the same division. The research underscored the superiority of utilizing the collective knowledge and expertise of others over relying exclusively on one's intellect, authority, or ability.

Delgado (2020) investigated how support networks and collaborative initiatives with various stakeholders were instrumental in resolving intricate issues within fire departments. The results indicated that establishing trust and a positive rapport with residents can improve cooperation during emergencies and increase community support for fire services. Concurrently, community engagement can potentially reduce the number of emergencies by increasing awareness of fire safety and prevention. The study also stressed the significance of close collaboration with local government units (LGUs) to guarantee that fire departments receive the necessary funding and resources.

### 4.2.2 Bolstering Preventive Measures and Education.

The participants addressed the need to support fire safety education and preventative measures to solve the issues the fire bureau perceives. Information dissemination is necessary since no person can run the station alone; teamwork is required to manage the duties. As prevention is always preferable to treatment, colleagues and communities may lessen the need for emergency reactions by regularly attending lectures that provide them with the information they need to avoid fires. Comprehensive training is also required, going beyond operational training, in areas such as administration, finance, and logistics.

*(Prevention is better than cure. So, how can you have a fire problem if you prevented it? What kind of prevention did you do? Every year, almost every quarter, the bureau of fire gives lectures, haha. That's why we need to educate our colleagues so they become knowledgeable. Because if a person, as I said earlier, is well-equipped with knowledge on how to prevent fire, there's no need for you to inquire about fire). (Participant 1)*

*(More training and schooling, especially in administrative, financial, and logistics aspects. Most of our training is operational, but we need more comprehensive training in these other areas to better supervise and manage a fire station). (Participant 9)*

*(So, what we do is information dissemination is still important. Because I believe you can't handle the station alone. You need your people united. You can't cope with everything by yourself). (Participant 10)*

This emergent theme highlights the necessity of preventive measures and fire safety education to resolve the obstacles encountered by the fire bureau. The informants emphasize the importance of information dissemination, as the management of station responsibilities necessitates collaboration. Consequently, the knowledge required to prevent fires can be acquired by

colleagues and communities through regular attendance at educational lectures, which reduces the need for emergency responses. Prevention is always preferable to treatment. In order to guarantee that all aspects of station management and fire safety are addressed effectively, it is imperative to provide comprehensive training that encompasses not only operational aspects but also administration, finance, and logistics.

Preventive and Proactive Policing Theory is one theory that explains the emergent theme. Although this theory is predominantly used in the field of law enforcement, it can be applied to the field of fire protection. This theory underscores the importance of preventive strategies and education in mitigating emergencies (Sherman, 1998). The theory's principle of proactive prevention is consistent with the fire marshals' emphasis on attending educational lectures regularly. The necessity for emergency responses can be substantially reduced by educating colleagues and communities about fire safety, reducing the likelihood of fires. The significance of preventive measures and education in the context of fire safety was underscored by the Preventive and Proactive Policing Theory.

Roberts (2019) evaluated the influence of educational initiatives on fire prevention. The results indicated that the fire bureau's challenges were best addressed by enhancing fire safety education and preventive measures. Roberts (2019) emphasized the importance of collaboration and information dissemination, recognizing that managing fire safety responsibilities necessitated a collaborative effort. The results suggested that the knowledge required to prevent fires could be provided to their team and communities by regularly attending educational seminars. Furthermore, the study underscored the significance of personnel receiving comprehensive training.

### 4.2.3 Embodying Resilience and Adaptability.

The participants' proactive attitude to stress management, promotion of cooperation, and the constant pursuit of improvement serve as outstanding instances of resilience and adaptation. They put their best effort forward to prove the critics wrong, focusing on their tasks despite criticism and operational difficulties. They prevent work-related stress from affecting their personal lives and vice versa by interacting with others and forming bonds as a coping mechanism. They also emphasize the need to upgrade their strategies to administer fire stations more effectively.

*(They upgrade, so you must upgrade your approach and update. You must learn how to innovate. If this year, 2023, a problem arises, you address it. If that problem evolves and becomes more complicated next year, you need to counter it with a new strategy. Actually, as I mentioned before, sometimes we face problems that we can't handle on our own). (Participant 1)*

*(I am the kind of person who, when I am stressed, it's like I am more pressured, I am able to do that because, of course, coming from accounting, it's a stressful job. When I go down to the station, my way of relieving stress is like I am able to rest from stress. My stress in the office is lesser now compared to the stress before, although, of course, you have responsibilities for the whole station, but it's not as stressful because I always say that all problems have solutions. I am used to stress, that's why I always say that stress is just a feeling. If you have a problem, you prefer that feeling because the more stressed you are, the more your mind works, the more you can think of ways to solve the problem). (Participant 2)*

*(Ah, I handle it through socialization, gathering together, bonding—that helps me alleviate stress because I don't want to bring my stress home and affect my family, that's all. And the problems I have at home, I don't bring them to work). (Participant 5)*

The emergent theme delineates the proactive strategies firefighters employ to manage tension, foster cooperation, and continuously enhance their operations, demonstrating adaptability and resilience. In order to mitigate criticism, the participants emphasized their dedication to their responsibilities and resolved to confront operational obstacles. Establishing robust relationships and employing social interactions as coping mechanisms can prevent work-related tension from negatively affecting their personal lives. In addition, they underscore the significance of consistently enhancing their strategies to more effectively administer fire stations, demonstrating their dedication to resilience and continuous adaptation in their duties.

The emergent theme can be elucidated by Resilience Theory, which investigates how individuals, groups, or systems adapt to stress and adversity, thereby maintaining functionality and flourishing in the face of adversity. This theory underlines the capacity to recover from adversity and the capacity to develop coping strategies that foster resilience (Masten, 2001). The fire marshals' proactive approach to stress management aligns with Resilience Theory's emphasis on the capacity to endure and recover from stress. Fire marshals establish a support system that enables them to manage work-related stress and prevent it from impacting their personal lives by establishing relationships and interacting with others. Additionally, it underscores the significance of social connections and support networks in developing resilience. This aspect is exemplified by the fire marshals' endeavors to foster cooperation and collaboration within their stations, as these relationships foster mutual support and increase collective resilience.

King (2020) assessed the proactive strategies implemented to optimize cooperation and mitigate stress. The results indicated that fire marshals demonstrated resilience by remaining focused on their responsibilities in the face of operational challenges and criticism. To mitigate the effects of work-related stress on their personal lives, they implemented social interactions and building partnerships as coping mechanisms.

On the other hand, Rivera (2021) emphasized the necessity of ongoing enhancements to cope with the challenges posed effectively. These initiatives involve implementing best practices, improving training programs, and adopting new technologies. The results indicated that the implementation of more effective fire emergency response strategies in fire stations can improve coordination, resource allocation, response times, and communication among personnel.

### 4.3 Aspirations of Informants to Improve the Quality of their Services
### 4.3.1 Continuous Training and Professional Development.
In their capacities as fire marshals, the participants stress the vital need for ongoing training and professional growth. They admit that consistent training makes development possible, especially regarding the technical abilities required to assess and apply fire safety regulations in ever-more complex facilities. As building technology advances, keeping current on fire safety regulations is critical. Training in administrative, financial, and logistical areas is also essential for thorough station administration and efficient fire safety enforcement.

*(For me, if you give me work, I'll do it, and to improve my work... We also need training, to be given proper training on how to deal with problems. As the head, our work is the foundation of our different tasks. If there's something we want to improve, it should come from others, not just me. It's not like I have all the ideas; it should come from others, too). (Participant 2)*

*(I think trainings would be most helpful, because you can't improve as a marshal if you lack training. That's the most important thing, trainings are really important because that's where you learn. Trainings, schoolings, those things). (Participant 8)*

*(Technical skills, I guess. Technical skills in evaluating and implementing fire safety requirements for highly technical structures and facilities. Because you see, one thing is, our buildings and structures are improving, following technology. So, we need to equip ourselves with knowledge in these areas so we can keep up with the latest fire safety requirements that we can apply in fire inspections and fire certificate issuance. Especially in fire safety enforcement for highly technical structures). (Participant 10)*

The emerging theme accentuates the critical significance of continuous professional development and training for fire marshals. In order to assess and enforce fire safety regulations in facilities that are becoming increasingly complex, the informants recognize the importance of consistent training for development, particularly in acquiring the required technical skills. It is imperative to remain informed about fire safety regulations as building technology develops. Also, it is essential to receive training in administrative, financial, and logistical areas to ensure the effective enforcement of fire safety regulations and the comprehensive management of stations.

Continuous Professional Development (CPD) Theory is one theory that is associated with the emergent theme. This theory underscores the significance of continuous learning and development for professionals to maintain and improve their skills and knowledge. In order to guarantee that professionals continue to be competent and effective in their positions, CPD theory promotes structured, continuous learning processes (Day & Sachs, 2004). They emphasized the necessity of consistent, structured learning opportunities, the significance of remaining informed about industry standards and advancements, and the fire marshals' emphasis on ongoing training and professional development. The fire marshals' acknowledgment of the necessity for ongoing training to hone technical skills and remain informed about the changing fire safety regulations indicates the fundamental principle of continuous professional development (CPD), which is the dedication to continuous learning and improvement.

Walker (2019) explored the influence of ongoing training on professional development. The results indicated that fire marshals required continuous training to acquire the technical skills to evaluate and enforce fire safety regulations in intricate facilities. The importance of remaining informed about the latest fire safety regulations and building technology developments was highlighted. The findings suggested that fire marshals must remain informed about the most recent advancements and their impact on fire safety, as buildings constantly change and new technologies and materials are introduced.

Santos (2020) underscored the necessity of receiving training in technical, administrative, financial, and logistical areas for fire marshals and station administrators to enforce fire safety regulations and administer their stations effectively. He indicated that training enhances operational efficacy by enabling fire marshals to manage resources, finances, and logistics more effectively, thereby improving fire safety enforcement practices.

### 4.3.2 Adequate Fiscal Allocation and Service Facilities.

The participants desired sufficient fiscal allocation and service facilities in their capacities as fire marshals. The station's strategies and programs are dependent upon financial support. Even the most effective strategies cannot be executed effectively without adequate funding. They underscore the bureau's inadequate budget, necessitating them to depend on the Local Government Unit (LGU) for daily office provisions and resources. Despite some financial support from higher commands, more is needed, rendering LGU support essential for maintaining motivation and enabling them to perform their duties effectively.

*(Of course, financial support is always important. Even if you have plans or programs in a station, even in the plan or program, if you don't have money, it's the most important thing. Even in the service of the service, if you give us a bureau from the Department of Passi City Station, we also want the service of the mayor because we don't have resources. If you don't have money, if something breaks, you want to fix it but you don't have money, it's dangerous, you can't bring it, it's limited). (Participant 2)*

*(Financial support for our station would be great. We need to know what resources the LGU has to help us. We need daily supplies to run the office, including office supplies, and we need to ask the LGU for these, since the bureau's budget is very limited). (Participant 4)*

*(Financially, locally, we have some financial support from higher commands, but it's very little, very little indeed. That's why if the LGU supports us, you'll feel motivated to perform your duty). (Participant 5)*

The emerging theme underscores the importance of adequate budget allocation and service facilities for fire marshals. The informants reiterate the significant role that financial support plays in the success of the station's strategies and programs. Even the most effective strategies can only be effectively implemented with sufficient funding. They emphasize the bureau's inadequate budget, necessitating them to depend on the Local Government Unit (LGU) for daily office supplies and resources. Even though they receive some financial support from higher commands, more is needed, rendering LGU support essential for maintaining motivation and enabling them to perform their duties effectively.

Maslow's Hierarchy of Needs is pertinent to comprehending the significance of adequate fiscal allocation and service facilities for fire marshals. Maslow (1943) emphasizes that individuals must satisfy their fundamental requirements, including safety and security, to attain higher levels of motivation and self-actualization. Fire marshals are guaranteed the resources and facilities to execute their responsibilities safely and efficiently through adequate budget allocation. Fire marshals may need more adequate funding to maintain operational efficiency and safety standards. Fire marshals can concentrate on self-actualization, which entails achieving their maximum potential and finding fulfillment in their work once the fundamental safety and esteem requirements have been met. Ultimately, implementing effective fire safety programs is facilitated by providing sufficient fiscal support, which contributes to the individual's professional development and the community's enhancement.

According to Adams et al. (2018), respondents desired adequate fiscal allocation and service facilities to implement their strategies and programs effectively. The results indicated that financial support was a critical factor in the success of station strategies and programs. The study underscored the importance of financial support in determining the success of fire station strategies and programs. They observed that even the most well-designed strategies and programs may need adequate financial support to accomplish their objectives.

Reyes (2021) underscored that the fire department frequently encounters substantial operational challenges due to inadequate central or national budget allocation funding. He noted that these funding shortages result in various challenges, including the inability to upgrade or maintain apparatus, an absence of training resources, and other operational inefficiencies. Meanwhile, the Local Government Units (LGUs) are essential in addressing this imbalance. They are essential in supplying the essential resources that the national budget cannot completely cover. The results suggested that a continuous cooperative relationship with the LGUs is necessary to ensure fire departments can function more effectively by contributing additional resources in exchange for broader national support.

### 4.3.3 Improvement of Personnel and Staffing Issues.

The participants aspired to resolve personnel and staffing issues urgently to improve the efficacy and effectiveness of fire station operations. Currently, the station needs to be enhanced in the workforce, with personnel frequently being overburdened with multiple responsibilities, including clerical or investigative roles, nozzleman, driver, and firetruck operator. These multiple designations often strain their resources and the necessity of additional personnel.

*(Regarding the lack of personnel, we can lobby the LGU to request additional personnel to help us. Right now, we have one job opening in the operations department that could help us with our response efforts. Additionally, the LGU has assigned one person to*

*assist us, he is an LGU employee, paid by the LGU). So, if we can get more additional personnel from them, it would be much better). (Participant 4)*

*(Support system. As I have said, the LGUs have a very high and great support system for the BFP. You know that when you're in the government, you're limited, so we really need their support). (Participant 6)*

*(So, what we really need in terms of resources are personnel. With more personnel, our work could be done faster and more efficiently. Usually, in our station, we are somewhat understaffed and overloaded with designations. One personnel sometimes have three designations. It's not just that they are a nozzleman or a driver or a firetruck operator. When there are no fires, our truck is just on standby, and the personnel have other functions. Sometimes a clerk in the admin, sometimes in operations, and sometimes our nozzleman and lineman are also investigators. We are really multifunctional. It's important that we fulfill all our designations at the station. So, in addition to personnel, we also need a budget for office supplies, truck repairs, and station repairs. At least, we can keep our station operational). (Participant 7)*

The emergent theme underscores the pressing necessity of resolving personnel and employment concerns to optimize fire station operations. The informants emphasized that the current workforce is frequently overextended with various responsibilities, including operational responsibilities such as firetruck operator, driver, and nozzleman, as well as investigative or clerical roles. This multitasking strains their resources and emphasizes the need for additional personnel to guarantee fire stations' efficient and effective operation.

The Job Demands-Resources (JD-R) Model is pertinent to understanding the issues that fire marshals encounter concerning personnel employment. According to the JD-R model, employees may experience tension, fatigue, and diminished productivity due to excessive job demands (Bakker & Demerouti, 2007). The fire marshals' account of personnel being overburdened with multiple responsibilities indicates the high demands of their position. Firefighters responsible for various responsibilities, including investigative tasks, operational responsibilities, and clerical work, endure substantial job strain. The theory also emphasized reducing the burden on current staff and minimizing the adverse effects of high job demands. By increasing the workforce, fire stations can more equitably distribute responsibilities, thereby enhancing overall efficiency and employee well-being.

Taylor (2019) disclosed that personnel constraints frequently resulted in employees being overburdened with multiple responsibilities at fire stations. The study discovered that fire stations frequently encounter inadequate personnel. Due to these shortages, current employees are compelled to assume multiple roles and responsibilities, resulting in exhaustion, decreased job satisfaction, and decreased overall efficacy of fire station operations. The study recommended that the efficacy and effectiveness of fire station operations be improved by enhancing personnel and labor levels. In order to alleviate the burden on the current staff and enhance the overall quality of service, it was determined that additional personnel were necessary.

## 5. Conclusion
In conclusion, the fire station chiefs and fire officers of the country play a critical role in the administration of emergency response and fire safety. The emergent themes from the informants' experiences illustrate the positive impacts of personal satisfaction and workforce camaraderie. Nevertheless, negative experiences, including the complexity of leadership and personnel management, inadequate facilities and financial challenges, and the management of public dissatisfaction, are also evident. In addition to empowering the bureau's fire prevention strategies through community involvement, the majority of informants desired ongoing collaboration between agencies and partners and continuous training. In order to respond to emergencies efficiently, the station chiefs can be made more effective by implementing the necessary enhancement training and programs and allocating an appropriate budget. The local government units, non-governmental organizations, and volunteer organizations may also continue to provide support with fire protection services in the Philippines and leverage cooperation against the demands of emergencies.

### 5.1 Study Limitations and Future Research
The study was only conducted in the province of Iloilo and does not represent the entirety of the Bureau of Fire Protection (BFP). Meaning that the findings may not fully capture the work experiences of the station chiefs. Therefore, the insights and recommendations from this study may have limited significance beyond the selected research environments. Another limitation is the study's focus on the local setting within the Province of Iloilo without extending its scope to a national setting.

The current study's results provide insight into the experiences, challenges, and aspirations of BFP station chiefs. Nevertheless, a number of implications for future research can further enhance our understanding of the lived experiences of the fire station chiefs and the BFP in general.

Future research could examine the influence of a variety of leadership development programs on the performance of fire station chiefs. Research can concentrate on determining the most helpful training and support programs, including mentorship programs, leadership seminars, and advanced management courses, for improving the skill set and preparedness of fire service leaders. This could involve longitudinal studies to evaluate the impact of continuous professional development on the efficacy of leadership over time and its contribution to improved fire safety outcomes.

Secondly, future research could investigate the role of emerging technologies in improving emergency response management and fire safety. The bureau's fire fighting approach and emergency response can be enhanced through research and evaluation of the adoption, effectiveness, and training requirements of new equipment and systems. A study could also investigate the obstacles to technology adoption and the strategies that can be employed to surmount these obstacles to guarantee that fire services remain at the forefront of innovation.

Lastly, future research could explore the relationship between the communities they serve and fire stations. This research can identify the most effective methods for community engagement, including collaborative fire exercises, public education campaigns on fire safety, and community-based emergency response initiatives. By understanding how to cultivate stronger community relationships, fire service can improve public cooperation during emergencies, develop trust, and strengthen overall community resilience.

## References
[1] Adams, L. (2018). Fiscal allocation and resource management in fire services. *Journal of Public Safety and Administration*, *14*(3), 98-115.
[2] Adegboro, O., & Ojoye, S. (2019). Assessment of the preparedness level of fire disaster in Minna, Niger state, Nigeria. *African Scholar Journal of Env. Design & Construction Mgt, 15*(4), 113-134.
[3] Alfaro, J. A., Fernandez, A. J., Ona, R. C. & Villamael, E. (2013). *Challenges of personnel of Bureau of Fire Protection in selected municipalities of 1st and 2nd district of Quezon province.* Retrieved June 18, 2024 from https://mseuf.edu.ph/research/read/384.
[4] Alimohammadi, L. (2020). The effect of counseling based on Bandura's self-efficacy theory on sexual self-efficacy and quality of sexual life. *Women & Health, 60*(4), 473–486.
[5] Anderson, T. (2018). Workplace camaraderie and its impact on job performance among fire marshals. *Journal of Occupational Health and Safety, 14*(2), 112-129.
[6] Asor, J. R., Lerios, J. L., Sapin, S. B., Padallan, J. O. & Buama, C. A. C. (2021). Fire incidents visualization and pattern recognition using machine learning algorithms. *Indonesian Journal of Electrical Engineering and Computer Science, 22*(3), 1427-1435.
[7] Bakker, A. B. & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology, 22*(3), 309-328. https://doi.org/10.1108/02683940710733115.
[8] Bandura, A. (1977). Analysis of self-efficacy theory of behavioral change. *Cognitive Therapy and Research, 1*(4), 287–310.
[9] Bass, B. M. & Riggio, R. E. (2006). *Transformational Leadership (2nd ed.).* Mahwah, NJ: Lawrence Erlbaum Associates.
[10] Blau, P. M. (1964). *Exchange and power in social life.* New York, NY: John Wiley & Sons.
[11] Brzezińska, D., Bryant, P. & Markowski, A. S. (2019). An alternative evaluation and indicating methodology for sustainable fire safety in the process industry. *Sustainability, 11*(17), 46-93.
[12] Cabañas, J. R. M. et al. (2017). Status of fire incidence in Batangas province, Philippines from 2009-2013. *Asia Pacific Journal of Education Arts and Sciences, 4*(4), 23–28.
[13] Choudhry, R. M. et al. (2007). The nature of safety culture: A survey of the state-of-the-art. *Safety Science, 45*(10), 993–1012.
[14] Colaizzi, P. F. (1978). *Psychological research as the phenomenologist views it.* New York, NY: Oxford University Press.
[15] Cooper, M. D. (2018). The safety culture construct: Theory and practice. *Safety Cultures, Safety Models: Taking Stock and Moving Forward,* 47–61.
[16] Coulthard, C. (2018). *High-rise firefighting: Firefighter preparedness to life-safety vulnerabilities*. Vancouver: Royal Roads University Press.
[17] Creswell, J. W. (2013). *Qualitative inquiry & research design: Choosing among five approaches (3rd ed.).* Thousand Oaks, CA: Sage Publications, Inc.
[18] Cruz, L. (2021). Building Team Cohesion in Philippine Public Safety Agencies. *Journal of Philippine Public Safety, 11*(2), 123-139.
[19] Damuag, E. E., Etcuban, J. O., Sabijon, D. F., Oberes, D. A., Lastimosa, M. C. & Guinitaran, A. M. (2017). Firefighting Practices of Bureau of Fire Protection Personnel in Cebu City. *Interdisciplinary Research Journal, 5*(1), 12-45.
[20] Day, C. & Sachs, J. (2004). *International handbook on the continuing professional development of teachers.* Maidenhead, England: Open University Press.
[21] Diamantes, D. & Jones Jr., A. M. (2020). *Principles of fire prevention.* Boston, MA: Jones & Bartlett Learning.
[22] Deci, E. L. & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality, 19*(2), 109-134.
[23] Deci, E. L. & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268. https://doi.org/10.1207/s15327965pli1104_01.

[24] Deci, E. L. & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne, 49*(3), 182.

[25] Delgado, M. (2020). Empowering fire service collaboration in the Philippines: Challenges and strategies. *Journal of Philippine Public Administration, 10*(4), 123-140.

[26] Etucas, K. J. E. et al. (2023). Portraying the coping mechanisms to occupational stress in the BFP national capital region. *International Journal of Multidisciplinary Research and Growth Evaluation, 4*(3), 928-932.

[27] Evans, R. (2018). Leadership Challenges and Personnel Management in Emergency Services. *Journal of Emergency Services Leadership, 15*(3), 101-118.

[28] Ferrer, O. G. (2021). Extent of the implementation of the fire prevention programs of the Bureau of Fire Protection Aparri fire station. *International Journal of Advanced Research in Management and Social Sciences, 10*(2), 23- 42.

[29] Fiedler, F. E. (1967). *A theory of leadership effectiveness*. New York, NY: McGraw-Hill.

[30] Fleming, R. S., & Zhu, F. X. (2009). Managerial responsibilities of the contemporary fire chief. *Journal of Global Business Issues, 3*(2), 57.

[31] Graham, S. (2022). Self-efficacy and language learning–what it is and what it isn't. *The Language Learning Journal, 50*(2), 186–207.

[32] Harris, D. (2018). Financial challenges in emergency services: A case study of fire departments. *International Journal of Emergency Services, 16*(3), 67-82.

[33] Hashempour, J. (2023). Mental distress symptoms among Muscat firefighters: The impact of sociodemographic factors, sleep disturbance and smoking. *International Journal of Emergency Services, ahead-of-print, 4*(2), 23-46.

[34] Hozjan, T., Kempna, K. & Smolka, J. (2020). Simulation and modelling in fire safety: Virtual reality for smart firefighting. *Safety and Security Issues in Technical Infrastructures, 7*(2), 123-154.

[35] Hudson, P. (1999). Safety culture–theory and practice. *The Human Factor in System Reliability–Is Human Performance Predictable, 3*(4), 1–12.

[36] Hui, L., Wang, K. M., Chen, Y. H. & Hung, F. Y. (2018). Simulation analysis of the search effectiveness on information-based firefighting. *International Journal of Social and Humanistic Computing, 3*(1), 20-33.

[37] Husserl, E. (1970). *The crisis of European sciences and transcendental phenomenology: An introduction to phenomenological philosophy*. Chicago, Illinois: Northwestern University Press.

[38] Johnson, L. (2021). Community engagement and job fulfillment in public safety roles. *International Journal of Community Safety, 15*(2), 75-89.

[39] Johnson, R. et al. (2018). Operational delays and equipment failures in emergency services. *Journal of Emergency Services Management, 15*(2), 88-103.

[40] Kahanji, C., Walls, R. S. & Cicione, A. (2019). Fire spread analysis for the 2017 Imizamo Yethu informal settlement conflagration in South Africa. *International Journal of Disaster Risk Reduction, 3*(9), 101-146.

[41] King, D. (2020). Building resilience and adaptability in emergency responders. *International Journal of Emergency Services, 18*(1), 45-62.

[42] Kirsch, I. (1995). *Self-efficacy and outcome expectancies: A concluding commentary*. New York: Springer.

[43] Klar, S., & Leeper, T. J. (2019). Identities and intersectionality: A case for Purposive sampling in Survey-Experimental research. *Experimental Methods in Survey Research: Techniques That Combine Random Sampling with Random Assignment, 2*(6), 419–433.

[44] Konopko, M. et al. (2018). Work-related factors and depressive symptoms in firefighters-preliminary data. *MATEC Web of Conferences, 2*(7), 20-65.

[45] Lagata, L. S., Andujar, C. J., Lantaco, E. L. S., Manuales, K. C. A., Allanic, E. A. & Cuevas Jr, J. F. (2022). Challenges encountered and insights of the Bureau of Fire Protection personnel towards responding fire incident. *Mediterranean Journal of Basic and Applied Sciences (MJBAS), 6*(2), 103–117.

[46] Lawal, N. M. et al. (2018). Assessment of implementation of fire safety procedures and regulation in public buildings. *International Journal of Advance Research and Innovation, 6*(2), 84–87.

[47] Lee, S. E. (2019). Safety culture, patient safety, and quality of care outcomes: A literature review. *Western Journal of Nursing Research, 41*(2), 279–304.

[48] Martin, J. et al. (2019). Public perception and firefighter performance: Addressing negative feedback. *Journal of Emergency Services Management, 14*(3), 123-139.

[49] Maslow, A. H. (1943). A theory of human motivation. Psychological Review, 50(4), 370–396. https://doi.org/10.1037/h0054346.

[50] Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227–238. https://doi.org/10.1037/0003-066X.56.3.227.

[51] Mata, K. E & Bermudez, J. R. D. *Factors affecting front-line services of the Bureau of Fire Protection in the National Capital Region.* Retrieved June 18, 2024 from https://www.dlsu.edu.ph/wp-content/uploads/pdf/conferences/research-congress-proceedings/2017/EBM/EBM-I-011.pdf.

[52] Meacham, B. J. (2021). *A global plan for a decade of action for fire safety*. Retrieved June 20, 2024 from https://www.sfpe.org/publications/periodicals/sfpeeuropedigital/sfpeeurope24/europeissue24feature1.

[53] Mendoza, L. (2023). Competence of Bureau of Fire Protection personnel amongst clients in Baguio city fire station. *SSRN, 4*(2), 60-76.

[54] Miller, K. (2018). Empowering fire service collaboration: Best practices and case studies. *International Journal of Emergency Services, 15*(1), 65-81.

[55] Mousavipour, S. S. et al. (2022). Job stress among Iranian firefighters: A systematic review. *Disaster and Emergency Medicine Journal, 7*(4), 239–244.

[56] Moustakas, C. (1994*). Phenomenological research methods*. Thousand Oaks, CA : Sage Publications.

[57] Muzari, T. et al. (2022). Qualitative research paradigm, a key research design for educational researchers, processes and procedures: A theoretical overview. *Indiana Journal of Humanities and Social Sciences, 3*(1), 14–20.

[58] Pfeffer, J. & Salancik, G. R. (1978). The external control of organizations: A resource dependence perspective. New York, NY: Harper & Row.

[59] Philippine Information Agency. (2024). *BFP-Iloilo underscores importance of fire prevention.* Retrieved March 24, 2024 from https://pia.gov.ph/news/2024/03/20/bfp-iloilo-underscoresimportance-of-fire-prevention.

[60] Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community.* New York, NY: Simon & Schuster.

[61] Ramirez, J. (2020). Operational challenges and equipment failures in Philippine fire services. *Philippine Journal of Public Safety, 10*(2), 55-70.

[62] Rathnayake, R. (2020). Factors contributing to building fire incidents: A review. *Proceedings of the International Conference on Industrial Engineering and Operations Management, 2*(4), 123–134.

[63] Reason, J. (1998). Achieving a safe culture: Theory and practice. *Work & Stress, 12*(3), 293–306.

[64] Republic Act No. 6975. (1990). *Department of the Interior and Local Government Act of 1990*. Retrieved March 23, 2024, from https://lawphil.net/statutes/repacts/ra1990/ra_6975_1990.html.

[65] Republic Act No. 11589. (2021). *Bureau of Fire Protection Modernization Act*. Retrieved March 23, 2024, from https://lawphil.net/statutes/repacts/ra2021/ra_11589_2021.html.

[66] Reyes, J. (2021). Enhancing fire service efficiency through adequate funding in the Philippines. *Journal of Philippine Public Administration, 12*(3), 89-106.

[67] Risondi, R. (2022). The performance of the fire service office of Central Bengkulu Regency in dealing with fire hazards. *Jurnal ISO: Jurnal Ilmu Sosial, Politik Dan Humaniora, 2*(2), 271–276.

[68] Rivera, A. (2021). Resilience and adaptability among Filipino fire marshals: Stress management and operational improvement. *Philippine Journal of Public Safety, 11(2*), 83-100.

[69] Roberts, S. (2019). Preventive fire safety strategies: Education and community involvement. *International Journal of Fire Service Management, 16*(4), 89-105.

[70] Ryan, R. (2009). Self-determination theory and well-being. *Social Psychology, 8*(4), 822-848.

[71] Samar, N. (2023). Qualitative assessment of challenges and impact on health and wellbeing of Malaysian firefighters. *Fitness, Performance and Health Journal, 2*(1), 1–15.

[72] Samsudin, K. et al. (2022). Job stress assessment factors among Malaysian firefighters at high response rate stations. *Malaysian Journal of Public Health Medicine, 22*(3), 191–199.

[73] Santos, R. (2020). Continuous training and professional growth in Philippine fire services. *Philippine Journal of Public Safety, 10*(1), 45-62.

[74] Santos, R. (2020). Job satisfaction and community impact of fire marshals in the Philippines. *Philippine Journal of Public Safety, 8*(1), 34-50.

[75] Schunk, D. H. & DiBenedetto, M. K. (2021). Self-efficacy and human motivation. *Advances in Motivation Science, 1*(8), 153–179.

[76] Sepidarkish, M. et al. (2014). Prevalence of occupational stress and its correlates among firefighters, Tehran, Iran. *Journal of Research in Clinical Medicine, 2*(4), 177–182.

[77] Sherer, M. (1982). The self-efficacy scale: Construction and validation. *Psychological Reports, 51*(2), 663–671.

[78] Sherman, L. W. (1998). *Evidence-based policing. Ideas in American Policing*. Washington, DC: Police Foundation.

[79] Sianturi, K. et al. (2021). Risk factors of work stress on firefighters. *Journal of Vocational Health Studies, 5*(2), 112–118.

[80] Singh, P. P., Sabnani, C. S. & Kapse, V. S. (2021). Interpreting benchmark assessment of emergency fire service using geoinformation technology. *International Journal of Disaster Risk Reduction, 6*(3), 102-432.

[81] Slaughter, R. A. (2017). *Tradition and progress: California fire technology directors' beliefs and values*. Pepperdine University.

[82] Taylor, S. (2019). Workforce management in emergency services: Overcoming staffing issues. *International Journal of Emergency Services, 16*(3), 89-105.

[83] Thomas, F. B. (2022). The role of purposive sampling technique as a tool for informal choices in a social Sciences in research methods. *Just Agriculture, 2*(5), 1–8.

[84] Tishi, T. R. & Islam, I. (2019). A study on firefighting capacity of fire stations of Dhaka metropolitan area. *In International Conf. on Disaster Risk Management 4*(3), 611-622.

[85] Umanailo, M. C. B. (2019). Overview of phenomenological research. *Frenxiv Papers, 6*(5), 1–6.

[86] Urriza, L. L. (2023). Capabilities of the bureau of fire protection responding human-induced and natural disasters. *EPRA International Journal of Multidisciplinary Research (IJMR), 9*(5), 424–441.

[87] Vaughan-Johnston, T. I. & Jacobson, J. A. (2020). Self-efficacy theory. *The Wiley Encyclopedia of Personality and Individual Differences: Models and Theories, 2*(8), 375–379.

[88] Veszprémi, R. & Pántya, P. (2021). Fire interventions and its difficulties in railway circumstances. *Védelem Tudomány a Katasztrófavédelem online szakmai, tudományos folyóirata, 6*(3), 234-245.

[89] Villa, M. & Ceballos, R. F. (2021). Analysis and forecasting of fire incidence in Davao city. *Recoletos Multidisciplinary Research Journal, 8*(2), 13-28.

[90] Villanueva, M. (2022). Dealing with public criticism in Philippine fire services. *Journal of Philippine Public Administration, 13*(1), 65-81.

[91] Walker, S. (2019). Professional development in Fire services: A global perspective. *International Journal of Fire Service Management, 15*(3), 75-91.

[92] Weiner, B. (1986). *An attributional theory of motivation and emotion.* New York, NY: Springer-Verlag.

[93] Yee, S. F. & Yee, S. F. (2019). The framework of transcendental phenomenology. *A Phenomenological Inquiry into Science Teachers' Case Method Learning, 10*(4), 1–21.

[94] Zadeh, N. R. N., Abdulwakil, A. H., Amar, M. J. R., Durante, B.,& Santos, C. V. N. R. (2021). Fire-fighting UAV with shooting mechanism of fire extinguishing ball for smart city. *Indonesian Journal of Electrical Engineering and Computer Science, 22*(3), 1320-1326.

[95] Zeraat Herfeh, F. (2021). Psychological consequences of firefighters' working conditions: A qualitative study. *Occupational Medicine Quarterly Journal, 13*(3), 77–91.

[96] Zhang, J. (2020). Root causes of coal mine accidents: Characteristics of safety culture deficiencies based on accident statistics. *Process Safety and Environmental Protection, 13*(6), 78–91.