EXPLORING THE ROLE OF PSYCHOLOGICAL SAFETY AND TRUST IN THE LIVED EXPERIENCES OF WOMEN IN THE FIRE SERVICE

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Abstract

Essential and fundamental to career growth and job satisfaction is the element of trust in one's direct supervision and senior leadership. The lack of trust could be a significant barrier in female firefighter retention within the fire service. Trust in individuals is critical to a feeling of psychological safety with the context of a group or team. Taking risks is essential to be promoted and to take advantage of opportunity. For some women barriers and the cost of taking risks, cause diminished or missed promotional opportunities. The aim of this study was to explore the impact of trust and psychological safety in relation to retention and promotion of women within their departments. The Critical Incident Technique was leveraged as part of a cross-sectional qualitative study. A purposive sample (n =8) of female firefighters were interviewed based on their perceptions of trust and psychological safety in the workplace, resulting in over 25 separate incidents for analysis. Thematic analysis was conducted to identify themes. Trust emerged as one of the primary components necessary for retention and promotion of women in the fire service. Self-confidence and a determination to succeed were identified as common among the participant sample. Although not articulated as such, women did perceive a lack of elements of psychological safety as a barrier to their success and reaching promotional goals, and leadership behaviors, implicit voice theories, and proactive behaviors, were identified as critical areas of further inquiry to support women in long-term fire service careers.

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CHAPTER 1. INTRODUCTION

The impacts of the recent pandemic and the end of the Baby Boomer generation in the workplace have led to unheard of staffing shortages in firefighter and EMS positions across the United States (The Seattle Times, ,2022). Although there is little research on these workforce issues, one needs only to simply query fire and EMS staffing shortages to find multiple articles across the nation highlighting the lack of recruits, lack of volunteerism, loss of experienced firefighters to retirements and absenteeism among career departments (Gilbert &Taylor, 2022; Jackson, 2022; Yinger, 2022). Amid this staffing shortage, female firefighters currently remain the lowest minority group in the American fire services. Multiple studies have shown that the lack of women in the fire service is due to low efforts at the recruitment of females and low retention rates of those who are hired (Horvath, 2013; Hulett et al, 2008; Jahnke et al., 2019). Despite efforts by the International Association of Fire Chiefs and other organizations such as the International Association of Firefighters (IAFF), and iWomen, women remain a small portion of the fire service (Bendersky, 2018; Evarts & Stein, 2020).

To better understand the workforce challenges for women in firefighting, it is critical to understand the impact of workplace culture and employment practices on the recruitment and retention of women in the fire service. A growing body of research is examining the barriers to female firefighter recruiting and retention, however, more research is needed. Two key areas of focus that have been identified in retention are “incidents in the workplace” and “fairness in employment practices” (Hollerbach et al, 2017.; Hulett et al., 2008). Research conducted in the past decade indicates that these two issues are combined (Griffith et al, 2015; Griffith et al., 2016; Hulett et al, 2008; Jahnke et al., 2019). Women firefighters reporting harassment as eroding trust is specific to retention, job satisfaction, mental health (suicidality) and family

stability in the firefighter's home (Griffith et all, 2016; Griffith & Roberts, 2018; Jahnke et al., 2019). These issues indicate there are potentially significant implications for not just recruitment, but also promotion and retention.

Background

Women who are successful in getting hired and pursue a career in firefighting and EMS have only crossed the initial barrier by obtaining a job. Numerous additional hurdles may present themselves depending on department policy, awareness of the issues facing female firefighters, and the willingness of the department personnel to address the issues. Departments that have policies to ensure protection from harassment and fairness in employment practices must be vigilant and constantly assess the effectiveness of these policies (Hulett et al., 2008). While acceptance of women in the profession is improving, when considering retention and job satisfaction in the form of promotion, women may routinely experience a significant delay in promotion (Firehouse, 2021). In a pilot study focused on promotional practices, some firefighters expressed their perception of promotional practices and the impact on their long-term career, emphasizing current workplace relationships. As an example, one female firefighter explained that she turned down opportunities to promote, fearing loss of hard-won friendships with male counterparts. Another female firefighter applying for company officer promotion was regarded as too hostile and carrying a "chip on her shoulder." In some reported instances, women have had to move to less hazardous duty in order to continue in the profession or obtain promotion (Hulett et al., 2008). Other women have been shown to be assigned less hazardous or "feminized" tasks which limit their experience and make it difficult to qualify for promotional opportunities, inhibiting their career advancement (Hollerbach et al., 2017).

Surveys showed that women averaged 4.8% of suppression personnel, but as much as 16.6% of inspection and investigation personnel, demonstrating stark differences between suppression and other fire service roles (Hulett et al., 2008). At the time of the surveys only about 150 women were listed as battalion or deputy chiefs and only 2.6% were listed as fire chiefs (Hulett et al., 2008). The percentage of women retained through promotion narrows as longevity and rank are considered. In a recent survey of 318 women officers (59% career), the majority of women reported they felt they experienced significantly more difficulty in obtaining promotion than men (Firehouse, 2021). Of these, half cited unfair expectations as compared to male candidates, sexual bias by superiors, and subversive behavior by male peers. A substantial amount reported a lack of exposure to learning opportunities and training. Sixty percent of surveyed women felt their capacity as officers was constantly questioned, especially after making a mistake. A further 30% reported their senior leadership went around them to speak with their firefighters/crews concerning their performance as officers (Firehouse, 2021). These statistics, while not part of a peer-reviewed study, still point to a problem with violations of trust among female firefighters and fire officers with their direct supervisors and senior leadership. Additionally, a lack of trust creates a lack of psychological safety, clearly demonstrated in workplace studies (Fischer & Walker, 2022; Maximo, Stander & Coxen, 2019). Trust is shown to be a critical element of higher levels of employee work engagement and psychological well-being. Psychological safety is also a key factor in providing the confidence within a group to make mistakes, try new ideas and assert oneself without fear of costing a price and negative effects in group or positional standing (Maximo, Stander & Coxen, 2019).

Research on trust and leadership within organizations is plentiful, but there are limited studies on trust and leadership as they apply to the fire service specifically (Carter and

Mossholder, 2015; Schaubroeck et al., 2011). This research finds trust in the workplace, or organizational trust, to be multi-dimensional and defines trust as a state of being vulnerable to another person (Fischer & Walker, 2022). Two aspects of trust are highlighted in this research: *affective trust and cognitive trust*. Affective trust has to do with personal relationships, while cognitive trust relies on the consistency of the leader's behavioral integrity. In other words, trust can be either through knowing someone or by observing the consistency of their actions and lived ethics.

Significance of the Study

The fire service is a male-dominated profession and remains so even in this current workplace climate, with staffing shortages (Gaughan et al., 2022). Therefore, further research needs to be conducted to better understand how to retain female leaders in the fire service. To improve understanding of retention issues for females in fire service leadership and to better identify the challenges associated with maintaining their careers, this study looks to research in parallel industries. Research on the psychological safety climate within organizations has shown trust and psychological safety share important associations with career advancement (Law et al., 2011). Women in the fire service are likely to encounter varying levels of gender-based discrimination when seeking promotional opportunities and in performance evaluations, especially at the company officer and chief officer ranks. Such a workplace environment, lacking trust and psychological safety, impose competing expectations on female fire leaders, leading to higher levels of stress and lower job satisfaction levels (Hulett et al., 2018).

This study aims to explore the impact of trust and psychological safety in relation to retention and promotion of women within their departments. The use of Critical Incident Technique allows women enrolled in the study to guide recommendations about how mentoring,

promotional coaching, and opportunities are either positively or negatively affected by trust and a work culture or atmosphere of psychological safety. Gaining an understanding of how trusting male supervision and senior leadership affects female firefighter's psychological safety will give guidance to local departments and national organizations to further leadership development in favor of retention of women in their fire service careers. This research will allow the female firefighters themselves to use their own words to define how critical these two factors are in their lived experiences.

Problem Statement

With the effort to hire a more diverse workforce throughout the nation's fire departments, the number of women is increasing within our organizations, but reports show that the rise is not consistent and remains as low as 4.5% of the total (U.S. Bureau of Labor and Statistics, 2013; Evarts & Stein, 2020). While the greater emphasis on hiring females has statistically produced results elements that lead to a prolonged and successful career seem to be lacking, accounting for the lack of total women employed (Evarts & Stein, 2020). Fire service leadership has not been focused on the issue of retention of female firefighters. Female fire service leaders have identified areas needing attention such as creating a dialogue, mentoring, and resolving problematic areas such as fire station facilities, reproductive health, and ill-fitting PPE, and the lack of promotional opportunities as barriers to their long-term success and ability to advance in their fire service career (Ballaro & Blanchard, 2018; Markeley, 2008). Job satisfaction and the flexibility needed for females to maintain a long, productive career have not been emphasized in many departments (Hulett et al., 2008). Essential and fundamental to career growth and job satisfaction is the element of trust in one's direct supervision and senior leadership (Zhu et al, 2013). The lack of trust could be a significant barrier in female firefighter retention within the

fire service. Trust in individuals is critical to a feeling of psychological safety within the context of a group or team. Vulnerability to the action of another as defined earlier, however, can be further defined as a willing exchange of actions between team or organizational members. For this to take place, the trustor must be confident that their trust will be honored and will therefore be willing to take risks (Maximo, Stander & Coxen, 2019). Such individual relationships create psychological safety within a group or organization. Taking risks is essential to be promoted and be "seen" or obtain exposure and visibility as a leader. Some women may not be able to do that, missing promotional opportunities and encountering blockers to successful fire service careers.

Purpose Statement

The purpose of this qualitative study will be to explore and understand the way women have experienced barriers to mentoring and career progression due to a lack of trust and psychological safety. The study will use an organizational lens through workforce retention theory. In a male-dominated profession, trust in supervision and senior leadership to provide guidance and opportunity for job satisfaction are fundamental. Using the Critical Incident Technique (CIT), this study will sought to allow the participants, selected using purposive sampling methods, female firefighters from across the Western U.S., to speak out for themselves about when trust and psychological safety played major roles in a positive outcome. Conversely, participants also addressed times when a lack of trust or a sense of psychological safety created a barrier to career progression and job satisfaction. Lastly, by identifying critical and important themes that promote higher levels of workplace trust, this study contributes to empowering female fire leadership to pursue promotional opportunities and illustrating areas where those who do not identify as female can do more to be supportive of their peers, subordinates, supervisors,

and fellow firefighters, with the longer-term goal of supporting the retention of women within the fire service

Research Question(s) or Hypothesis

Based on the above discussion, questions for exploring how trust and psychological safety affect promotional opportunities at the company officer and chief officer levels are as follows:

RQ 1 – To what extent do women in the fire service perceive trust as an important factor in their intention to remain in fire service careers long term?

RQ 2 – To what extent do women in the fire service perceive psychological safety as a significant barrier to career advancement into visible leadership roles (e.g., company officer and chief officer roles)?

Summary

The following chapter will be a detailed review of the literature which defines this problem and the initial research so far accomplished. We have established that women are underrepresented in the American fire service and that those hired sometimes face significant obstacles in maintaining their career and seeking promotion. Research studies on the mental welfare and health of firefighters have begun to be a significant body of work, however, focusing specifically on the female lived experiences is very limited. The quantitative literature does not exist to draw assumptions about how trust and psychological safety affect the workplace for female firefighters. However, it is clear that without these two factors, the workplace is not an environment that fosters career success and female firefighters will experience difficulty in obtaining access to the opportunities and support needed to promote.

CHAPTER 2: LITERATURE REVIEW

Existing Literature

While there have been efforts to increase the number of women in the fire service, demographic information indicates that this representation is still lacking. The National Fire Protection Association demographics on the fire service indicate that women make up only 4.72 % of the career firefighters in the United States and a total of 6.95% of all career and volunteer firefighters combined (Fahy, Everts & Stein, 2022). These figures do not include private fire brigades, or those working state or federal agencies and military installations. It should be noted that when referring to the extreme low percentage of female firefighters in the fire service, use of the smaller percentage only indicates the intent of referring to the career firefighters only. While the numbers of female firefighters in volunteer departments are not significantly higher, these women are sometimes excluded from the discussion. Additionally, there has been no significant increase in female career firefighters; approximately 17,200 (Fahy, Everts & Stein, 2022) as compared to 12,850 in 2015 (Haynes & Stein, 2017). This is despite official positions taken by unified executive fire officer organizations for more than a decade such as the International Association of Fire Chiefs (IAFC) and reports they have sponsored and supported (Bendersky, 2018; International Association of Fire Chiefs [IAFC], 2013 and 2016). Interestingly, there has been no significant change in numbers of females in volunteer fire departments. This lack of women in the occupation is recognized has become a national priority in recent years (Fahy, Evarts & Stein, 2022; Haynes & Stein, 2017).

While there has been growth by a small percentage in the career firefighter ranks, there have not necessarily been any significant growth in the volunteer ranks. The numbers are small, and the number of volunteer departments has decreased by just over 1000 since the 2017 survey

(Haynes & Stein, 2017). Many factors go into these totals and no distinction is made between firefighters who are assigned to operational line companies or to administrative sections such as dispatch, training, fire prevention and investigation. Essentially, the situation remains as it has for several decades with women in the fire service underrepresented, remaining among the lowest percentage of women in like occupations (Hulett et al., 2008). This research is focusing primarily on the women who work the traditional line company, (engine or truck, etc.) and would consider their primary duties suppression and EMS.

There has been improvement in conditions for women, however, the same issues remain a challenge for significant numbers of women even over a decade later (Ballaro and Blanchard, 2018; Jahnke et al., 2019; Hollerbach et al., 2017; Hulett et al., 2008; Sinden et al., 2011). Various forms of harassment and discrimination (both deliberate and unintended) are considered to have long-term adverse physical and psychological effects on female firefighters including poor outcomes with job satisfaction, affecting home and family life (Jahnke et al., 2019). Such discrimination and harassment include severe cases of isolation or shunning, various types of mental and verbal abuse leading to psychological and physical injuries, and unwanted sexual advances/assault (Hulett et al., 2008; Hollerbach et al., 2017). While not specifically targeting leadership and supervision within the firehouse, some studies, address the retention of women firefighters (Jahnke et al., 2019). Giffith and Roberts, (2016) specifically targeted chief level officers to investigate barriers to the retention of women firefighters. While this literature provides a start, it does not include the lived experiences of women in the fire service. In recommendations for further research, specific calls to address these concerns are identified among others as determining best practices in “supervision and firefighting training that

effectively addresses fair treatment for all firefighters.", and that fire chiefs and fire chief organizations should "ensure" and "become involved" (Griffith, & Roberts, 2016, p.42).

Other common barriers identified by Hulett et al. (2008), such as ill-fitting gear, lack of privacy in firehouse living spaces, and problematic issues with agility or physical ability testing continue to plague fire departments (Griffith & Roberts, 2016). Some research suggests that many women feel that, a lack of supervisory action in response to discrimination and harassment is problematic and potentially contributes to the lack of retention of women in the career fire service (Jahnke et al., 2019).

The question of retention also involves the physical and mental health of women firefighters. Researchers at the Institute for Biobehavioral Health and the National Development Research Institutes performed an initial study examining how female firefighters compared in health issues to men in both paid and volunteer positions (Janke, Poston, Haddock, Jitnarin, Hyder and Horvath, 2011). Surveying 24 fire departments in a longitudinal cohort study, female firefighters were found to be in relatively good health with some challenges to be further explored, such as a higher use of alcohol than the general population and tobacco use that was more common than male firefighters and resembled that of females in military service (Janke, Poston, Haddock, Jitnarin, Hyder and Horvath, 2011). However, further exploratory studies in mental and reproductive health provide a different perspective. Reproductive health is found to be a major challenge for women in the fire service, possibly playing a significant role in retention (Kehler et al. 2017). Women firefighters face a range of issues with pregnancy including higher than average rates of miscarriage and pre-term deliveries, maternity leave policy issues, lack of education and risks, and combined with discrimination and harassment,

cause avoidance of anything that might hinder full physical effort on duty (Kehler et al. 2017; Janhke, Poston, Jitnarin, Haddock, 2018; Jung et al. 2021).

Research in female firefighter mental health is beginning to move forward as well. The recent study by Haddock et al. (2017) found that of 1913 female firefighters who responded to questions concerning alcohol use, 40% admitted to recent binge drinking, and 4.3% driving while intoxicated and 16.5% were diagnosed with a drinking problem. Discrimination, harassment, alcohol, job-related stress and injuries also shared close associations for large sections of research respondents and women answering positive to these factors were also more likely to discourage other women from becoming firefighters, indicating a loss of job satisfaction levels (Haddock et al. 2017; Jahnke, Haddock, Jitnarin, Kaipust, Hollerbach and Poston, 2019).

Research published by Embry-Riddle Aeronautical University, has revisited the research done by Hulett et al. (2008), expecting to find that over the past decade, conditions had improved (Griffith & Roberts, 2016). Findings were consistent with the earlier studies, however the body of work performed by this research group took the extra step of comparing women's responses with men's as did earlier studies, then also compared women's responses separately from the men and found some significant differences in the way the work environment was perceived (Griffith & Roberts, 2016). When separated out, many women agreed that workplace bullying and issues of race and gender were not significant issues, however, a large percentage disagreed, citing discrimination based on gender, race, and sexual orientation were a significant issue, suggesting that there are varying levels throughout the fire service when the overall picture appears to be improving (Griffith & Roberts, 2016). Of particular significance to further leadership studies, the study found that a large portion of women, (significantly more than men), felt discrimination and gender differences influenced promotions in rank. Recommendations in

this study for improving outcomes included specific calls for fire chiefs to be involved in ensuring positive results (Griffith & Roberts, 2016).

Further investigation in a similar follow up study remained consistent with both the 2008 study and the 2016 study by the same group and also performing additional analysis by tallying results with both women and men together and separately. Results found issues had remained consistent with most men and women feeling workplace bullying, discrimination and harassment were not a major issue, but also including that their supervisors addressed complaints and issues (Griffith & Roberts, 2018). Once again, a significant minority of women stood out from the groupings, pointing to all issues being a problem, but adding that they felt supervisors did not act on bullying and discriminatory issues. More women in this survey sought promotion than men, however fewer women received encouragement, mentoring and support than the men surveyed (Griffith & Roberts, 2018). These two studies by published by Embry-Riddle took a specific look at female perceptions of how they were treated within their respective firehouses and fire departments with issues that are known to affect trust and psychological safety, particularly for women and minorities (Griffith & Roberts, 2016, 2018). Both studies provided steps for addressing issues and laying solid foundations for the future of women in the fire service and in places laid responsibility clearly on chief officers. "In a world where one-minute firefighters may be cooking together and in the next pulling each other out of a collapsed building, camaraderie is certainly necessary. Trust is essential. Teamwork is vital." (Griffith & Roberts, 2018, p. 2).

Other corporate and work environment studies have evaluated and developed models of trust. Specifically, two dimensions of trust that impact teamwork-engagement, capabilities, and efficacy are examined in recent literature; cognitive and affective (Schaubroeck et al. 2011). The

affective domain of trust, or "*affect-based*", can be expressed as the cohesion and "bond between individuals", and focuses on the elements that produce that bond (Schaubroeck et al. 2011). Whereas the *cognitive domain* of trust concerns confidence in skill or capability within the context of the work domain, environment, or "beliefs about the leader's competence" (Schaubroeck et al. 2011). Practically speaking, affect-based trust is what unites or binds individuals in a team together, specifically here intending the team leader and the team member. Cognitive-based trust is how the leader is viewed by the team member or members and focuses on that leader's competence and skill as a leader and can include group-oriented tasks. The more competent in these elements a member is, the greater the cognitive-based trust is between members and this in turn is shown to increase affective-based trust between individuals (Schaubroeck et al. 2008). A team member's trust in a leader is therefore based on the cognitive and affective dimensions and affective trust can be increased relevant to the degree of cognitive trust (Schaubroeck et al, 2011). Trust in the leadership of organizations has been shown to be low in recent decades (Maximo et al. 2019). Characteristics of competent and skilled leadership are needed in the fire service and should be pursued to promote the elements of cohesive teams. Both male and female firefighters must be able to rely on company and senior leadership to provide the elements of individual and team-building cohesiveness inherent in firefighting environments. Increased trust contributes to increased psychological safety (Maximo et al. 2019). This in turn, may counter the negative effects of discrimination, harassment and other barriers to the retention of experienced female firefighters (Griffith & Roberts, 2016, 2018).

It has been established that women would benefit from mentoring and effective group support within the firehouse and their respective departments (Bollard and Blanchard, 2018; Griffith & Roberts, 2016, 2018; Hulett et al. 2008). Trust levels in team leadership and between

team members are linked to *psychological safety*, which can be defined as how safe an individual feels they are in relation to "risk taking," vulnerability or exposure (Shaunbroeck et al. 2011). ***Maximo et al. (2019) defined psychological safety as the level of risk and acceptance of outcomes an individual team member undertakes based on their perception of team response in various situations.*** This affects an individual's willingness to speak out, offer opinion, defend themselves, or make and admit mistakes (Maximo et al. 2019). Further, research conducted on how trust congruence and incongruence effects between supervisor and work groups shows a clear correlation (Carter & Mossholder, 2015). This research revealed that groups with high levels of affective trust in their supervisor and vice versa had more positive performance outcomes and recommended that organizations strive to promote affective trust throughout all levels (Carter & Mossholder, 2015). Supervisor and group trust in the cognitive domain similarly showed more positive outcomes when cognitive based trust was higher, however, also demonstrated that this applied even when the supervisor had less cognitive trust in the group as compared to their positive trust in the supervisor (Carter & Mossholder, 2015). This illustrates the officer and company member atmosphere in the typical fire company where each member in an environment of psychological safety and trust in the supervisor's ability to provide supportive expertise in both career objectives and group interactions, can focus on self-improvement and job satisfaction. It also demonstrates the well trained and experienced leader who is able to obtain performance from groups of recruits and probationary firefighters. If these trust elements are lacking, outcomes will decrease (Carter & Mossholder, 2015).

Most importantly, for this research is the recognition that there are gender differences in how trust is developed and its values to the individual. Women place higher value of trust in terms of the ability to safely verbalize and confide in another individual, involving vulnerability

to that individual (Qiu et al. 2022). This means that in interpersonal relationships, women are more likely to trust someone they can open up to, reveal or "self-disclose," based on their expectations of that individual's actions (Qui et al. 2022). This could explain why large groups of women in both surveys and interviews have indicated a lack of trust and support in supervisors who they feel do not have their interests in mind or incapable of taking supportive actions within the firehouse or department at large. It could also explain why some women who have been successful credit their mentors and supportive environments for success (Bollard and Blanchard, 2018; Griffith & Roberts, 2016, 2018; Hulett et al. 2008).

A study done by the University of Phoenix and published in the *International Leadership Journal*, interviewed 8 of 34 female career fire chiefs (Ballaro and Blanchard, 2018). The study sought to identify leadership themes among women in the career fire service who had been successful in achieving executive fire officer positions, notably as chief of department, in the male-dominated environment. Nine female fire chiefs were selected for interviews, eight of the nine were completed. Of those eight, half of the fire chiefs reported not experiencing any barriers at all in their careers. The other half stated that the barriers to success had been no different than for any member of the fire service moving up the ranks, indicating that "disparate treatment" was not a barrier, The primary barrier was acceptance and inclusion within the male-dominated world (Ballaro and Blanchard, 2018). This mixed methods study is one of a kind as far as leadership-oriented research involving female executive fire officers. Other qualitative and quantitative research has included senior female fire officers; however, few have found such unanimous results, necessitating further work in this space (Jahnke et al., 2019; Hulett et al., 2008; Jahnke et al., 2019). This study also revealed transformational leadership as a dominant trait among the women interviewed (Ballaro and Blanchard, 2018, p.49). Transformational

leadership has been shown to have positive outcomes associated with team satisfaction, which then fosters or promotes psychological safety for individuals in team environments (Winarto, 2017). Further, transformational leadership is characterized by the setting of high goals, coupled with role model behaviors at an equally high level, inspiring others to follow (Zaman & Abbasi, 2020, p.175). Based on this existing literature, transformational leadership could be a key factor in promoting retention of women firefighters and needs to be studied further.

Synthesis of the Existing Literature

Based on the literature examined, the firehouse environment is a difficult one for women to succeed in, advance their careers forward, and find positive job-satisfaction and healthy outcomes in their family or home life. While transformational leadership was a common characteristic of the participants in the Ballaro and Blanchard (2018) study and barriers were absent or minimized, all the participants identified two specific themes as part of their success; 1) mentoring, training and education, 2) diversified assignments in their careers (Ballaro and Blanchard, 2018). This suggests that for unrevealed reasons, at least eight of the nation's 34 female fire chiefs in 2018 were in place because they were guided, mentored, completed higher educational degrees and training in the profession. Additionally, they reported that diverse assignments within their careers ensured opportunities to promote (Ballaro and Blanchard, 2018). Variables including job tenure as a company office and tenure overall were not directly examined in these studies, demonstrating a need for continued research. Therefore, the question of whether women in administrative positions within the fire service face more discrimination or barriers to success as those in line positions is not clearly defined in available studies and more research is needed. While need of adequate supervision is clearly pointed out in the literature, little is said about how the first line supervisor directly manages these barriers, the one who

oversees the daily on duty life of the female firefighter facing these challenges. This is a major gap in helping fire officers and chiefs to see their role in making change. Additionally, there is a lack of consistent definitions within the extant literature. The term firefighter should be defined in further research, clarifying the target of the research. Not all "firefighters" perform suppression work and work in a firehouse, living with the crew in department quarters for extended shifts. The nature of the work may impact the level of resistance within the male-dominated field.

The literature also has shown that a significant portion of women consistently experience issues that suggest their perceptions of supervisor trust, support in related group gender issues and dynamics are frequently eroded (Griffith & Roberts, 2016, 2018). To date, few studies have investigated how trust and psychological safety are experienced among women in the fire service.

The extant literature on trust and work environment psychological safety suggests that women also experience trust and value it differently than men. Increasing trust and psychological safety in work groups is shown in other professional contexts to support performance outcomes and group efficacy (Carter & Mossholder, 2015; Maximo et al., 2019). This is a gap in fire service-related literature that has not been previously identified or explored. While there are several studies that demonstrate a lack of trust and group security can have negative career impacts, these studies have not examined in detail what this impact is for women in the fire service. Few studies have directly examined discrimination's effects on this relationship, (although it is mentioned), nor do they focus on how the lack trust and psychological safety has affected female firefighter careers and retention rates.

Summary

This study is focused on women's perceptions of *trust* and *psychological safety* within the working and living firehouse environment. The barriers to long and satisfying careers in the fire service for women are numerous. While some progress has been made in reducing them, they are still present and literature suggests that is why numbers of women in the fire service remain low, particularly in the career departments. Research also indicates that much of the issue is at a level where chief and company officers can make an impact through pursuit of elements of interpersonal trust and integrity in their leadership skills, fostering it among those they lead and making it a part of the culture of leadership within their departments. The state of research literature on fire service culture, leadership and group dynamics in respect to women firefighters is too limited for this study. Therefore, this study will provide perspectives on trust and psychological safety from women in the fire service to begin to help fill this gap in the literature.

CHAPTER 3: METHODOLOGY

Given the increasing focus on psychological safety and trust as constructs that are important to understand for safety-critical domains like firefighting, it follows that there has been a lack of sufficient research on the role of psychological safety and its impact on recruitment and retention in the fire service. Even more pressing is the lack of representation in studies to better understand the organizational aspects of the fire service. Preliminary research indicates a need not only for policy changes, but also for vigilance on the part of company and chief officers and prompt action to reinforce anti-discrimination/harassment policies (Griffith and Roberts, 2018). Generally speaking, research seeking to understand the importance of recruitment and retention for female firefighters is gaining traction, but remains a relatively understudied area (Hulett et al., 2008). How psychological safety and trust constructs effect women in the fire service has not been addressed. The goal of this exploratory research is to better understand whether trust and psychological safety impacts retention of female firefighters serving in operational roles.

This research leveraged the Critical Incident Technique, as part of a cross-sectional qualitative study to explore the meaning of trust and psychological safety in the lived experiences of female firefighters working in operational fire service settings (Flannigan, 1954).

Research Design

Given the exploratory nature of this work, generic qualitative inquiry was chosen as the method to understand and describe the experiences of a particular subgroup of American firefighters in relation to supervisory and work group interactions. The study is looking to define meanings, incidents and events which impact this subgroup in both positive and negative ways. Qualitative research is also chosen for its inductive quality, (Frankel and Devers, 2000). The inductive nature of qualitative research will bring flexibility and a dynamic aspect to the

research. As the information is gathered, themes will emerge in an attempt to discover what characteristics of leadership and group dynamics affect this particular subgroup, women in the fire service, and in what way. Information revealed can shift the line of questioning and therefore challenge and change emerging theories, (Frankel and Devers, 2000). Early findings may shift the line of questioning to explore previously unaccounted for aspects of the research questions, (Frankel and Devers, 2000). This study's primary objective is to understand the way women have experienced barriers to mentoring and career progression due to a lack of trust and psychological safety in male-dominated, sometimes physically demanding, team-oriented workplace conditions.

Critical Incident Technique is the method being used to obtain data from study participants. In Critical Incident Technique (CIT), the participant is asked to identify critical incidents to their careers (positive or negative impacts), via behaviors, actions or attitudes in interactions with supervisors and co-workers. CTI has a long-established history of use in job-related, workplace research in which meanings are being explored through employee's perspectives on their work environment (Butterfield et al., 2005 & Stitt-Gohdes et al., 2000). Respected in the research community for its effectiveness in exploratory and investigative efforts, the CIT has its roots in industrial and organizational studies but over the past fifty years has become a multi-disciplinary tool (Butterfield et al., 2005). In more recent decades, CIT has been used to investigate effective leadership practices and leadership development by studying outstanding leadership examples (Finch et al., 1991; Lambrecht et al., 1997). Using a specific formation of steps, criteria for investigation and procedure for questioning, CIT explores interpretations of incidents of specific significance, experienced or observed by the participants (Flanagan, 1954).

To explore the experiences of trust and psychological safety among female firefighters, semi-structured interviews will be conducted. CIT, unlike other types of research uses fewer interviews, but instead relies on the quantity and quality of "critical incidents", recalled by those interviewed (Butterfield et al., 2005). For an incident to be included as critical, the interviewee must view the recalled incident as one which had a causal effect with the outcome (Rosala, 2020). However, it is sufficient that the incident holds significance. Any incident, event or situation where the interviewee was impacted and noted the impact meets inclusion criteria (Serrat, 2017). These impacts can have effects on individuals and therefore on the entire organization. Serrat (2017) notes that this can be a systematic issue, deeply ingrained in the organization itself. CIT's strength is that it focuses on these critical incidents, which are not picked up with other methods or are buried in a large body of low-level interest data and is therefore harder to identify and analyze. CIT emphasizes these rare and low occurrence issues (Serrat, 2017, pg. 1082). Due to this focus, CIT is known to produce in-depth expressions of previously unknown or unreported impacts due to behavior(s) recalled by the participants (Serrat, 2017, p 1082). This aspect of CIT is important to the current study for several reasons. Calls for advancing empirical research on the effects of psychological safety and trust urge greater use of alternative methodologies to study these constructs (Newman, Donohue & Eva, 2017). There is a lack of research on how female firefighters are affected by these constructs in a predominantly masculine environment, however the body of literature specific to barriers for retention of women in firefighting suggests that mental health and the work environment are significantly connected (Hom et al., 2018). Additionally, and more pertinent to this study, is the critical role played by psychological safety and trust in domains such as firefighting due to the inherently dangerous work involved (Edmondson, 2018). A critical incident is one in which the

participant experiences an action, dilemma, episode or incident with a clear beginning and a distinct ending, resulting in a distinct specific outcome (Fridland, Henricson & Mårtensson, 2017). The outcome may be negative or positive. In this context, the women thus interviewed are able to reflect and recall incidents which are revealed as critical only after the event has passed, come to a close and reflection has allowed conclusions to be drawn by the women themselves (Fridland, Henricson & Mårtensson, 2017).

In this study, the outcome is one in which positively or negatively affected the participant's trust or psychological safety. CTI utilizes individual interviews, focus groups, surveys or questionnaires and record logs (Butterfield et al, 2005; Flanagan, 1954). Due to the participant pool demographics, timeline and potential bias in focus groups (e.g., group think, observational bias, etc.), individual interviews via internet meeting platform were chosen to mitigate the potential impact of these biases and to encourage participants to share their individual perceptions without fear of group judgment.

Population and Sample Size

The composition of this study population is of female firefighters, in two groups, for a total sample of 8 participants ($n = 8$). The first grouping contained those still in the career with at least 3 years' experience and a minimum of three years assigned to an operational level line company in any capacity; engine company, ladder/tower company, squad, rescue, medic unit or combination thereof. A second grouping included retired or former firefighters. This second grouping in the event only included one retired fire fighter who was also the only chief officer interviewed due to time constraint and saturation of data. Two other chief officers were contacted but were unable to complete the interviews in time. The sample consisted of three Firefighter/EMT's (one paramedic), two Engineers (ranked driver/operator), two acting Captains

or company officers and one retired Chief officer. The median age of the participants was 36.5. The median years of experience was 14.5 years total as a firefighter including volunteer time prior to professional paid positions. The majority of participants work in fire departments that have a staffing level between 350 and 450 firefighters and considered their departments to be medium sized.

Snowball sampling, or chain sampling was used to generate a preliminary pool to start with (Crouse, T & Lowe, P., 2018). These participants were from the West Coast of the United States due to access and available pool. Sufficient sample contacts with diversity in age, rank and experience have been provided through two women's fire camp events staffed by female firefighters, representing the west coast of the United States. This provided a heterogeneous population of firefighters across ranks who are leaders within the community of women firefighters regardless of their positions within their respective departments. Each of these women has a demonstrated record of peer leadership, mentoring and supporting other women entering the fire service.

Women attending these camps were asked if they are willing to be contacted for the purpose of research on women in the fire service. While 20 women were contacted, this was to ensure the best opportunities for obtaining data saturation, expected to occur between 8 and 10 participants (Münscher & Kühlmann, 2015; Saunders et al., 2018). For the firefighters who provided consent to be contacted, recruitment letters were sent to a subset of potential participants. This was done via email to solicit a response for further dialog and introduction. Data collection was completed and initially coded independently by the single principal investigator. Categories and subcategories identified during this process were compared and

revised until a consensus was reached between the principal investigator and another senior researcher.

Data was collected until sufficient saturation of the themes was reached. This was indicated when subsequent data failed to assist in development of the existing categories and/or at the point where during coding, new codes were not being produced and therefore no new emergent themes could be developed (Hennink & Kaiser, 2022; Saunders et al., 2018). Additionally, saturation was considered obtained when both the principal investigator and the senior researcher agreed that saturation had been achieved. Saturation was assessed by code frequency counts with each new transcript until the number of new codes significantly diminished (Hennink & Kaiser, 2022).

Instrument(s)

The key instruments in the data collection process were interview script and questions (see Appendix). Consent to record was necessary for audio at a minimum, video was not required. Telephonic or internet interviews are thought to be an avenue to increase participant willingness to speak openly concerning their experiences (Rosala, 2020). Data collection was done via phone or internet meeting platform with a retrievable recording feature for later analysis. The interviews were confidential, versus anonymous, due to the necessary contact between the interviewer and participants. Demographic information was therefore limited to experience, rank, department size and region. Actual department names and locations were considered irrelevant to this study and were redacted or otherwise eliminated from the data.

The script and questions were developed through a key word list, using critical incident technique. The main objective is to ask the participant to identify or recall a specific incident that they consider critical and to capture difficult to assess “abstract constructs, such as

motivations for behaviors experienced (Serrat, 2017). While positive events are usually asked for first in order to make a constructive beginning, there is some mixing of positive and negative incident recall in the questions for this study which allows the participant to choose which to start with, (Rosala, 2020). This was done to begin on a positive note and to avoid negative impressions of the interview process and allows the interviewee to set the tone and lead the conversation (Rosala, 2020). Probing or follow up (clarification) questions were prepared to elicit more detail concerning the critical incident and its effect on the participant as needed or to seek for similar events and can be asked to delve into positive or negative events depending on the direction the participant takes (Münscher & Kühlmann, 2015; Rosala, 2020). Additionally, these questions were intended to elicit which behaviors within the leadership context of the incident were critical for a decision point, promotion or destruction of trust, or significant change in their feeling of safety within the work environment (Münscher & Kühlmann, 2015). Empirical research on trust is facilitated by the CIT research process, enabling data on the building, strengthening and erosion of trust in everyday dilemmas, episodes and situational events to be collected and studied (Münscher & Kühlmann, 2015). Although Münscher and Kühlmann (2015) note the difficulty in obtaining CIs from participants, averaging 1.3 per interview, homogenous sample groups such as this study's sample, often provide higher levels of CIs. Each participant was given as much time as needed between questions and follow-up questions were used as needed to elicit more detail.

Research Process

Thematic analysis was used to process data and develop themes. Data collection was done through transcription of, notes, video and audio recordings from the interviews. Critical Incident Technique produces large amounts of unstructured data which must be thoroughly

reviewed to create useable data (Münscher & Kühlmann, 2015). A thorough familiarization of the data was undertaken, recording transcribed with transcription software and material reviewed multiple times. A focused analysis was then performed, coding the data to produce sub-categories, then umbrella themes, (Braun & Clark, 2006). The sample size was small but homogenous, consistent with CIT for minimum sampling, consisting eventually of eight interviews (Hennink & Kaiser, 2022; Rosala, 2020). Therefore, the data cannot represent the entire fire service, however, it was anticipated that the data would provide some potential areas where further research could be forwarded. Initial themes were identified by using key questions concerning trust and psychological safety including the following:

1. How does trust play a role in critical incidents identified?
2. Which critical incidents reinforced or hindered the participant concerning trust issues in the workplace?
3. Which critical incidents involved psychological safety reinforcement, versus hindering development of a safe work environment?
4. Which critical incidents were perceived to threaten or hinder career advancement and job satisfaction?

After initial theme development, a review of the material was conducted to determine broader themes in the data and reviewing developed themes for commonalities. This took several iterations to complete, moving codes between groupings until optimal groups were completed (Braun, V., & Clarke, V., 2006). This was followed by an additional review of the compilation until a coherent set of themes was completed (Taylor-Powell, E., & Renner, M., 2003). Theme descriptions were then created for report development, conclusions and recommendations for further research.

Ethical Considerations

There was the potential that CIT would expose the participants to situations that were unpleasant to recall and recount. Potentially, participants encountered questions they did not wish to answer or to disclose information on specific events. To address this potential, specific language was crafted into the interview script to prevent the sharing of information that the participant did not wish to reveal or was afraid to reveal. Employing empathy, good listening skills and patience with the recall process was imperative in this type of interview setting. Each participant provided informed consent prior to each interview.

Psychological safety was a priority topic for this study. To maintain a holistic approach to the women's experience involving trust issues and psychological safety in a team setting, sampling focused on team-based dynamics, workplace culture and relationships. This helped to keep related ethical issues involving physical violence or assault out of the discussion so that any unintentional harm to participants could be avoided. While these topics are recognized to be a part of the holistic experience of women in the fire service, this study was not prepared to manage the impact of such discussions on the participants.

Bias on the part of the researcher, who supervises and has instructed several successful women firefighters and therefore potential bias is acknowledged. Utilization testing and adherence to Critical Incident Technique along with transparency, credibility, applicability and consistency for rigor and validity (Hammarberg et al., 2015).

To protect the personal information (PII) of the participants, personal information and demographics were limited to name, rank, contact information, experience in an operational company, size of department and region of the United States in which the department is located. Social security numbers (SSN's), ZIP Codes, and other personal

identifiers were not recorded. To respect confidentiality and the requirements of the Privacy Act, any comments made which included unique identifying information was redacted or the comment(s) were not admissible in the research. The data was coding was anonymous, to prevent identification of the individual participants.

Summary

This qualitative study design utilized Critical Incident Technique and Thematic Analysis, which has a long record of use in industrial settings, job efficiency studies and in more recent decades, research in employee and supervisory relationships. The instrumentation consisted of the interviewer and interview script in individual one-on-one interviews given over recorded internet meeting platforms. Thematic analysis, a rigorous process of developing codes, categories and themes, was used to analyze results, develop conclusions and recommendations for further study. Ethical considerations addressed potential bias, protecting participants from emotional distress and trauma, and protecting PII information.

CHAPTER 4: STUDY RESULTS

Introduction – Demographics of the Participants

Ten participants were offered interviews and assigned identification numbers in order of contact. A total of eight participants were recruited and interviewed. This represented a total of 25 critical incidents (Table 1). The interviews were conducted via internet meeting platforms and transcription completed using an online transcription software service. Each interview averaged 92 minutes, with variation of duration for each participant reflecting whether they were able to recall and recount relevant information. In a few cases, significant recall and detail led to interviews that lasted as long as two hours. Each participant was able to detail events, including leaders who fostered, strengthened or betrayed trust, while also re-evaluating their own actions and the outcomes in the re-telling. All interviews took place from January 2023 to February 2023.

Table 1. Demographics of Participants

Interview ID	Age	Years' Experience	Duration (total min.)	Critical Incidents	Positive	Negative
#2	35	15	49:11	2	1	1
#3	30	6	113:50	4	0	4
#4	26	8	57:57	4	1	3
#5	28	3	75:02	2	1	1
#6	42	14	122:19	2	1	1
#7	43	24	129:02	4	2	2
#8	30	16	127:09	3	1	2
#9	60	30	65:02	4	2	2

Note: Interviews for IDs #1 and #10 were not completed either due to cancellation or saturation achievement.

The first analysis phase resulted in a median of two (range 0 - 4) identified critical incidents per participant. These critical incidents (CI) were further grouped into experiences concerning the critical incident types and whether they could be generally described as positive or negative experiences. Due to the nature of CIT, each CI is recalled from memory and the product is a large body of data, some of which is limited in application, but the majority of which is uncategorized. Thus, the majority of CI's recorded clearly reflected positive or negative events (e.g., an event that led to a positive outcome, or events that were perceived to lead to a negative outcome), but also included some which were both positive and negative (mixed) in nature. Interwoven into each of the twenty-five CIs were a mixture of leadership failures and successes as participants explained how during the CI, they sought support or were reinforced by a direct or higher-level supervisor who provided validity, affirmation and guidance. In some instances, these supportive efforts were not effective, although well-intended.

The most frequently described experience of a critical incident was related to "leadership behaviors" (63% of applicable codes). Experiences related to "implicit voice theories" and "proactive behaviors" each accounted for 36% of the critical incidents (17.5% and 18.7% of applicable codes respectively). The discussion focuses on these three core categories arising from this analysis.

Table 2. Main Codes and Subcodes

Main Codes and Subcodes	***n* of participants contributing (8 total)**	***n* of transcript excerpts assigned**	**Negative vs. Positive**
Main Code: Leadership Behaviors Authentic Leader Skills Subcode: defending, reinforcing or otherwise providing a confidence boost and affirmation due to awareness of conditions and disparity, demonstrating value in and validation of the follower	8/8	29	Positive
Main Code: Leadership Behaviors Listening Skills Subcode: Hearing and listening, demonstrating empathy, respect, follower feels "seen and heard", listening to understand	7/8	16	Positive
Main Code: Leadership Behaviors Building Trust Subcode: Demonstrating, fostering or building trust between leader and follower, being reliable and dependable as a leader who has follower's best interest as a core principle	8/8	46	Positive
Main Code: Leadership Behaviors	7/8	17	Negative

Poor Leadership Qualities Subcode: Demonstrating a lack of integrity, lack of trustworthy character. Undependable, creating uncertainty, vulnerability and anxiety in follower.			
Main Code: Leadership Behaviors Patron/Well-Intended Subcode: Well-intended or patronizing actions which may or may not be seen as supportive by the subordinate	2/8	7	Positive, Negative
Main Code: Leadership Behaviors Leadership incivility Subcode: baiting, subtle or open forms of harassment or conflict, anger, controlling, isolating or scapegoating the follower	7/8	17	Negative
Main Code: Leadership Behaviors Leadership communication failures Subcode: lack of good communication skills, failure to clarify, unwilling or unable to listen, failing to show empathy or otherwise validate or show support for the subordinate or follower.	7/8	21	Negative
Main Code: Leadership Behaviors	6/8	14	Negative

Social Undermining Subcode: Character defamation, gossip and otherwise initiating social undermining behaviors, isolating or controlling the subordinate			
Main Code: Proactive behaviors Conflict Avoidance Subcode: Having to avoid or sacrifice opportunity to eliminate conflict or reduce potential for conflict. Taking extra steps to ensure "no contact" or limited interaction. Includes calling in sick to work. This may be on the part of antagonist also, resulting in failure to resolve conflict, limiting access or be supportive of cohesive teamwork	5/8	12	Negative
Main Code: Implicit Voice Group or Individual Incivility Subcode: baiting, subtle or open forms of harassment or conflict, open hostility towards females, exclusion or ignoring	8/8	17	Negative
Main Code: Implicit Voice Group or Individual Camaraderie Subcode: Supportive, reinforcing, affirming, valuing, validating behaviors by key members of the interviewee's work group	8/8	19	Positive
Main Code: Proactive Behaviors	7/8	20	Negative

On Guard Subcode: Avoidance of saying or doing anything that might be detrimental, watchful or not trusting superior officer intent or action. Self-preservation			
Main Code: Proactive Behaviors Turning Point Subcode: Points in the interviewee's experience where either an awareness of disparity, hostility or barriers became apparent or when the interviewee resolved to overcome and succeed in spite of resistance.	8/8	10	Positive, Negative
Main Code: Implicit Voice Gender Disparity Subcode: Double standards for behavior or performance, different expectations for women firefighters, and lack of support from leadership	5/8	17	Negative

The second and third phases of the analysis generated 3 main categories and associated subcategories. The described experiences within these categories and subcategories reflected both enablers of and barriers to psychological safety and trust.

From the summary of the categories and subcategories in Table 2, supporting quotes are presented in Table 3. The quotations are taken directly from the interview transcripts only where CIs were directly discussed and demonstrate how the codes and subcategories were used to illuminate the critical events in each participant's experience. The majority of incidents involved leadership behaviors, a loss of or the fostering of trust in direct supervisors (company officers) or senior leadership. While psychological safety is not directly mentioned by participants in their descriptions, there are vivid descriptions of their recognition of vulnerability, anger, pain and humiliation, along with validation, affirmation and confidence. Moments of trust building stand out in contrast with events where trust in leadership and psychological safety is taken away or an awareness of it is lack is acutely felt, even where words for description are elusive.

Table 3. Supporting Quotes from Categories and Subcategories (N= Participant ID#)

Category	Subcategory	Sample Quote
Leadership Behaviors	Hearing and listening	3/Firefighter Medic. "Do you want me to talk to him about it? It's like 'nope, nope, I want this to be done. I don't want it to go anywhere. You know, and I'm grateful that you heard me and validated how I was feeling and did all the right things, and it doesn't need to go anywhere else.'" "I will say in his defense that ever since then, when I tell him like, 'Hey, I think this is a bad idea and here's why' he does listen. So, he learned and I'm grateful for that because not everybody learns without being beat over the head with it." 3/Firefighter. "I've been hard pressed to find an officer who's actually in my corner. Usually, they're trying to play devil's advocate. And well maybe he meant this or that, …I totally get that I 100% understand. But sometimes in the moment, I don't want you to do that. I want you to just say I'm sorry that conversation happened. It wasn't supposed to go that way. You know, "What do you need from me?' Like, that's what I wanted." 6/Engineer. "I was done with the fire department, I'd had it. I was so over all the bull crap…And, um, and then the chief, really listened to me. And he had not been in our department a month. And he apologized. He said, 'I'm going to personally apologize for what you're going through, and I am so sorry.' He listened. He tried to take action. Obviously, the city attorney had other ideas."
Leadership Behaviors	Supporting, affirming leadership, mentoring, guiding	9/Chief Officer. "He was so amazing. He supported me from the very beginning and he respected the fact that I was doing these things in out in the fire community and he saw that. I felt valued."

7/Acting Captain. “He was my battalion chief and he started with me twenty years ago, we were in the same academy. And I said, ‘Hey, this is what I’ve got.’ And he said, ‘Alright, sounds like you have it under control. Would you like me to take over as command or do you want to handle it?’ He said, ‘I could just be here and be a resource because it sounds like you’ve got it handled.’ And the way he worded it and put it right there. I was like, okay, I’ve got this. Yeah, that’s perfect. And he really changed it. It was so different to have him there to say, ‘I’ll just be your mentor, and I’ll hang out.’ And I had so many people after that fire actually tell me what I did a good job. And it was just like the first time literally in my entire career that’s ever happened.”

6/Engineer. “Even when I do crazy things I’m not supposed to do and he finds out about it. He 100% backs me, (company officer) and then we sit down and talk about it later and he doesn’t get mad at me. He just says hey, so tell me about this. And I’ll tell him and he’s like, Okay, I totally understand. Absolutely agree with you….in the future, Can you let me know?’ With ***** [company officer] and the fire chief? Yeah, I trust them. With everything, my life, my personal business. Yeah, ***** knows everything. I tell him things I don’t tell anyone. Ever. Because I know he’s, he’s gonna keep it secret. Yeah, he’s…, we joke. I call him my big brother, he calls me his work wife.”

2/Engineer. “I mean, any one of my officers right now, would firmly go to bat on a decision that I made or an action that I did, but I’ve also worked with them for a very long time. My one officer in particular, I have worked with him for ten years. And he one hundred percent, I trust him and his decisions. He trusts me in my decisions. And I firmly believe that he would go to bat for me.”

8/Lieutenant Paramedic. I” really looked up to both my officers on probation…very respected. They would say, ‘there’s certain things I know I need to teach you and there’s certain things I really want you to know. And he

		goes but you also know what you need to know, what your strengths and where your weaknesses are. And so I would come to every shift with my list of things and you'd look at it and we would, both of them did this, and we would go train, drill, whatever I needed to do for hours and so I kind of lucked out where and that's just kind of like of the draw. Some are more of the teaching mindset and some are more of the like, figure it out yourself."
Implicit Voice	Group incivility, harassment	6/Engineer. "So, I went in the men's bathroom, I debated do I go in the men's bathroom or a bucket in the backyard? And I went into the men's bathroom and the guys are like, 'What are you doing in here?' And I was like, where am I supposed to go?" 6/Engineer. "I felt singled out, not singled out, but not a part of the group. Like, I would always be the outcast, the stepchild, the woman in the crew, the least important." 9/Chief Officer. "There were those who supported me and those who did not. I called them the 'Malignancy', 'the Good ole' Boys', terrible at the job, 250 lbs plus and total assholes." 4/Firefighter Paramedic. "I found out that at one point [during SCBA drill], my assistant chief was recording a video on his phone of me crawling into one of the other volunteers…his crotch. [I was] blinded of course, so I had no idea that this had even happened. And yeah, so that was a big motivator for me to leave that department …" "so, I kind of anticipated it [no acceptance] from like a couple of people I suppose. But I think what really bothered me the most was the fact that it was like the Assistant Chief that was recording the video, and it was on his phone and he shared it with people and thought it was funny."

Implicit Voice	Character defamation, gossip with intent to socially undermine	5/Firefighter/EMT. "It's embarrassing and hurtful and more just like, I was losing sleep over it. I kept hearing about how he was dirt shooting me to people on the line, and it just felt like, ... you're a grown man who's been in this profession for decades. And how this…I'm just a probie trying to find my way." 7/Acting Captain "…it really messes with your confidence when there's nobody backing you and mentoring and helping. And I had absolutely no females to look up to because when I started acting, there's an article in the newspaper about how I was the first ever female to command an engine company here...I'm not going to do this. I don't want to spend the last two years of my career miserable, having a crew that's a bunch of , you know, people who don't support me…"
Leadership Behaviors and Implicit Voice	Baiting, subtle forms of harassment or conflict	4/Firefighter Paramedic. He like sort of was baiting me into a controversial conversation during the shift that we worked together. Yeah, we ended up discussing everything from like politics, to religion to drug abusers to everything. So that was, you know, he even brought up women's rights at one point and was making comments about how, you know, I have a responsibility to educate myself as a woman voter, and it was just this really uncomfortable cringy conversation. And, yeah, I don't know, it was, it definitely messed with my head a little bit, I guess." 6/Engineer. "And he's [opposite shift captain] like, 'Why does she get to decide where all the fittings and equipment go on the type three?' and my officer is like, 'She's not. She's just the SME. And it's based on an OES [departmental procedure]. And we match our rigs to that. And she knows where everything goes.' But it's so weird, that every issue this guy had was stuff I was doing. Like every issue. And I'm nice to him. He is the most incompetent human being I've come across in my life. And I'm so kind when we get on calls…I don't say anything unless he needs help. If he needs help, I help him. I'm so nice. And I thought man, what is your deal?

		Everything I do, he would talk to my officer about it. My officer backs me every time. Even when he doesn't know I've done something." 9/Chief officer. "So, I in the divorce I wasn't considered eligible for child custody due to my shift work. So, I was going to have to quit. There was an opening in fire prevention, and I was qualified, I had the certifications, no one else came close. But they gave it to this other guy and I was going to lose my children. My first line supervisor was supportive, but had no ability to make policy. The higher ups wanted to see me gone." 5/Firefighter Medic. "it's funny, …talking about a psychologically safe space, you know like leaders need to be fostering that environment. It was certainly, it's not only one thing, but I think that the biggest thing was the leader there. The captain, and it was I think, not irrelevant that I was the first female to be assigned there to be part of that crew. So there some level of that, but I can appreciate that just takes navigating in general, and nobody was unkind to me. It just was, it maybe wasn't like I wasn't accepted, but I didn't have the same space there. There wasn't, it was a different kind of space for me there…some of the ways and that it was treated or situations, how they were handled, like more inappropriate and it wasn't my fault. It didn't have anything to do with me…Sta. #, it used to take up way more of my brain space. It was like a really, really difficult time but, so fortunately, being removed from it, is way less prevalent…It hindered it [my career], it was so hurtful, somebody who was so important in the foundation of your career and then to not have that person's support and like, see other people still having that relationship with their probationary captain."
Proactive Behaviors	On guard	9/Chief officer. I was a hard-headed pain in the ass. I had to be. I fought to go to the structure house, which was under less scrutiny and would give me more experience and opportunity. But there were no facilities for

		women. No women's bathroom… I felt vulnerable. I was terrified. So, I installed a deadbolt, bought it myself. I thought, 'I will survive here!'". 4/Firefighter Paramedic. "I had to be very careful. There was no pregnancy policy in our volunteer program. And so, they didn't know what to do with me there either. So, they had me follow the medical leave policy which said that if I missed more than three months off the line then I would have to go back through the volunteer academy again. So, I had to, like, balance things really carefully because I was only allowed to take three months off. I was still pulling shifts on the line up until I was about 31 weeks pregnant. In hindsight, that's a terrible idea. But I didn't really have any other choice because I didn't want to have to go through the academy again…It would have just forced me to quit basically." 5/Firefighter Medic. "Yeah, I was afraid for my reputation. I made him so mad by not bidding for his station and shifts that he wanted me to that I was just, I was so scared…I think it hindered some of my confidence because he kind of him taking it personally that I didn't like it, didn't bid where he wanted me to it like, it wasn't about the bidding anymore. It was all of a sudden, like there was a flaw in my character."
Leadership Behaviors	Camaraderie, supporting, affirming, validating or reinforcement	4/Firefighter Paramedic. "And of course, I show up as a paramedic student at their doorstep with my pump bag and backpack and they're like 'we haven't had a woman here in ten years'. And here you are needing to pump every three hours and having all these mom responsibilities. So that was like a huge, defining experience for me as well. And a really full experience because I didn't know what to expect from them…and they were an awesome department. They were super warm and welcoming to me. One night they only had the dorm rooms, the open bunk rooms with separators between the beds, and I was having to get up every three hours to pump and so they put me in the lieutenant's office so that I had access to an outlet and my pump and

		everything and I got to store all my breast milk in the refrigerator. They were just really good about that kind of stuff." 5/Firefighter Medic. "I'm in EMT class right now and it's just like really doing a number on me. Because I like math, but it's hard, studying is hard, it's kind of embarrassing, but it felt like that's my own thing. Like any kind of energy that I'm getting from anybody else [at this fire station] is, 'How can I help? Let's sit down and it's okay if you don't get it', and like, then it's fun for them to help me. So, I get emotional about it. I love this place so much." 2/Engineer. "So every time that we get a new firefighter or paramedic or even a new engineer, I am looked up to as a knowledge point where people can come ask me questions and I've made it known to our probies or, you know, to our senior firefighter s or to our younger firefighters that it doesn't matter when you have a question if its training related, come find me, I'll pull the engine out and we can do that. And everyone knows."
Proactive Behaviors	Turning Point, Gender Disparity, Double Standard or Different Expectations	7/Acting Captain. "And that was a kind of turning point where I realized that, you know, a lot of my years of the fire service, I said, 'No there no discrimination, no there's people don't look down on women, its fine. There's nothing.' But that was really the turning point when I thought they do think men make better leaders. And they think I'm not as good of a leader. Because when I am assertive, and when I speak up, I'm a bitch. When a man is assertive, he's a leader. And more and more that statement just really hit home at that point, you know." 3/Firefighter Medic. "It happens with coworkers. It happens with teachers. It happens with outside classes. It happens everywhere. You just got to figure out how you get from there to, 'You take me seriously' in the

		shortest amount of time in order to maximize the benefit of why you're in that situation. Like if I'm in a class I need to get from 'you see me as this kind of cute sweet thing' whatever to 'you see me as capable' as soon as possible so I don't miss out on education time and opportunities and repetitions, because you're not there yet. That's not fair to me." 7/Acting Captain. "He is always saying those things [disparaging remarks]. And one of my coworkers who's a friend of mine, his son is gay and so he's told this captain several times not to say this stuff. And he constantly makes those comments and says things so now he has that harassment case. And they found that it was 'unsubstantiated'. So, my coworker is like, the city won't do anything about it. They won't do anything about this guy. His been fired from his other job for the way he's treated women. And we know how he feels about gay people. And I actually called in sick the other day when I knew I was going to be working with him, because it was like, I can't, I just cannot trust this guy. I can't. 6/Engineer. "Yeah, I guess the bathroom stuff was probably a big deal. And it wasn't so much for me, it was for all the women in my department. When they turned, …when that one chief turned all of our single use bathrooms into all gender bathrooms and didn't even fight for us at all. It was a woman."

Research Results

Descriptions of CIs involving trust in leadership range from the personal level within the firehouse interactions on a daily basis to the rarer interactions with senior leadership. Participants reactions to senior leadership inability or failure to defend them from discriminatory or hostile actions over even basic human dignity issues can be seen. These mostly negative interactions are balanced to some effect by both instances of good leadership practices and supportive, affirming action on the part of some company officers. Notably in many negative CIs, the participant was able to describe at least one officer who made a positive impact on their psychological safety and feelings of trust which the participant drew on for support.

Impacts of the negative CIs included confidence impairment, feelings of vulnerability, emotional health impacts and of being singled out, avoided or being the subject of derisive or malicious gossip or derogatory remarks. Notably absent in the majority of participants recall were incidents where antagonists openly opposed women in the workplace but instead chose to ignore, invalidate or make the participant feel irrelevant.

The research questions of this study were two-fold:

RQ 1 – Do women in the fire service perceive trust as an important factor in their intention to remain in fire service careers long term?

RQ 2 – Do women in the fire service perceive psychological safety as a significant barrier to career advancement into visible leadership roles (e.g., company officer and chief officer roles)?

For RQ 1, the majority of CIs grouped under subcategories describing leadership trust fostering and/or erosion of leadership trust suggests that in this sample, this is an issue in women's experiences with *company level* leadership in the fire service. Meaning, that specific

behaviors conducted by supervisory level members at the company level contributed to the positive or negative perception of a critical incident in question.

RQ 2 Although not communicated using the same terminology, participants described psychological safety on their own terms. Failing to find themselves in psychologically safe environments, participants in this sample have come up with proactive behaviors to survive in its absence. A way for them to combat it, or they have accepted that "it is what it is". For example, Interview #7, an acting company officer, described her feelings about avoiding conflict as, "*I don't want to spend the last two years of my career miserable, having a crew that's a bunch of you know, people who don't support me and, you know, just being at the busiest [fire] station. And so that decision was a hard one to say, 'I'm not going to try to [promote] to captain anymore…*"

Eliminating oneself from conflict is one proactive behavior demonstrated in the results, another is adapting and self-evaluation. Interview #3, a Firefighter Medic, explained her thoughts on acceptance in the firehouse as:

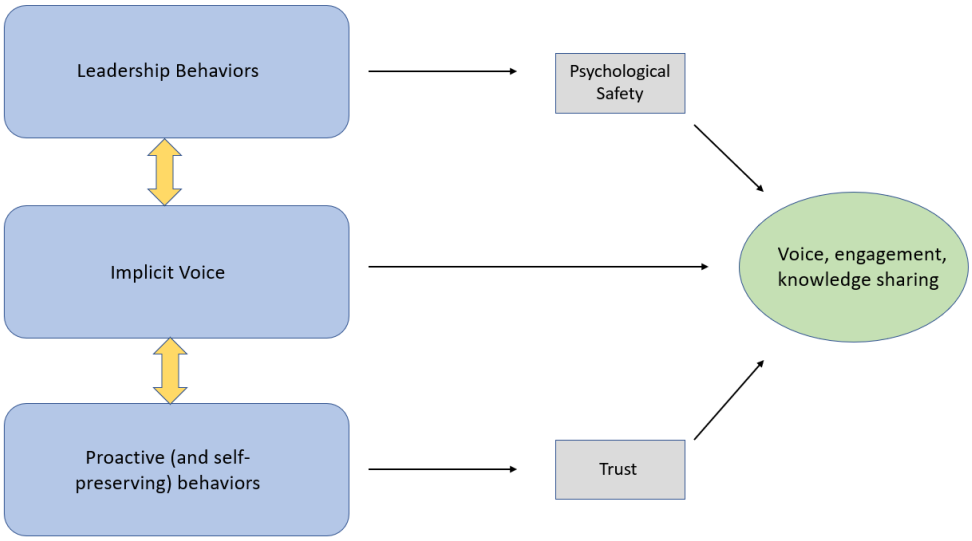
"I'm not sure that acceptance is the goal anymore…" and *"I beat my head against the wall in that place. I felt like I was always the one getting yelled at for things that weren't my fault. I was always being told, 'well he acts that way and blah, blah, blah, we're going to make excuses for his behavior, but I was the one who had to bear the brunt of the consequences of that. There were a lot of instances where communication was poor on both sides but I was the one that lost every time…In the last couple of years I was trying to figure out how to communicate differently, how to get people to actually see the real me and not just whatever they thought and a lot of that came from learning to communicate differently*."

Participant #2, gave her view on barriers to women that differed from the majority of participants. Her perception could be captured as contrary to most of the other participants and she represented a case where she did not perceive gender as important to her success., To illustrate this, she stated *"that's not how it works, they [women] either need to keep up with the guys or they're going to cause problems, and then it's going to show bad on all females in the fire service."* Participant#2's opinion in proactive behaviors was not representative within the entire sample, as she described most barriers as primarily physical, but her self-confidence was such that she felt it wasn't going to stop her. When asked if she could think of a negative critical incident, she stated:

"I really can't. I do know that there are people that I work with in the department who think that females don't belong there. And I just don't, I don't work with them very often, it's very, very seldom…I have proven that I can do the same job that they can if not better. And so, it doesn't really matter what they think."

While this is perhaps an uncommon view among women in the fire service today, her experiences of trust in leadership, promotion opportunities, the effect of comradery, a supportive environment fostered by the company and senior officers, was reflective of other participants expectations, if not their experience.

Figure 1. Main Categories in Relationships to Psychological Safety and Trust (adapted from Edmonson & Lei, 2014)



Edmonson and Lei, (2014) discuss the nature of psychological safety, its contributing factors, and how it plays a role in organizations and impacts the individuals within an organization. Edmondson and Lei (2014) stressed that leadership behaviors created psychological safety, a key factor in voice engagement when combined with trust. Without trust or psychological safety, the risks of speaking out are too high (Edmondson and Lei, 2014). The thematic analysis in this research resulted in three key elements or main categories: leadership behaviors, implicit voice and proactive behaviors (Figure 1). This is an adaptation of Edmondson and Lei, (2014) and results implied slightly different dynamics at work within the fire service organizations participants were involved in.

The main codes: ***leadership behaviors, implicit voice, and proactive behaviors*** were grounded in previous literature (Edmondson and Lei, 2014). These three main codes were used *a priori* to establish a coding framework, that emphasized the importance of understanding these

different elements related to psychological safety. Psychological safety is one of the main constructs of interest within these critical incidents, so this framework helped to provide a starting point for understanding where psychological safety might emerge during the critical incidents presented.

However, because the analysis demonstrated that these three codes were not sufficient on their own, these codes were further broken down into subcodes within the main categories as presented in Table 3.

Leadership Behaviors

Based on the analysis of the data, it was apparent that leadership behaviors accounted for the majority of the content in the transcript, indicating that leadership behaviors were a large part of each critical incident. However, there were a few subcodes/subcategories that only a few participants indicated that there were behaviors their supervisors or leaders thought were well-intended but ended up being perceived by the participant as patronizing. Therefore, this category was left in, and additional subcodes were added for clarity.

Implicit Voice

The idea that implicit voices controlled the narrative was present in the subcodes that discussed the participants' teams. This was particularly apparent in cases where ***gender disparity*** across the department or agency surfaced as an important part of the participants' interviews.

Proactive Behaviors

All participants shared their perception of a "turning point," or a point where they felt they accepted their agency or lack of it in managing responses to the behaviors and leadership that they encountered in the work environment. Almost all of the participants (7/8) indicated that

they at one point were “on guard,” demonstrating a need to create behaviors that “protected” them from workplace hostility or incivility.

Summary

This research study conducted using Critical Incident Technique resulted in a large amount of uncategorized data using thematic analysis to generate coding and develop themes. Codes were separated into subcategories which then corresponded with the psychological safety model primary elements (Edmonson and Lei, 2014). These three elements, leadership behaviors, implicit voice and proactive behaviors, became the main codes in which the subcategories were grouped to organize data. An adapted model of relationships involved in psychological safety was the visualized as experienced by the participants in this study.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Summary of the Results

This study looked at the elements of psychological safety and trust within the context of operational work groups or "line companies" within the fire service. This construct specifically looks at what leadership looks like to women in paid firefighter positions within the fire station. Emergent themes focused on three elements of psychological safety and trust, providing support for the belief that these are foundational provisions for fostering an environment within fire departments where women can have equal access to mentoring, career development opportunity and experience. The results suggest that from the participants perspective, access to these growth factors promotes long-term career potential and advancement. Study results also suggested that trust in leadership, specifically the first-line supervisor (company officer) is a primary element in resilience and fostering positive mental health and the positive mindset needed for enduring the challenges of the occupation. Each of the participants was able to explain how the barriers they faced challenged them and how the support of both line officers and that of senior officers (including the executive level) provided assurance, validation and affirmation. While there were varying expressed levels of self-confidence and empowerment, all eight of the participants gave significant credit to these leadership actions.

However, these leadership actions led to unanticipated results. While the study expected to explore individual leadership experiences, this study also revealed that an unforeseen factor was the role shift work plays in the dynamics of leadership. Characteristic of the experience of paid and volunteer firefighters alike, the participant describes being constantly exposed to the leadership of multiple shifts or work groups, each of which has individual characteristics and many similarities. Leadership, however, can vary drastically from one shift to

another and several critical incidents involved this particular element as officers temporarily assume supervisory activities for a given period of time which may be for one work period, might be for several, or may be suddenly permanent. Therefore, the psychological environment created by one officer, may not exist under another, even though the work group essentially remains unchanged.

Literature researching women firefighters, such as Sinden et al, (2013) and Griffith et al., (2016) has previously cited areas where the fire service is failing to promote long term, fulfilling career success for women. This study reinforces claims that leadership plays a pivotal role in the retention of women in the profession. Griffith and Roberts, (2018) specifically call out for fire service leadership to maintain vigilance over issues of gender disparity and harassment. This study demonstrates that leadership is at the core of the issues facing women in the fire house. Psychological safety is shown to be a significant element of workplace efficacy and enabling performance and cohesive teams, (Edmundson & Lei, 2014). This studies results suggest findings consistent with this important emergent research in workplace effectiveness. Reinforcing this perception in particular, several participants discussed how important it was to avoid working relationships with particular individuals, bidding for different shifts and stations or calling in sick to prevent confrontation using such words and phrases as "*I can't*" and "*avoid*" or "*I won't do it! You can discipline me, you can send me home, but I won't do it!*"

The study is unique in that the findings also suggest that the participants in this sample remained and intended to stay in the fire service despite significant barriers to success. A major factor in their endurance and resilience was being able to access supportive and trust fostering leadership relationships and trusted leadership centered work groups. Leadership actions which drew the most frequent attention from participants were effective hearing and listening. The

ability of an officer to stop and listen to what their subordinate is saying, to engage with empathy and a willingness to acknowledge ownership of the issues was the single most meaningful action cited.

Also unique in this study was the terminology used by some participants to describe incivility and bullying. The term "dirt shooting" was used to describe malicious gossip with the intent to socially undermine the target. Two participants used this phrase in particular to describe the way they were talked about behind their back by the antagonist, who they assumed, tried or succeeded in influencing group opinion. This might take the form of character bashing, inferring discriminatory opinions to justify actions, or to discourage others from taking the target's side.

The study also revealed that regardless of rank or role, each of the participants felt the obligation to lead others. Whether from the standpoint of being a good company officer, a good mentor and field precept officer, or by participating in efforts to work with younger women in helping them envision the possibilities of a career in the fire service, all of the participants were engaged in some form of leadership. Rank or lack of rank is essentially not a barrier to their efforts to lead.

Conclusions Based Upon the Results

Taken together, the findings in this study suggest that further training and data collection is necessary. It should be noted that this study is not representative of the entire United States but is an important starting point for research in women's experiences in the fire service. Training in leadership, communication styles and approaches, with an emphasis on trust and psychological safety, is necessary for all those aspiring to lead within the firehouse environment. While officer academies and certifications already exist and address integrity and the value of trust in communication, their effectiveness is doubtful when the results of this sample are

consulted. With more data collection, areas of importance to focus training on could be more readily identified. However, increasing the emphasis on trust and introducing the importance of psychological safety in leadership training for fire officers at every level is suggested by these results. Introducing such topics as an awareness of the barriers to women in the fire service, emotional intelligence and valuing the individual voice for team and organizational health could have beneficial impacts for all members of a department, not only women firefighters. These topics might see the most beneficial results when included as initial company officer communication and group dynamics topics.

More awareness is needed in order to further data collection on these topics for women. Introducing the topics at local and national events for the purpose of creating awareness could result in more data collection and discussion. Advocacy for women's studies is already present in the curriculum at the National Fire Academy, however an increased effort towards topic discussion and recruit women into the Executive Fire Officer Program would also open avenues for more data collection (ICME & CPSE, 2020).

Lastly, the term *psychological safety* is ambiguous and open to interpretation and therefore this impacted the way participants spoke about their experiences. The definition of psychological safety was a foreign concept and not readily understood by all participants, however, each participant was able to discuss relevant ideas without labelling these recollections as such. Therefore, behaviors involving psychological safety, such as leadership and implicit voice, were still highlighted and explored in context.

Limitations

While this research was unique in its field and is only a beginning step in researching the area of trust and psychological safety in the experiences of women firefighters, there are limitations to the work. Specifically, the sampling method used was purposeful, aiming at paid firefighters in career positions. The sample was chosen because of its ready ease of access and the time constraints involved. This resulted in a homogenous group, primarily from the Western seaboard of the United States. Although great care was exercised, bias could be present in the data as a result of who was sampled.

Additionally, retrospective technique was used which due to its post-event perspective, results in the primary method of observation being recalled experiences and reflection on those experiences or retrospective storytelling (Fridlund, Henricson & Mårtensson, 2017). Critical incidents, therefore, are defined by the participant and this form of data gathering and analysis was particularly suited to this study due to the intent to explore how women firefighters defined trust and psychological safety. Capturing their motivations, emotions and intent behind their responses to these events relies completely on recall.

CIT involves human memory. In spite of the vivid recall all participants seemed to have of what they interpreted as critical incidents, this method is capable of bias or other inaccuracies due to flawed memory or interpretation. CIT produces large amounts of unorganized data as the stories are told and interrupted by tangents in the discussion, which then has to be sorted into accurate accounts.

Implications and Recommendations to the Field

Numerous critical incidents in the results suggest a lack of emotional intelligence on the part of male company officers and how easily trust is eroded and destroyed in female followers. As an example, Interview #5 described how her first company officer during probation failed to

communicate successfully with her, leaving her feeling as if something was wrong with her as a person and eroded trust through inappropriate use of power and influence. She stated, "he's really held in high regard with a lot of people, and he's done a lot of damage with a lot of others…but there's enough people in high enough places that hold him in high regard that you just don't mess with it." All officers have a duty to guard their behaviors and integrity, however these results imply that many officers encountered by these participants were lacking well developed emotional intelligence when managing women in their teams and specifically the role of trust in those work relationships. While not unexpected, this is a troubling issue and leads to another implication concerning traditional promotion practices.

Traditional promotion practices in the fire service are not necessarily working in favor of the retention of women firefighters. Assessments for initial promotion to company officer may or may not be accompanied by evaluating officer candidates for emotional intelligence and a record of trustworthy character. While this is perhaps conjecture and this study does not evaluate the development of fire officers, the results imply that many officers are promoted without due regard for an appreciation of their integrity in relationships, ability to communicate with firefighters of various population subgroups and basic, sound leadership practices. This lack of emotional intelligence or respect for the dignity of the women involved is seemingly presenting as a barrier to their career validity and fulfillment. Violations of human dignity were not uncommon factors in these results, affecting participant's self-esteem, confidence and implicit voice, suggesting these are commonplace interactions for women firefighters. Taking the results together, emotional intelligence and psychological safety instruction needs to be considered as a part of promotional practices in order to further work to retain women, ensuring long-term, successful careers in the fire service.

Similar to peer support and cancer prevention and early detection efforts, fire departments could promote these proactive behavior topics within their workforce membership in policies, training and promotional evaluation practices. Fire departments are inundated with "awareness" training and effective time management would likely place such efforts best by incorporation into already existing leadership initiatives and practices. Further efforts could be focused on involving the local community. Encouraging up-and-coming officers to be involved in helping to develop their leadership skills by attending classes and participation in community-based organizations will expose them to professional standards of communication and behaviors that lend themselves to organizational health best practices. The creation of women's groups in fire departments, with direct access to the fire chief would be a proactive approach to addressing these issues within the workforce. While a fire chief is sometimes bound or restricted in action by legal counsel and unable to make immediate change, results in this study suggest that the mere fact that a fire chief is listening to women and actively promoting their interests has great effect on their resilience and morale. Interview #6's experience with this is an example:

"…he sits out back with everybody and listens to them talk. It's like that's how he is, he engages you He has dinner with you, he'll show up at the firehouse and have lunch, just talk." Having the same chief in this example demonstrate interest in community initiatives female firefighters in his department were active in had immediate high moral effects. The implication of these results suggests that efforts such as these are needed from officers throughout the fire service.

Specifically for the women in this study, the results showed that they highly valued their sense of belonging and community within their respective fire companies. Although not directly address as psychological safety, the participants described the elements of the construct and

highly valued the outcomes, such as the encouragement, affirmation and sense of value created, the feeling of being a part of the group and family within their respective firehouse. For some, this remained elusive, but they had each at least found an officer or peer who provided these elements and created emotionally healthy and productive environments for them to move forward. There are fire departments that are successfully managing these issues for women and for minority groups in general and their efforts should be highlighted and learned from as best practices.

Recommendations for Future Research

Figure 1, adapted from Edmondson and Lei (2014) and focusing only on the individual level, shows the three elements which promote and reinforce psychological safety. Positive leadership behaviors, such as leadership inclusiveness mediate psychological safety, increasing and promoting the feelings of acceptance and a willingness on the part of the follower to take risks and to learn from failures. How followers perceive their safety within the team mediates the leadership and voice relationship (a willingness to speak up and challenge status quo), which promotes growth. Having a voice in the workplace and sharing knowledge fosters work engagement. Proactive behaviors, mediated by trust, facilitate information sharing in work environments. Without trust, an implicit voice can be lost. However, at this point, the results in this research suggest that the relationships between these three elements are different in the organization and complexity of the fire service. Edmondson and Lei (2014) recognized this possibility in some organizations.

For women in this study, trust is not there in most cases, therefore, to find success they assume there is not a lot of trust and their proactive behaviors reflect this and are formed under this conditional environment. Women who are able to successfully build trust are able to engage

in a work environment where they have a voice, express their opinions and share knowledge. For example, Interview #2 spoke about her experiences after 11 years with her officer in the same fire station, “So every time that we get a new firefighter or paramedic or even a new engineer, I am looked up to as a knowledge point where people can come ask me questions and I’ve made it known to our probies [probationary firefighters] or, you know, to our senior firefighters or to our younger firefighters that it doesn’t matter when you have a question if its training related, come find me, I’ll pull the engine out and we can do that. And everyone knows.” In the absence of this trust, there is a lack of engagement, and this leads to poor consequences for retention or promotion. An example of this is shown in Interview #3, “I started to feel less welcome in that group and spent more and more time finding ways to avoid larger groups of folks, whether that meant hanging out at the bunk by myself or with my work life.”

These proactively protective behaviors can circumvent leadership behaviors and implicit voice but when there is a direct conflict because of them it results in friction. Interview #6 illustrates this as she describes one male officer’s consistent behavior, “there’s a lot of women who struggle with that same guy. And initially, there’s no issue until they stand up for themselves or they say something and then that when everything turns around.”

Where confidence (assertiveness or self-confidence) is present as a proactive behavior, it can take the place of trust, getting the individual further than if they lacked it. However, this is not necessarily successful for retention and long-term success. Interview #3 spoke about acceptance (psychological safety) not being the goal anymore, “I beat my head against the wall in that place.” Her proactive behaviors were often feeding into the already negative situations she found herself in as she points out, “I learned kind of early to be a little blunt. And I would say that the reaction I got from that was generally positive in terms of I got what I wanted. I didn’t

always do it the best way, I probably broke a lot of eggs that I didn't need to, but at the end of the day, I felt like I got what I needed. And I did it in a way that was true to myself." The relationships between the leadership behaviors, implicit voice and proactive behaviors in this fire department organizational context is different than the Edmonson and Lei, (2014) model and need more research based on these findings.

Future research in these three areas within the fire department organizational context and how they combine to promote active engagement in an individual's growth and development is needed. Specifically, how a leader can bring about and maintain and environment that promotes the retention of women in the fire service. Much more extensive research is needed to definitively change the Edmonson and Lei (2014) model. This research, therefore, has developed further areas for quantitative and qualitative study to explore.

Conclusion

This body of work focused on a homogenous sample, limited in representation, yet brought revealing exploration to the research questions. Trust was indicated to be a primary factor in the experiences of these women firefighters and their decisions to persevere in their goals, but not the only one. Self-confidence and a determination to succeed was a commonality among the participants as well. Although not articulated as such, women did perceive a lack of elements of psychological safety as a barrier to their success and reaching promotional goals. Education and training in greater depth is needed in areas of trust and emotional intelligence for both junior and senior officers in the fire service and better understanding of how these factors affect the women working in the fire department. If retention of women in the profession is truly a goal, then these aspects of leadership need to be emphasized and further research into how the fire service organization affects the three major elements of psychological safety which in turn

leads to a voice and belonging. This body of work was only a beginning. It is the first bricks to be laid in understanding how women value trust in their leadership and psychological safety in their work within America's firehouses.

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APPENDICES

Interview Script

Thank you again for being willing to participate. This research is, as you already know from the recruitment letter, a capstone project as a requirement for completion of the National Fire Academy's Executive Fire Officer Program. It is therefore important that I assure you that while I am completing a course requirement, I chose this topic because I have two female firefighters that work directly with me, I have trained many female firefighters and I find them to be aggressive and determined, yet often defeated in staying long-term within the career. This has caused me to question what the barriers are to a long and satisfying career in the fire service. If you would like to discuss my experiences further after the interview, please let me know, I would be happy to discuss the topic further.

Leadership in the fire service is an intangible. Officer candidates are taught to lead with integrity, to communicate and listen to the subordinate's needs, but teaching how to be trustworthy and to promote psychological safety within a team is advanced teaching, often not provided or valued in practical application. I am interested in exploring your experiences with your company officer, battalion chiefs and other supervisors in an operational context, to better understand how women value trust and psychological safety among men. You should feel free to tell me as much or as little as you wish and I may interrupt you to gain clarification and understanding. Each question is optional, you may bypass any question and you may terminate

the interview at any point. Are they any questions you have for me? If you're in agreement with this process, we'll get started.

Interview Protocol

No.	Primary Questions:	Potential Follow-Up Questions:
	Category: Demographics	
1.	Please tell me briefly about your role or positions on the fire company.	● How long have you been (or were you) in a line company? ● How satisfied are you in this role? How satisfied are you in your career as a whole? ● How many fire station/company assignments have you had? ● When moved, did you do so voluntarily, by bid or by force? ● If left Operations or changed departments: What caused you to leave?
2.	How large a department do you work in and what region of the country?	● Small, Medium, or Large? ● Metropolitan (Urban), Suburban, Rural?
	Category: Trust and Psychological Safety	
3.	Can you tell me specifically, what it is	● If this changed, how did it change? ● What do you think caused the change? ● What did this experience look like for you?

	about firefighting that is most fulfilling?	● When did you notice that there was a critical issue? ● What was your reaction to this incident? ● Is there another time when an incident like this occurred?
4.	Do you feel accepted among your team/company members (past or present)?	● Has it been that way from the beginning? ● When did it change? ● What do you attribute (why) to the change?
5.	Can you recall a specific incident when an action by your supervisor (immediate or otherwise) resulted in a critical issue for you (positive or negative)?	● What do you think the motivation behind the action was? ● How did you feel about this incident? ● What was it like for you? ● How did this affect your trust in that supervisor? ● How did you react to this situation? ● Can you recall any other critical events like this?
6.	How did this affect your experience as a part of the company, for example, training opportunities, career decisions, comradery, group acceptance, morale, or job-satisfaction?	● How would you describe your how you were feeling about your job at this time at this time? ● Can you give me an example of what that looked like? ● What other actions could have been taken? ● What was good and bad about this experience?

7.	Conversely, can you tell me about a specific incident when an action by your supervisor (immediate or otherwise), resulted in a critical outcome in the opposite way (positive or negative)?	● What do you think the motivation behind the action was? ● How did you feel about this incident? ● What was it like for you? ● How did this affect your trust in that supervisor? ● How did you react to this situation? ● What sense can you make of this situation? ● What was good and bad about the experience? ● Can you recall any other similar events like this?
8.	How did this affect your experience and sense of belonging to the company, for example, training opportunities, career decisions, comradery, group acceptance, morale, or job-satisfaction?	● How would you describe your emotional health at this time? ● Can you give me an example of what that looked like? ● How did you manage this impact?
Category: Trust		
9.	Can you recall a specific incident when you felt you could not trust your supervisor (immediate or otherwise)?	● What did you fear might occur? ● How has this hindered or affected your career? ● Has this caused you to have issues with trusting supervisors? ● Can you recall any other specific incidents like this?

10.	Can you recall a specific incident where you felt you could trust your supervisor (immediate or otherwise)?	• How was experience different? • Can you explain what enabled your trust in this supervisor? • Can you give me an example? Do you recall any other times when this occurred in the same or a similar way?
	Follow Up:	Is there any additional information or details you would like to share at this time?
	Closure:	I want to thank you for your time and convey to you how much I respect your willingness to talk about these events in your career and the courage it took for you to do so.

Field, or utilization testing, was conducted after the script was developed with female firefighters in the researcher's regional work group. Four tests were conducted, with one firefighter no longer serving, one firefighter paramedic, and two company officers/paramedics. Using input from the field test, adjustments were made to the script.