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THESIS

**SOUND THE ALARM: WHY DO SO FEW AFRICAN
AMERICANS SERVE AS FIREFIGHTERS
AND PARAMEDICS?**

by

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March 2023

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**SOUND THE ALARM: WHY DO SO FEW AFRICAN AMERICANS
SERVE AS FIREFIGHTERS AND PARAMEDICS?**

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ABSTRACT

The demographic makeup of fire departments, including firefighters and paramedics, often does not reflect communities. This thesis poses the following research question: What factors support and inhibit the recruitment and retention of African American firefighters and paramedics in the United States? The research relied on documented open-source information and data from fire and emergency medical service (EMS) departments in the United States. In examining issues affecting the recruitment and retention of African Americans in the profession, this study considers the history of the fire service and EMS, along with other internal and external factors that could support or inhibit the recruitment and retention of African Americans. The research offers several recommendations to remedy this issue, including mandating Courageous Conversations workshops, creating a diverse full-time recruiting team, developing pipeline partnerships, and changing hiring and training processes.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFA	African Fire Association
AFRD	Atlanta Fire and Rescue Department
AFRF	Atlanta Fire and Rescue Foundation
BFA	Black Firefighters Association
CATA	Chester Anderson Training Academy
CEO	chief executive officer
CPAT	Candidate Physical Ability Test
CPR	cardiopulmonary resuscitation
EMS	emergency medical service(s)
EMT	emergency medical technician
EMT–A	emergency medical technician–advanced
FCFRD	Fairfax County Fire and Rescue Department
FCP	Fire Cadet Program
FFD	Fitchburg Fire Department
HSFP	High School Firefighter Program
IABPFF	International Association of Black Professional Firefighters
ISO	Insurance Service Office
KSAs	knowledge, skills, and abilities
LAFD	Los Angeles Fire Department
NCLB	No Child Left Behind (Act)
NREMT	National Registry of Emergency Medical Technicians
NREMT-P	National Registry of Emergency Medical Technicians’ paramedic (exam)
RFES	Richmond Fire and EMS Services

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EXECUTIVE SUMMARY

The demographics of the fire department workforce, including firefighters and paramedics, often do not reflect communities. Fire and emergency medical service (EMS) departments nationwide struggle to recruit and retain African American members. Even as society has become more of a melting pot of ethnicities, cultures, genders, and religions, the American fire service profession has not. This thesis looked to identify what factors support and inhibit the recruitment and retention of African American firefighters and paramedics in the United States and what can be done to change current practices.

The research identified systemic practices that date back to the inception of the fire service, such as racism, nepotism, the introduction of EMS, and the lack of understanding of other cultures, as the primary drivers of the homogenous makeup of the modern fire service. Socioeconomic woes that plague American society represent another force of oppression that creates many barriers related to African Americans being gainfully employed by the fire service. To change the narrative of this dilemma, the fire service must be intentional about acknowledging the disparities within the profession and capturing critical data that assist with exposing the problem so that timely interventions can be made.

This thesis relied on the cooperation of several metropolitan fire and EMS departments willing to share information about a topic that is not always easy to discuss. Each department provided aggregate data on pass/fail rates of candidates who sought EMS licensure; however, the data did not include pass/fail rates by ethnicity, which could have assisted in ascertaining whether the EMS licensure process has adversely affected one ethnic group more than another. The research for this thesis involved consulting open-source literature that identified the non-inclusive culture of the fire service, which mirrored society across eras and kept minorities away from the profession. In today's fire service, many factors explain why African Americans do not become or stay employed as firefighters.

The terms race and ethnicity are often utilized interchangeably. Race is a social construct typically based on physical characteristics such as skin color, hair texture, and

facial features. Race is also used to categorize groups of people based on these physical characteristics. On the other hand, ethnicity is a broader concept that includes cultural factors such as language, religion, customs, and traditions. Ethnicity refers to a person's cultural identity and heritage based on geography, origin, ancestry, and shared history.¹ This thesis focused on ethnicity in the fire service because it connotes shared group history and traits such as religion, language, and social identity.

Chapter II explains how diversity affects underserved communities and why the knowledge possessed by first responders about cultural behaviors and attitudes is essential when looking for ways to manage a crisis. When all stakeholders trust that their best interest is valued, the organization can learn and grow, dramatically diminishing knowledge gaps and improving a department's recruitment and retention efforts.

Next, Chapter III explores the inception of the American fire service and the culture and issues faced by African Americans throughout history. It examines why many African Americans genuinely disliked what the fire service stood for in its early years and how years of toxic culture and bias could lead to a shortage of African Americans in the fire service profession. Three eras of the fire service are examined: the early years, the civil rights era, and the modern day. Chapter IV then identifies socioeconomic factors that may explain why so few African Americans serve as firefighters and paramedics in the United States.

Chapter V compares statistical and procedural data for three metropolitan cities and their fire and EMS departments, analyzing correlations between the first-time pass rates of departments' emergency medical technician exams and the cities' socioeconomic factors. Following this analysis, Chapter VI explores a seniority analysis conducted by the Memphis Fire Department (MFD) that examined the department's attrition by members' rank and years with the department. This analysis identifies gaps that might reduce competency and efficiency within the MFD, exposes areas of concern that might contribute

¹ "Ethnicity vs. Race," Diffen, accessed March 3, 2023, https://www.diffen.com/difference/Ethnicity_vs_Race.

to firefighters' leaving the profession, and discusses interventions that have been or could be undertaken to reduce the attrition rate.

Chapter VII offers five recommendations for fire and EMS departments looking for ways to support recruiting and retaining various ethnicities in the fire service profession:

1. All aspiring and current fire chiefs should attend Courageous Conversations workshops to better understand why so few African Americans serve in the American fire and EMS service. Workshops such as these provide the opportunity to listen and learn from others in the seminar who may offer different opinions and solutions relative to this disparity.
2. Create a recruiting team of diverse individuals for fire and EMS departments to increase diversity within their departments and improve recruitment outcomes. Dedicating a team of full-time resources specifically to recruiting fire and EMS departments could enhance their recruitment outcomes and increase the number of qualified candidates representing the community.
3. Consider an asset pipeline program to recruit people of different ethnicities. Establishing these programs within the high schools and colleges of underserved communities would generate mentoring and educational opportunities for youth.
4. Incorporate Accuplacer-type testing for prospective fire recruit candidates to evaluate the likelihood they will successfully pass rigorous EMS examinations that are now commonplace in the profession. The fire and EMS department, along with high schools and colleges, should know the types of questions that will be asked of the candidate, so it can instruct them in how to prepare for the exam.
5. To reduce the socioeconomic factors that plague the African American community, involve external stakeholders who can create opportunities for our youth through legislation, pathway programs, funding, better schools,

and mentoring opportunities that lead them away from the crime, violence, and physical and mental traumas experienced when growing up in poverty.

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To the city of Memphis, Tennessee (citizens, co-workers, and friends): Memphis has been my home since birth. I would never trade my upbringing, childhood friends, and experiences because they have made me who I am today. Memphis, like all other cities, has its issues. I have always wanted to be a part of making my city better, and hopefully, this undertaking will assist me in doing just that. I'm grateful to the dedicated members of the Memphis Fire Department with whom I have worked over the years, and I can't thank you enough for your continued support. I'm hopeful that the findings identified in this research will assist all minorities looking to enter and remain with fire and EMS departments across the United States.

To Alicia Welch, who wrote my letter of recommendation, thank you for believing I could be successful in this endeavor even when I was doubtful. I appreciate your friendship. To Fire Chief Gina Sweat of the Memphis Fire Department, thank you for blessing me with the opportunity to serve as a leader in such an innovative and progressive department. I also thank Dr. Reginald Freeman, fire chief of the Oakland Fire Department, for always being a consummate professional and friend. To Fire Chief John Butler of Fairfax County Fire and Rescue and Fire Chief Rod Smith of the Atlanta Fire and Rescue Department, thank you for your leadership and for providing guys like me with role models to emulate. To Mary Beth Michos, director of the IAFC Fire Service Executive Institute and retired fire chief of Prince William County, Virginia, thank you for your dedication to the fire and EMS profession, its leaders, and DE&I efforts.

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I dedicate this thesis to my mother, Ann Burress, who left this earth way too soon, right as I was entering fire school in 1998. Thank you for the values you instilled in me and the determination and drive to never give up. I never imagined a road for me would have led to this, but I am here, and I know you are smiling down on us. I love you.

I. INTRODUCTION

Fire department employees often do not reflect the gender and ethnic composition of their communities. As of 2022, 88 percent of all American fire service members are male, and just 12 percent are female.¹ Trends in ethnicity of firefighters in the United States are equally troubling. Among the estimated 1,000,000 firefighters in the United States, 80 percent are white while only 6 percent are African American.² African Americans across the nation have historically been underrepresented in the fire service, and this disparity has contributed to the lack of diversity in the profession (see Table 1).

Table 1. Ethnicity of Firefighters in the United States, 2022.³

Ethnicity	Percentage of the Population	Percentage of Firefighters	Percentage of Paramedics
Caucasian, non-Hispanic	59%	80%	71%
Hispanic/Latino	19%	8%	14%
African American	13%	6%	6%
Asian	6%	2%	3%
American Indian/Hawaiian	2%	<.5%	<.6%

As a case in point, Memphis, Tennessee, reflects this national imbalance in its responder composition and area demographics. While African Americans make up 64 percent of Memphis residents, they represent only 27 percent of firefighter-paramedics, a

¹ “Fireman Demographics and Statistics in the US,” Zippia, accessed March 23, 2023, <https://www.zippia.com/fireman-jobs/demographics/>; Rita Fahy, Ben Evarts, and Gary P. Stein, *U.S. Fire Department Profile 2020* (Quincy, MA: National Fire Protection Association, 2022), 1, <https://www.nfpa.org/News-and-Research/Data-research-and-tools/Emergency-Responders/US-fire-department-profile>.

² “Firefighters,” Data USA, accessed June 24, 2022, <https://datausa.io/profile/soc/firefighters>.

³ Adapted from “Population Estimates,” U.S. Census Bureau QuickFacts, July 1, 2022, <https://www.census.gov/quickfacts/fact/table/US/PST045222>; Data USA, “Firefighters”; “Paramedic Statistics and Facts in the US,” Zippia, April 18, 2022, <https://www.zippia.com/paramedic-jobs/demographics/>.

drastic increase from previous years when 8 percent was the norm.⁴ The Memphis Fire Department (MFD) and fire departments around the United States face a drastic shortage of African American firefighters and paramedics.

Emergency medical service (EMS) professionals in the United States are serving an increasingly diverse population. According to U.S. Census Bureau projections, by 2060, minorities are projected to represent 57 percent of the U.S. population, with African Americans constituting around 15 percent of the total populace.⁵ Inner-city communities today also tend to use fire department resources more than other areas because of a lack of medical insurance, transportation, and other resources, so a concerted effort must be made to distribute community representation throughout the fire service.⁶ If the fire service is to reflect society and include all the citizens served, it needs to address this gap in representation.

Diverse departments can positively impact the communities they serve and their organizations by bringing to bear various perspectives, experiences, and ideas. Such an effort can lead to more innovative solutions, better decision-making, and improved problem-solving when faced with complex issues. A diverse organization can increase empathy and understanding among departmental members and improve relationships with citizens from different backgrounds.⁷ Diversity can also increase productivity and create a more inclusive and respectful workplace culture. However, diversity on its own is not enough. To realize the benefits of diversity, organizations must foster an inclusive environment where all members feel valued, respected, and heard. This environment

⁴ “Memphis Fire Department Achieves Significant Milestone: 25% of Firefighter/Paramedics Are African-American,” *Journal of Emergency Medical Services*, November 20, 2013, <https://www.jems.com/news/memphis-fire-department-achieves-signifi/>.

⁵ “U.S. Census Bureau Projections Show a Slower Growing, Older, More Diverse Nation a Half Century from Now,” U.S. Census Bureau, December 12, 2012, <https://www.census.gov/newsroom/releases/archives/population/cb12-243.html#:~:text=All%20in%20all%2C%20minorities%2C%20now,241.3%20million%20over%20the%20period.>

⁶ Imran Cronk, “When You Don’t Have a Ride to the Doctor’s Office,” *Atlantic*, August 9, 2015, <https://www.theatlantic.com/health/archive/2015/08/the-transportation-barrier/399728/>.

⁷ Janice Gassam Asare, “Empathy: The Key to a Diverse and Inclusive Workplace,” *Forbes*, September 25, 2018, <https://www.forbes.com/sites/janicegassam/2018/09/25/empathy-the-key-to-a-diverse-and-inclusive-workplace/>.

requires the fire service to address bias, prejudice, and discrimination and create opportunities for underrepresented groups to thrive and succeed.

Representation from different ethnic backgrounds in the fire service is vital to patients, and the positions must also be accessible to people of all ethnicities. Careers in the fire service provide stable employment and opportunities for advancement. The fire service offers many career paths to prospective candidates, current firefighters, and paramedics.⁸

Fire and EMS departments nationwide struggle to recruit and retain a diverse workforce.⁹ Minorities comprise a significant portion of the population, so all ethnicities must be represented in the fire and EMS profession. When underrepresented groups see people who look like them in these roles, it can inspire them to pursue these careers themselves and help break down stereotypes and biases. Firefighters and EMS paramedics are often the first responders to emergencies in the community, and they need to build trust and relationships with all members of the community. A diverse workforce can help improve these relationships and increase trust between first responders and the community served. Having firefighters and paramedics who understand and respect cultural differences can help ensure everyone receives the best possible care during emergencies. Minorities may experience disparities in access to healthcare and other resources, but a diverse group of firefighters and paramedics can help address these disparities by ensuring all community members can access the same care and resources during emergencies.

Dismal recruitment results and high attrition rates keep agency recruiters searching for ways to add quality candidates from a shrinking resource pool. Diminishing resource pools also has an adverse impact on the ability to promote and develop representation at the chief officer level. Organizations within the public and private sectors and the various military branches vigorously compete for these high-quality candidates.

⁸ “What’s the Difference between an EMT and a Paramedic?,” University of California, Los Angeles, Center for Prehospital Care, accessed March 20, 2023, <https://www.cpc.mednet.ucla.edu/node/27>.

⁹ Madison K. Rivard et al., “Demography of the National Emergency Medical Services Workforce: A Description of Those Providing Patient Care in the Prehospital Setting,” *Prehospital Emergency Care* 25, no. 2 (April 2021): 213–20, <https://doi.org/10.1080/10903127.2020.1737282>.

Understanding the factors that support or inhibit recruiting people of different ethnicities to develop a more representative workforce is essential. This research examines factors that may contribute to the lack of African American firefighters and paramedics in the fire service, such as issues surrounding recruitment, retention, poverty, education, and crime.

A. RESEARCH QUESTION

What factors support or inhibit the recruitment and retention of African American firefighters and paramedics in the United States?

B. LITERATURE REVIEW

This literature review focuses on the importance of diverse fire and EMS services while identifying effective recruitment and retention strategies. Other organizations struggle with recruitment and retention strategies, so their experiences might help inform fire and EMS efforts.

1. Recruitment and Retention in the Fire and EMS Service

Currently, U.S. fire departments use many recruiting methods. One method is recruiting fairs.¹⁰ This model allows the candidate to converse with the potential employer and have questions and concerns answered. Even though an agency may attain participation numbers and diverse applicants, it does not always translate into diverse recruits. Before being hired, potential candidates must complete an application and pass several tests that measure the candidates' ability to perform job-related functions. Candidates also undergo background checks, medical and psychological evaluations, and sometimes even interviews with fire and EMS department representatives.¹¹

Recruitment testing for fire department candidates has been criticized for showing bias toward minorities due to the use of written tests that are culturally subjective and

¹⁰ Michael A. Cunningham, "Retooling the Fire Service Hiring Process to Achieve Diversity among the Ranks," Fire Rescue 1, March 4, 2021, <https://www.firerescue1.com/diversity/articles/retooling-the-fire-service-hiring-process-to-achieve-diversity-among-the-ranks-NL1lb629KT2iqHUM/>.

¹¹ Cunningham.

physical ability tests that do not accurately reflect the tasks performed by firefighters.¹² The result is a lower representation of minorities in the fire service. Efforts to address this issue include using validated and job-related tests, diversity and inclusion testing for personnel involved in the hiring process, and outreach and recruitment efforts targeting underrepresented communities.¹³

Bias in the form of nepotism can affect hiring practices. Certain applicants may receive preferential treatment simply by receiving early notifications of application openings and having knowledge of desired answers to test questions.¹⁴ Public outcry and calls for reform over the lack of transparency throughout the hiring process and a seemingly preferential selection of those with relationships with current members made the Los Angeles Fire Department (LAFD)'s recruitment methods subject to scrutiny. Over 20 percent of the candidates hired during the period in question were relatives of incumbent LAFD firefighters. Therefore, in 2014, the City of Los Angeles hired the RAND Corporation to identify ways to improve the hiring processes used for employing firefighters.¹⁵

The RAND study identified steps in the process that eliminated a large segment of potential candidates and harmed the racial, gender, and ethnic makeup of the group. The RAND study found the following:

1. White male applicants were significantly more likely than Hispanic, African American, and female applicants to take and pass the written test in the selection process.

¹² Diane Cardwell, "Racial Bias in Fire Exams Can Lurk in the Details," *New York Times*, July 24, 2009, <https://www.nytimes.com/2009/07/24/nyregion/24firefighters.html>.

¹³ Cunningham, "Retooling the Fire Service Hiring Process."

¹⁴ "Editorial: Nepotism Is No Way to Staff a Fire Department," *Los Angeles Times*, October 27, 2014, <https://www.latimes.com/opinion/editorials/la-ed-lafcd-20141028-story.html>.

¹⁵ Chaitra Hardison et al., *Recommendations for Improving the Recruiting and Hiring of Los Angeles Firefighters* (Santa Monica, CA: RAND Corporation, 2015), 12, <https://doi.org/10.7249/RR687>.

2. White male applicants were significantly more likely to submit their Candidate Physical Ability Test (CPAT) certification before the deadline than Hispanic, African American, and female applicants.
3. According to the data, the CPAT was not a significant impediment in the application process, as 94 percent of applicants passed the test.¹⁶

During this process, most candidates submitted the results of their written and CPAT scores electronically, but many others submitted them via fax or waited in line overnight to deliver them in person.¹⁷ The RAND study revealed that about one-third (965) of applicants presented their results within the first minute of this phase, which opened at 8:00 a.m. Because the Personnel Department processed candidates in order of receipt, far more candidates submitted their certifications than could be interviewed. Only the 965 individuals who submitted within the first minute at 8:00 a.m. could continue. Accordingly, anyone who failed to submit their certifications in the first minute could not proceed to an interview. Detractors labeled this procedure an “unannounced ‘first come, first served’ application process.”¹⁸ The *Los Angeles Times* reported that family members and relatives of the LAFD had received preferential treatment in “the information loop” by receiving a notification of the exact time and date when the submission period would open.¹⁹ Other factors might have put African Americans at a disadvantage. For example, African Americans are less likely to own a conventional computer with internet access than their white adult counterparts.²⁰ According to a Pew Research study, 80 percent of white adults surveyed had a computer with internet access. In contrast, Pew found that only 69 percent of African American adults had a computer, and 71 percent had internet connectivity

¹⁶ Hardison et al., 15–16.

¹⁷ Hardison et al., 26–27.

¹⁸ Hardison et al., 1.

¹⁹ “Nepotism Is No Way to Staff a Fire Department,” *Los Angeles Times*.

²⁰ Sara Atske and Andrew Perrin, “Home Broadband Adoption, Computer Ownership Vary by Race, Ethnicity in the U.S.,” *Fact Tank* (blog), July 16, 2021, <https://www.pewresearch.org/fact-tank/2021/07/16/home-broadband-adoption-computer-ownership-vary-by-race-ethnicity-in-the-u-s/>.

available in their homes.²¹ In this way, the built-in advantages of the majority population disadvantaged African Americans from being successful candidates.

Fire and EMS departments that value diversity, equity, and inclusion within their organizations could include unconscious bias training for recruiting and hiring staff. According to an article published in *Harvard Business Review*, a person's character and abilities are often judged by ethnicity and gender.²² Training that reduces hiring and promotion decision-making bias can increase an agency's awareness of conscious or unconscious bias. Another study identified discrimination against African American candidates during the hiring process. For seven months in 2001, college students paired by ethnicity were asked to apply for 350 open job postings. One African American and one white applicant were both provided with a fictional criminal record. Among the participants, 34 percent of white students without criminal records and 17 percent with records received a call from employers. Astonishingly, only 14 percent of the African American students without records got callbacks, and 5 percent of those with records received a call.²³

2. Recruitment and Retention in the Military

Examining U.S. military practices may provide further insight into recruitment and retention and their adverse impact on diversity within the ranks of an organization. The U.S. Army's stance is that "if the Army fails to reflect the diversity of the nation it protects and represents, then its institutional legitimacy is threatened."²⁴ To achieve this goal of diverse representation, departments have attempted to pinpoint recruitment and retention opportunities to identify individuals who can effectively fill specific organizational roles.²⁵

²¹ Atske and Perrin.

²² Francesca Gino and Katherine Coffman, "Unconscious Bias Training That Works," *Harvard Business Review*, September 1, 2021, <https://hbr.org/2021/09/unconscious-bias-training-that-works>.

²³ Gino and Coffman.

²⁴ Detrick L. Briscoe, *The Black Community Perspective: Recruiting Blacks into Combat Arms* (Carlisle, PA: Army War College, 2013), 3, <https://apps.dtic.mil/sti/citations/ADA589048>.

²⁵ Vincent D. Robbins, "Recruitment and Retention: A Perennial Problem in EMS," *Journal of Emergency Medical Services*, November 20, 2018, <https://www.jems.com/administration-and-leadership/recruitment-and-retention-a-perennial-problem-in-ems/>.

Like fire and EMS departments across the country, the U.S. military has experienced a lack of diversity in its ranks. The Army War College has studied how to recruit from the African American community and reflect society's makeup as an organization.²⁶ Over the years, it examined individual African American attitudes about the armed forces, ignoring the community's social networks, but has since focused on age groups that would be prime candidates to join the force and parents or guardians, key influencers in decision-making.²⁷ From the study, the Army War College found that in divisions of inadequate representation, such as in the combat arms branches, service members were less successful and less likely to remain in their departments. They failed because of cultural misunderstandings, a lack of mentorship, and exclusion from the "good ole boy network."²⁸ When organizations fail to recruit with different cultures in mind, they leave lasting impressions on organizational charts, made manifest in homogenous leadership. In this case, others cannot see themselves as a part of the organization. In *Black Officer Under-representation in Combat Arms*, Emmett Burk states,

Blacks are under-represented among the combat arms. This condition can be termed occupational segregation. The U.S. Army's leadership is concerned about [how] the low number of Black officers serving in the combat arms reduces the diversity and perhaps the credibility of the U.S. Army's leadership, and second, for Blacks to attain appropriate representation among general officers because seventy-two percent of the U.S. Army's generals selected are from the combat arms.²⁹

Just as the military requires appropriate representation among its officers, EMS and firefighting departments also need a shared understanding and approach to assessing the departments' requirements and what best serves the community when recruiting potential candidates. In Dr. Michael Cunningham's article on this issue, he maintains that courageous conversations among department leadership and critical stakeholders would help establish respect and determine how to fortify weaknesses and capitalize on

²⁶ Briscoe, *The Black Community Perspective*, 23.

²⁷ Briscoe, 12.

²⁸ Briscoe, 11.

²⁹ Emmett E. Burke, *Black Officer Under-representation in Combat Arms Branches* (Ft. Leavenworth, KS: Army Command and General Staff College, 2002), iii, <https://apps.dtic.mil/sti/citations/ADA402652>.

strengths.³⁰ He also recommends hiring a full-time recruitment officer if a department wants to broaden its talent pool. Creating a supporting cast of recruiters knowledgeable about all facets of the department is beneficial when educating applicants on employment benefits in the fire and EMS services. However, many departments lack the funding and resources to establish strategic recruiting programs that attract prime candidates or intentionally target groups that broaden the organizations' diversity.³¹ Knowledgeable, well-trained members of the department who understand the value of diversity and targeted recruiting can promote the department during daily encounters with the public.³² These steps might help achieve the understanding and approach necessary for successfully recruiting and retaining minority candidates.

3. Strategies to Improve the Pool of Firefighter Candidates

Rena Wheeler's thesis contends that creating a "pipeline" to acclimate high-school-age youth can steer African Americans toward the fire service profession.³³ It introduces students to teambuilding concepts and lifelong skills needed to become productive members of the Indianapolis Fire Department. Sadly, Wheeler's analysis reports that not one Arsenal Technical High School student became a department member in 10 years despite prior knowledge about the department's requirements.³⁴ Most candidates never made it past the oral interview. Establishing a pipeline is a good start, but potential low-income candidates need compensation, transportation, and a support system consisting of family, fire department mentors, and community.

Wheeler's thesis reviews the proactive efforts of agencies outside the fire department in recruiting African Americans.³⁵ She attributes decisive recruiting actions to

³⁰ Cunningham, "Retooling the Fire Service Hiring Process."

³¹ Cunningham.

³² Cunningham.

³³ Rena Wheeler, "Early Recruitment in the Inner City: A Possible Answer to the Fire Service's Diversity Problem" (master's thesis, Naval Postgraduate School, 2021), 26, <http://hdl.handle.net/10945/68398>.

³⁴ Wheeler, 53.

³⁵ Wheeler.

the formal and informal work in the community by the Indianapolis Black Firefighters Association (BFA), which organizes back-to-school supplies for kids, food for low-income residents, and Christmas toys for needy children.³⁶ The BFA uses its social media presence to reach prospective members and offers help with practice exams and interview preparation.³⁷ According to Wheeler,

Minorities are often the primary recruiters for other minorities because, generally, people tend to associate with people of similar backgrounds. If someone finds a good job opportunity and wants to pass this information along to one's friends and family, most likely, those referrals will look the same as the originator of the data.³⁸

Bailey Martin's research addresses the recruitment of minorities but not the root of perceived barriers such as educational systems and socioeconomic woes.³⁹ Martin argues that if fire departments are to become more diverse, the actions of the fire chief and city government are significant.⁴⁰ Both entities can help to shape the workforce by mandating the importance of diversity and inclusion in a department. According to Martin, the Richmond Fire and EMS Services (RFES) conducted the Building Bridges study that exposed deep-rooted issues in this systemic problem. The leadership of the RFES showed that diversity posed a significant dilemma and has since made the organization better for the members and the community served. Martin's research maintains that diversity in the RFES increased collaboration and creativity and improved the public's perception of the department.⁴¹

Departments have a variety of ways to engage with underserved communities. Pulvermacher's work identifies methods of increasing community engagement with potential candidates and enhancing the public's perception of the department. One of the

³⁶ Wheeler, 16.

³⁷ Wheeler, 16.

³⁸ Wheeler, 16.

³⁹ Bailey C. Martin, "Diversity in the Fire Service: Beyond Basic Demographics" (master's thesis, Naval Postgraduate School, 2019), 1, <http://hdl.handle.net/10945/62824>.

⁴⁰ Martin, 54.

⁴¹ Martin, 19.

concepts attempted by the Fitchburg Fire Department (FFD) was Operation Lemonade Stand, an informal program that asked firefighters to stop and buy lemonade from kids in the community. This contact allows firefighters to engage and talk with the public outside of an emergency. Such interactions are recognized as “feel good” programs because they show the fire department’s genuine efforts to interact with the community.⁴² Another concept Pulvermacher describes involves the FFD sending uniformed personnel into diverse neighborhood parks to eat lunch.⁴³ Furthermore, Pulvermacher advocates that fire departments must remove economic, social, and invalid physical ability tests to open the field.⁴⁴ These attempts to connect with the public could encourage future recruits to apply because they better understand the job and know current FFD personnel.

Scant research addresses the root causes of African American representation in the fire service, such as the primary and secondary educational system, cultural differences in student attitudes and beliefs, and African American experiences that reduce trust in the past and current fire service profession. Incorporating EMS into the fire department has brought about a dynamic shift in required skill sets from physical prowess to mental capacity, which has increased attrition rates in these roles.

C. RESEARCH DESIGN

This research was conducted to identify the factors that inhibit and support the recruitment and retention of African Americans in the American fire service. The first part of this research examined agency diversity’s effect on the community before, during, and after a crisis. The second part of this research analyzed the lack of diversity in the fire service by examining its history. The next part involved determining the culture within the fire service over time, the social norms of society, and discriminatory practices. Then, the research turned to the socioeconomic factors affecting the recruitment and retention of African American members—including poverty, limited access to quality education, and

⁴² Joseph J. Pulvermacher, “The Case for Affirming Diversity: Reflective Recruitment That Represents the Community Served” (master’s thesis, Naval Postgraduate School, 2021), 65, <http://hdl.handle.net/10945/67170>.

⁴³ Pulvermacher, 64.

⁴⁴ Pulvermacher, 27.

discrimination in the job market—and current-day practices aimed at improving the recruitment and retention of African American firefighters. Then, three case studies of metropolitan cities and fire departments were developed—Fairfax County, Virginia; Atlanta, Georgia; and Memphis, Tennessee—to analyze demographics, hiring and training processes, pipeline programs, and the pass/fail rates for paramedic testing. The final batch of data was used to conduct a more in-depth analysis of the attrition and retention problems faced by the MFD. A set of recommendations was built on these data to provide guidance in identifying barriers that support or inhibit the recruitment and retention of African American firefighters and paramedics in the United States.

II. THE EFFECTS OF DIVERSITY

This chapter explains how diversity affects underserved communities and why the knowledge possessed by first responders about cultural behaviors and attitudes is essential when looking for ways to manage a crisis. Gordon Graham, risk management expert and co-founder of Lexipol, states, “There are predictable risks for having a fire service that doesn’t reflect the community.”⁴⁵ Open dialogue with the community fosters trust and builds relationships necessary for delivering quality services during emergencies and bolstering the public’s perception of the department. When all stakeholders trust that their best interest is valued, the organization can learn and grow, dramatically diminishing knowledge gaps and improving a department’s recruitment and retention efforts.⁴⁶

Modern-day fire and EMS departments cannot prevent all hazards from impacting the community; however, by understanding different cultures and lived experiences and checking preconceived notions, departments can be proactive in their community engagement efforts before and after an event. Many Americans are not prepared for a disaster; those of lower socioeconomic status are even less prepared.⁴⁷ Knowing that minorities are disproportionately affected during disasters because of past discriminatory practices in the United States should be one of the first considerations during natural or manufactured events. African Americans have been relegated to residing in areas considered high hazard while living in dilapidated housing for many years.⁴⁸ Throughout history, reports have shown that African Americans suffer disproportionately before, during, and after disasters due to being geographically located

⁴⁵ Larry Sagen and Tony Pini, “Diversity in the Fire Service—Why Does It Matter?,” Firehouse, May 1, 2008, <https://www.firehouse.com/community-risk/article/10494144/diversity-in-the-fire-service-why-does-it-matter>.

⁴⁶ Sagen and Pini.

⁴⁷ Substance Abuse and Mental Health Services Administration, *Greater Impact: How Disasters Affect People of Low Socioeconomic Status* (Rockville, MD: Substance Abuse and Mental Health Services Administration, 2017), 4.

⁴⁸ Tracy Rotton, “How Black History Has Influenced Disaster Planning,” Center for Disaster Philanthropy, February 23, 2017, <https://disasterphilanthropy.org/blog/black-history-influenced-disaster-planning/>.

in disaster-prone areas and unable to seek safe refuge.⁴⁹ Resources for marginalized communities are scarce after disasters, including recovery assistance and mental health services.⁵⁰ The San Francisco earthquake of 1906, the great Mississippi flood of 1927, Hurricane Floyd in 1999, and Hurricane Katrina in 2005 all highlight the need for knowledge and understanding of the limitations and impacts felt by underserved communities.⁵¹ Decision-makers should be able to identify areas in the community with single-parent households, people with disabilities, and those unable to self-evacuate.

Decision-makers and responders must also understand that some people refuse to seek safe refuge during disasters because they fear losing their possessions. Identifying with the plight of others due to their lived experiences, cultural understandings, and upbringing can provide insight into the tendencies of a community along with possible interventions. Natural disasters such as hurricanes, tornadoes, heat waves, and pandemics disproportionately impact vulnerable minority communities.⁵² During these disasters, victims often suffer physical and mental trauma, illness, disease, and even death. Access to the resources needed after these occurrences are incredibly scarce for ethnic minority groups.⁵³ According to the National Library of Medicine,

While all members of the population are affected by disasters, research findings show that racial and ethnic minorities are less likely to evacuate and more affected by disasters. During Hurricane Katrina, the large number of people seeking safety in designated shelters were disproportionately black. In addition, the mortality rate for blacks was 1.7 to 4 times greater than that of whites for all people more significant than 18 years old in Orleans Parish.⁵⁴

⁴⁹ Rotton.

⁵⁰ Substance Abuse and Mental Health Services Administration, *Greater Impact*, 10.

⁵¹ Rotton, "How Black History Has Influenced Disaster Planning."

⁵² Jeffrey W. Bethel, Sloane C. Burke, and Amber F. Britt, "Disparity in Disaster Preparedness between Racial/Ethnic Groups," *Disaster Health* 1, no. 2 (2013), <https://doi.org/10.4161/dish.27085>.

⁵³ Bethel, Burke, and Britt.

⁵⁴ Bethel, Burke, and Britt, 110.

Disparities have also been shown to exist in the aftermath of disasters.⁵⁵ Aid to recovery victims and their communities through the Federal Emergency Management Agency often favors white disaster victims over African American victims, even when the damage is similar in scope.⁵⁶ Without decision-makers who understand diverse communities, first responders have difficulty dealing with the impacts on this vulnerable population. Diverse responders can assist by providing cultural competence and understanding and relating to African Americans' unique needs and challenges. This can lead to better trust and communication between first responders and vulnerable populations, improving service delivery and outcomes and reducing bias and discrimination within the emergency response system. Chauncia Willis of the Institute of Diversity and Inclusion in Emergency Management states that disasters are growing more intense and having a profound impact on underserved communities, so these communities need representation that will help craft messages designed for them.⁵⁷ Diverse workforces matter—as equity is hard to deliver when 61 to 80 percent of emergency management officials are white males.⁵⁸

The fire service depends on skilled employees to keep communities safe. To do so, agencies must identify ways to recruit and retain a diverse workforce aware of cultural differences when seeking solutions to problems the public faces.⁵⁹ Fire and EMS organizations nationwide, an industry of 1,115,000 career and volunteer firefighters, have been challenged to recruit and retain quality staff for a dangerous profession.⁶⁰ Research demonstrates that

⁵⁵ Christopher Flavelle, “Why Does Disaster Aid Often Favor White People?,” *New York Times*, June 7, 2021, <https://www.nytimes.com/2021/06/07/climate/FEMA-race-climate.html>.

⁵⁶ Flavelle.

⁵⁷ Jim McKay, “Emergency Management Profession Needs Diversity to Adapt,” *Government Technology*, May 14, 2021, <https://www.govtech.com/em/safety/emergency-management-profession-needs-diversity-to-adapt>.

⁵⁸ McKay.

⁵⁹ Cunningham, “Retooling the Fire Service Hiring Process.”

⁶⁰ Fahy, Evarts, and Stein, *U.S. Fire Department Profile 2020*, 1.

delayed or improper care management can result from a homogenous workforce that may miscommunicate with minority patients.⁶¹

Decision-makers who refuse to be inclusive run the risk of making wrong decisions—not because they are intentionally trying to fail but because they are missing the lived experiences and perspectives of others. For instance, if chief executive officers (CEOs) seek input only from managers of the same ethnicity, gender, and socioeconomic background, they may not fully understand or consider the potential consequences of their decisions on the diverse group of employees. The CEO's decision may overlook the unique challenges different groups of employees may face; the decision may not be well received by other employees, leading to negative consequences such as decreased morale and productivity or a high turnover rate. Inclusive decision-making, on the other hand, encourages the participation of diverse perspectives and backgrounds, which leads to more informed and well-rounded decisions that consider the needs and concerns of all stakeholders. This approach will likely result in better outcomes for the organization and its employees. When searching for ways to mitigate incidents, first responders should have an intimate understanding of the consumers' culture, beliefs, and language, making them feel safe and respected.⁶² Equipped with the appropriate skill set and opportunity, African Americans can be force-multipliers offering valuable context and vision.

For organizations to value diversity at the leadership level, they must first appreciate the presence of diversity at all lower levels in the agency. If succession planning is conducted with diversity in mind, individuals of various backgrounds should eventually rise to leadership positions.⁶³ Inclusion in organizations is created by leaders knowing how to manage the differences of everyone in the group so that all diverse perspectives are valued, respected, and

⁶¹ Emily Forrest Hutchens, "Call to EMS Research: Disparities in Recruitment and Retention of Black Providers Is an Issue We Cannot Ignore," *Journal of Collegiate Emergency Medical Services* 4, no. 1 (2021): 5–7, <https://doi.org/10.30542/JCEMS.2021.04.01.01>.

⁶² John J. McNeil, "Diversity in the Fire Service: A Problem or a Solution?," *Fire Engineering*, October 1, 2008, <https://www.fireengineering.com/leadership/diversity-in-the-fire-service-a-problem-or-a-solution/>.

⁶³ Marcelle W. Davis, "Absence of Diversity at the Leadership Level," *Journal of Practical Consulting* 1, no. 6 (2018), <https://www.regent.edu/journal/journal-of-practical-consulting/lack-of-diversity-in-the-workplace/>.

heard.⁶⁴ There can be an absence of diversity at the leadership level due to organizations' unwillingness to expand their traditional views or perceptions of leadership. Instead, the organization or leader can only relate to one's experiences, culture, ethnicity, and social norms.⁶⁵ When diversity and inclusion are not an intentional part of an organization, barriers will continue to impede minorities. This omission reduces productivity and efficiency when solutions are needed for underserved communities.⁶⁶

A department's organizational culture must be studied in depth when analyzing fire-related injuries and fatalities in a community.⁶⁷ In FIRE 20/20's research report on multicultural health and safety, organizational culture is defined as "a pattern of shared behaviors based on assumptions that the group learned as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way [to] perceive, think, and feel, concerning those problems."⁶⁸ If this is the correct definition of organizational culture, a diverse workforce that understands different cultural norms and experiences is needed to protect the population served. When this is achieved within organizations, members who represent diverse groups bring with them lived experiences in society and the understanding of being a minority. Organizations that do not value the presence of diversity and the critical roles it plays relative to department culture and community protection will continue to make the same costly mistakes that hamper job satisfaction and the quality of care delivered to citizens.⁶⁹

Contributors to the FIRE/2020 report interviewed members of marginalized communities who had had various negative encounters with fire and EMS department personnel. The report includes an account of delayed treatment from first responders who

⁶⁴ Davis.

⁶⁵ Davis.

⁶⁶ Davis.

⁶⁷ FIRE 20/20, *Multicultural Health and Safety Research Project Final Report* (Bremerton, WA: FIRE 20/20, 2007), 25.

⁶⁸ FIRE 20/20, 25.

⁶⁹ FIRE 20/20, 26.

judged the patient.⁷⁰ The patient had contacted 9-1-1 after experiencing chest pain while cleaning her apartment. The patient had thrown a party the day before, and first responders could see a beer can that had not been thrown away and assumed the patient was intoxicated. Instead of caring for the patient, the first responders looked around the apartment until the medics arrived, who immediately took her vitals and transported her to a medical facility. The patient recalled the medics yelling at first responders for not taking her vitals and emphasizing that if they had done so, they would have realized that the patient was having a heart attack.⁷¹

Another person referenced a time that he and his family had been without electricity, so they used charcoal inside the home for warmth and cooking. After feeling ill and exhausted, the interviewee contacted 9-1-1, who dispatched first responders to mitigate the hazard and treat those who had been overcome by carbon monoxide. When asked about the incident, the patient stated,

Our community has to know about the fire department more. They don't come contact directly the communities. Our community established like 1994, nobody is coming and talk to us. They don't know what carbon monoxide is. People are dying of that. There is no information. We don't have access for computer. We don't have access for internet. We don't have access for other means of communication. So I heard that people are going door to door, they knock and they say don't use charcoal. Don't use charcoal. And other than that, if they print it in our language and distribute it, that would be easier. That's what I feel.⁷²

Providing the appropriate resources to underserved populations during and after an incident takes research to identify the disparities within the community before the event. Also, knowing how to best communicate with groups who feel disenfranchised so that trust and respect can be established is essential. Increasing the number of African American first responders in the fire and EMS profession will help build relationships within the community while also addressing biases and perceptions that can decrease the level of care provided. Departments that add valued perspectives through diverse hiring initiatives can apply strategic solutions for predictable risk factors plaguing African American communities.

⁷⁰ FIRE 20/20, 112.

⁷¹ FIRE 20/20, 112.

⁷² FIRE 20/20, 96.

III. HISTORY OF THE AMERICAN FIRE SERVICE

This chapter discusses the inception of the American fire service and the culture and issues faced by African Americans throughout history. It examines why many African Americans genuinely disliked what the fire service stood for in its early years and how years of toxic cultures and bias could lead to a shortage of African Americans in the fire service profession. This chapter examines three eras of the fire service, divided into sections. The first section discusses the early years and how the fire service was founded and operated and how it viewed the participation of African Americans. The second section discusses how African Americans were treated by society and the fire service during the civil rights era, when segregation and racism were prevalent in America. The last section looks at the fire service from 1970 to the present. Although times have changed and practices once condoned by departments are now met with zero tolerance, African American firefighters are still subject to toxic cultures within the profession.

A. THE EARLY YEARS: 1711–1960

Fire has been a force of nature to contend with since the early settlers inhabited America. Europeans lived in constant danger due to the construction of their dwellings that incorporated wooden chimneys and thatched roofs.⁷³ Fire prevention was the best early method of firefighting through regulations identifying which materials could be used in construction.⁷⁴ Bucket brigades were created and staffed by community men willing and able-bodied enough to pass buckets of water while standing in a line from a water source to the vicinity of the fire. This method of firefighting proved less than effective.⁷⁵

New methods of firefighting were introduced and evolved. In 1711, Boston, Massachusetts, suffered a devastating fire that burned down over 100 buildings, leaving the

⁷³ National Volunteer Fire Council, *A Proud Tradition: 275 Years of the American Volunteer Fire Service* (National Volunteer Fire Council, 2012), 10, https://www.nvfc.org/wp-content/uploads/2015/10/Anniversary_Publication.pdf.

⁷⁴ National Volunteer Fire Council, 10.

⁷⁵ National Volunteer Fire Council, 10.

community in ruins and in search of a better way to deal with fire protection.⁷⁶ As a result of the great fire loss, “fire societies” were formed, consisting of groups who swore to the safety of the life and property of others whenever the need arose. Benjamin Franklin, fondly considered “America’s first fire chief,” saw the need for better firefighting capabilities in Philadelphia and sought advice from prominent Bostonians, which led to their co-founding the first firefighting organization, the Union Fire Company.⁷⁷ As firefighting units formed under British rule, many instrumental business people and civic leaders became firefighters, such as George Washington, Samuel Adams, Alexander Hamilton, Paul Revere, and John Hancock.⁷⁸ After American independence, firefighters experienced growing political influence and were looked upon in high regard, with the firehouse a focal point for assembly in city neighborhoods.⁷⁹

With war looming and the segregation of the working class, violence began to erupt among fire companies who sought to be first to a fire in search of accolades and monetary rewards. Fire units of this period played an integral part in the urban riots, displaying corruptness and hostility and erasing the public’s perception of firefighters and their noble deeds.⁸⁰ At the end of the Civil War, many veterans equipped with skills and needing employment found work in America’s largest city fire units. With equipment advancement, firefighting required training, education, screening examinations, and personnel standards.⁸¹ By the late 1800s and early 1900s, most large metropolitan fire departments had established fire training facilities where lessons in firemanship could be learned and made into a career.⁸²

The early fire service mirrored society’s flaws relative to ethnicity interaction, especially as it pertained to African Americans’ involvement in the white-dominated fire profession. African Americans were not successful in integrating into the established fire

⁷⁶ National Volunteer Fire Council, 11.

⁷⁷ National Volunteer Fire Council, 11.

⁷⁸ National Volunteer Fire Council, 11.

⁷⁹ National Volunteer Fire Council, 12.

⁸⁰ National Volunteer Fire Council, 12.

⁸¹ National Volunteer Fire Council, 13.

⁸² National Volunteer Fire Council, 13.

companies. In July 1818, the City of Philadelphia conducted an open call for membership, knowing African Americans would not be seriously considered.⁸³ Once they realized that the opportunity for gainful employment in the noble profession of firefighting eluded them, African Americans had to take other measures to protect the lives and property within their communities.⁸⁴ The African Fire Association (AFA) was established to create the first African American fire company, which instantly drew opposition from white fire companies. Establishing an African American fire company was a direct challenge to the social norms and mindsets of the era, and many whites viewed it as defiance that had to be dealt with.⁸⁵ The *Poulson's Daily American Advertiser* announced that "committees appointed by the Engine and Hose Companies to devise the most suitable means of preventing the Men of Colour from forming Fire and Hose Companies should plan to meet that evening at Stell's Tavern."⁸⁶ The committee discussed various methods to suppress the AFA, including preventing the African Hose Companies from utilizing the fire plugs and making it impossible to put fires out. Some argued that firefighter effectiveness and water reserves would be compromised if African American fire companies were permitted to use the fire plugs, thus harming the community. If the AFA were allowed to organize, white companies planned to abandon their duties, leaving all firefighting to the AFA and those who chose to support them.⁸⁷

By the late 19th century, white firefighters were admired, with many people following the fire companies singing songs and telling stories of their courageous acts.⁸⁸ While white firefighters were portrayed as brave, confident, and determined to rescue the

⁸³ John C. McWilliams, "'Men of Colour': Race, Riots, and Black Firefighters' Struggle for Equality from the AFA to the Valiants," *Journal of Social History* 41, no. 1 (Fall 2007): 3, <https://doi.org/10.1353/jsh.2007.0141>.

⁸⁴ McWilliams, 1.

⁸⁵ McWilliams, 2.

⁸⁶ McWilliams, 3.

⁸⁷ McWilliams, 4.

⁸⁸ McWilliams, 7.

public in pictures, African American firefighters were portrayed as inept and saving only material items, never women or children.⁸⁹

B. RACIAL DISCRIMINATION AND THE CIVIL RIGHTS ERA: 1960S–1970S

African American firefighters had a presence in the South that cast them under the direct supervision of white supervisors. In the 1960s and 1970s, more African Americans became firefighters but faced unfriendly conditions within and outside the firehouse.⁹⁰ In some departments, African American firefighters were allowed to work only from one station, enter through backdoors if at all, and not seek promotion due to limited positions availability at their one station.⁹¹ African Americans often had strong bonds that assisted them when times were difficult, but being relegated to one firehouse had drawbacks. Seclusion to one house kept the firefighters from obtaining knowledge about changing protocols or training.⁹² Many white firefighters of this time were against being sent to the “black station” because it was seen as a punishment or demotion. They did not want to be admonished by sharing a living space with African American firefighters.⁹³ When outside the firehouse, African Americans were tasked with duties that put them in harm’s way. They were assigned positions that placed them directly in the path of toxic smoke. They were given menial jobs such as dethawing fire hydrants in the winter or carrying heavy fire hoses during fire operations.⁹⁴ Despite the many obstacles, African American firefighters enjoyed firefighting. They saw it as an opportunity to remove themselves from the hostile environment and be considered heroes in the community. This also proved to be a chance for African American firefighters to show their value and proficiency to white firefighters.⁹⁵

⁸⁹ McWilliams, 7.

⁹⁰ McWilliams, 9.

⁹¹ McWilliams, 9.

⁹² McWilliams, 9.

⁹³ McWilliams, 9.

⁹⁴ David A. Goldberg, “Courage under Fire: African American Firefighters and the Struggle for Racial Equality” (PhD diss., University of Massachusetts Amherst, 2006), 231, <https://core.ac.uk/download/pdf/32438536.pdf>.

⁹⁵ Goldberg, 219.

Segregation of the firehouses paved the way for white firefighters who were unhappy with the arrangement to unleash various forms of harassment, such as filling African Americans' boots with water or eggs, destabilizing their beds so that they would collapse upon use, and provoking fights.⁹⁶ The tone of the firehouse varied depending on the fire captain in charge. In the Baltimore Fire Department, fire captains were labeled either "good" or "bad."⁹⁷ In firehouses run by a good captain, African Americans could access the television and participate in the house extras fund that paid for food, coffee, and condiments. Work conditions under the supervision of a bad captain often involved being forced to eat separately, not using the television, and constantly being attacked verbally with racial slurs.⁹⁸ Firefighter James Crockett, who was a member of the City of Baltimore's third class of African American firefighters, stated,

It is extremely hard, as a worker, sleeping and living in a house with men 14 hours at night, 10 hours a day knowing that they didn't care for you. You had to be on the watch constantly to protect yourself; you didn't know when somebody was going to do something objectional to you, so it was extremely hard and it was hazardous. Going to work was not a pleasure, even though you enjoyed what you were doing.⁹⁹

James E. Maddox, a former Atlanta resident, grew up near a fire station where the firefighters had a pet monkey. Maddox recalled that the firefighters treated the monkey better than the little black children who came around the station. He stated, "That kind of prejudice doesn't die easily."¹⁰⁰ Interactions such as these could alienate individuals as well as create feelings of discontent.

⁹⁶ McWilliams, "Men of Colour," 10.

⁹⁷ Goldberg, "Courage under Fire," 232.

⁹⁸ Goldberg, 233.

⁹⁹ Goldberg, 234.

¹⁰⁰ Shelia Poole, "Tested by Flames and Prejudice: City's First Black Firefighters Honored," *Atlanta Journal-Constitution*, April 1, 2013, <https://www.ajc.com/news/local/tested-flames-and-prejudice-city-first-black-firefighters-honored/tfmz8AOuaMOICqeJ5fkmzJ/>.

C. PRESENT DAY: 1970S TO THE PRESENT

In 1970, the International Association of Black Professional Firefighters (IABPFF) was founded to fight racism, discriminatory hiring practices, and inequitable working conditions within the fire service.¹⁰¹ Over 450 African American firefighters converged in Hartford, Connecticut, pleading to the delegation for innovations to increase fire safety in the inner city and improve community relations.¹⁰² As expressed in the IABPFF's mission statement,

Whereas we, black firefighters, aware of the increasing complexity of fire problems and those of our brothers with the community, feel called upon to form an organization for the purpose of studying and solving such problems; in order to take our place in the vanguard of civilization. We hereby form an organization for the purpose of cultivating and maintaining professional competence among firefighters and establishing unity and brotherhood, also keeping alive in the interest among retired members, for the avowed purpose of improving the social status of our race and increasing professional efficiency.¹⁰³

In the modern fire service, racism and sexism still exist and can inflict significant damage, altering how the community views the department. Chiefs in today's fire service are confronted with issues such as black and white firefighters not wanting to share beds during different shifts and firefighters wanting the co-workers in the firehouse to be exclusively black or white.¹⁰⁴ A noose was found hanging in a black firefighter's locker. In another event, a fire officer informed an African American firefighter to smile when he was in a dark area so that he could locate him during an emergency.¹⁰⁵ Situations such as these provide a glimpse into the reality of many African American firefighters in the past and current environment. As late as 2019, language in the New York City Fire Department (FDNY)'s training material warned members about recruiting people of color and women: "Team

¹⁰¹ McWilliams, "Men of Colour," 11.

¹⁰² Goldberg, "Courage under Fire," 282.

¹⁰³ Goldberg, 283.

¹⁰⁴ "Racism and the Fire Service," Firefighter Nation, February 1, 2015, <https://www.firefighternation.com/firerescue/racism-and-the-fire-service/>.

¹⁰⁵ Firefighter Nation.

building encounters special problems when the team has to readjust to new members, minorities or females, or members who are problems because they do not behave.”¹⁰⁶ In 2014, the FDNY initiated an effort to recruit firefighters from “black and brown” communities with decent success, but a change in organizational culture did not accompany the recruitment efforts.¹⁰⁷ While these types of documented behavior are extreme, they paint a picture of the broader issues within the profession and their adverse impact on the recruitment and retention of African Americans.

D. HISTORY/INCORPORATION OF EMS

The triage, treatment, and transportation of wounded trauma patients go back to the Civil War when an organized method of care was developed for field troops in battle.¹⁰⁸ In 1865, the first civilian ambulance was put in service in Cincinnati, Ohio. In the 1920s, rescue squads began forming in cities in New Jersey and Virginia, for example, where fire departments, hospitals, and funeral homes transported the ill and injured.¹⁰⁹ In the early 1960s, emergency medical practitioners with better knowledge and innovation introduced the methodology and science behind initial cardiopulmonary resuscitation (CPR) in detail. Major urban cities across America, such as Los Angeles, Miami, and Seattle, documented and shared their CPR success stories of saving lives in pre-hospital cardiac patients.¹¹⁰ In 1965, 49,000 Americans died from traffic accidents that resulted in critical traumatic injuries.¹¹¹ This dilemma was highlighted in the 1966 white paper titled *Accidental Death*

¹⁰⁶ Astead W. Herndon and Ali Watkins, “How a Racist Scandal at the F.D.N.Y. Led to Its Biggest Suspensions Ever,” *New York Times*, October 1, 2021, <https://www.nytimes.com/2021/10/01/nyregion/fdny-racism-scandal.html>.

¹⁰⁷ Herndon and Watkins.

¹⁰⁸ Joshua Bucher and Hashim Q. Zaidi, “A Brief History of Emergency Medical Services in the United States,” Emergency Medicine Residents’ Association, accessed October 8, 2022, <http://www.emra.org/about-emra/history/ems-history/>.

¹⁰⁹ Bucher and Zaidi.

¹¹⁰ Bucher and Zaidi.

¹¹¹ “The Highway Safety Act of 1966,” Office of the Historian, accessed October 8, 2022, <https://history.house.gov/Historical-Highlights/1951-2000/The-Highway-Safety-Act-of-1966/>.

and Disability: The Neglected Disease of Modern Society.¹¹² This report pointed out the growing epidemic of traumatic injuries and the lack of an organized system to treat patients needing pre-hospital care. This document, prepared by the National Academy of Sciences and the President's Commission on Highway Safety, advocated reform in the education, staffing, response, and system design of the nation's ambulance service. The national Highway Safety Act of 1966, which established the Department of Transportation, solidified the importance of setting EMS education and curriculum standards, which led to the creation of trauma center accreditation by the American College of Surgeons Committee on Trauma.¹¹³ These actions culminated in a curriculum standard that addressed the qualifications and skills needed to become an emergency medical technician (EMT) for the first time in U.S. history.¹¹⁴

Pre-hospital emergency care, accompanied by the requirements of modern firefighting, has become more complex over the last several decades due to EMS licensure standards modified the profession.¹¹⁵ Many fire departments nationwide with the sole responsibility of fire mitigation have been thrust into the modern age, where providing EMS service quickly and efficiently is prioritized. With this change, the ideal attributes of a firefighter shifted dramatically. Some departments changed their prerequisites while others utilized the “cookie cutter” approach of hiring candidates and forcing them into a position whose scope exceeds their knowledge, skills, and abilities (KSAs). Twenty million patients are treated every year by EMS personnel in the United States.¹¹⁶ The proper quick and efficient response could be the difference between life and death in pre-hospital care. There is a list of emergency medical licensure levels in the EMS arena, but this thesis focuses only

¹¹² National Research Council, *Accidental Death and Disability: The Neglected Disease of Modern Society* (Washington, DC: National Research Council, 1966), 2, <https://www.ems.gov/pdf/1997-reproduction-accidentaldeathdisability.pdf>.

¹¹³ Bucher and Zaidi, “A Brief History of Emergency Medical Services.”

¹¹⁴ Bucher and Zaidi.

¹¹⁵ National Volunteer Fire Council, *A Proud Tradition*, 19.

¹¹⁶ National Highway Traffic Safety Administration, *National EMS Scope of Practice Model* (Washington, DC: National Highway Traffic Safety Administration, 2007), 4, https://www.ems.gov/pdf/education/EMS-Education-for-the-Future-A-Systems-Approach/National_EMS_Scope_Practice_Model.pdf.

on the EMT–advanced (EMT-A) and paramedic levels. The term *scope of practice* is defined as follows:

A legal description of the distinction between licensed health care personnel and the lay public and among different licensed health care professionals. It describes the authority, vested by a State in licensed individuals practicing with that State. Scope of practice establishes which activities and procedures represent illegal activity if performed without licensure. In addition to drawing the boundaries between the professionals and the lay person, scope of practice also defines the boundaries among professionals, creating either exclusive or overlapping domains of practice.¹¹⁷

Advanced emergency medical technicians, those who possess EMT-A licensure, are knowledgeable in anatomy, physiology, illnesses, and injuries that may be encountered and can recognize signs and symptoms a patient is presenting.¹¹⁸ The EMT-A’s scope of practice comprises basic and some advanced lifesaving skills, including pharmacological interventions by establishing and maintaining peripheral intravenous access. These KSAs are used at incidents until a patient is transported to an appropriate healthcare facility. In some fire departments, EMT-As provide the highest level of care, and in others, they are part of a tiered emergency response system.¹¹⁹ To become an EMT-A, candidates complete 400 hours of EMS training. They ride with field training officers who acclimate them to operating in real-world emergencies.¹²⁰ Skill assessments in a controlled environment are taught in classroom settings. To become certified and licensed, a prospective EMT-A has to attain one’s CPR certification, graduate from an accredited EMS school, and pass both the cognitive and psychomotor components of the National Registry examination.¹²¹ The recertification for an EMT-A occurs every two years when the candidate completes 40 hours of continuing education training.

¹¹⁷ National Highway Traffic Safety Administration, *National EMS Scope of Practice Model*, 11.

¹¹⁸ Shannon Lee, “EMT vs. Paramedic: Get to Know the Difference,” EduMed, June 11, 2020, <https://www.edumed.org/medical-careers/emt-vs-paramedic/>.

¹¹⁹ National Highway Traffic Safety Administration, *National EMS Scope of Practice Model*, 27.

¹²⁰ Lee, “EMT vs. Paramedic.”

¹²¹ Lee.

Paramedics have an increased level of care they administer in the field. Paramedics have the KSAs to perform complex procedures such as endotracheal intubation, percutaneous cricothyrotomy, decompression of pleural space, infusion of blood products, and intravenous administration of medications.¹²² Paramedic programs incorporate a more in-depth curriculum due to the invasive nature outlined in their scope of practice.¹²³ Earning a paramedic license takes approximately 1,200 to 1,800 hours of training, which could span two years. Paramedics must complete field and clinical rotations with registered nurses and other paramedics who assist them in refining their skills as paramedics in training. To attain certification and licensure as a paramedic, the candidate must graduate from an accredited paramedic program, possess a current CPR certification, complete a psychomotor competency portfolio, and pass both the psychomotor and cognitive exams.¹²⁴ To recertify, paramedics need 60 hours of continuing education every two years.

Obtaining a paramedic's license is similar to earning an associate degree, which can prevent candidates and incumbent members who struggle academically from entering or staying employed in the fire service.¹²⁵ Depending on a candidate's educational background, navigating the EMS licensure curriculum can be difficult for those unfamiliar with anatomy or Latin and the associated medical prefixes. Departments that encounter recruits who struggle with essential reading, writing, and comprehension fundamentals face high turnover rates that are problematic and create retention and budgetary issues.¹²⁶ Passing the National Registry of Emergency Medical Technicians' (NREMT's) exam has proven challenging for those seeking EMS certification. The National Registry test is complex, with a first-time pass rate of 67 percent for EMTs and 70 percent for paramedics.¹²⁷

¹²² National Highway Traffic Safety Administration, *National EMS Scope of Practice Model*, 29.

¹²³ Lee, "EMT vs. Paramedic."

¹²⁴ Lee.

¹²⁵ Akila Muthukumar, "From Low Pay to Workplace Culture, Obstacles Litter the Path to Diversity in EMS," STAT, August 1, 2022, <https://www.statnews.com/2022/08/01/obstacles-litter-path-to-ems-diversity/>.

¹²⁶ Muthukumar.

¹²⁷ "The NREMT: 'Absolutely Ridiculous'?", Limmer Education, November 17, 2021, <https://limmereducation.com/article/the-nremt-absolutely-ridiculous/>.

IV. SOCIOECONOMIC FACTORS OF RECRUITMENT AND RETENTION

This chapter identifies socioeconomic factors that may explain why so few African Americans serve as firefighters and paramedics in the American fire service.

A. PRIMARY AND SECONDARY EDUCATION

A known truth about the issues contributing to this shortage is that primary and secondary education can increase or decrease a person's ability to acquire required certifications for employment in the fire and EMS service. Paramedic school directors have identified basic skills as problematic when teaching many parts of the paramedic course. Deficiencies in basic skills are challenging but most evident when teaching communication, documentation, and pharmacology math skills.¹²⁸

Today's public schools remain economically and racially segregated, mainly in urban areas where African American students are more likely to attend low-income schools than white students.¹²⁹ Regardless of where students live, they should be afforded the same opportunity to receive an education from adequately equipped schools with the resources necessary to help them succeed in life.

In 1954, *Brown v. Board of Education* established that public education is a right that must be equal for everyone.¹³⁰ Public schools continuously struggle to provide the proper education to students due to limited funding compared to school districts with higher tax revenue, resulting in different learning opportunities based on social status.¹³¹ Students who grow up in poverty-stricken neighborhoods often find themselves at the lower end of

¹²⁸ National Highway Traffic Safety Administration, *EMT-Paramedic: National Standard Curriculum* (Washington, DC: National Highway Traffic Safety Administration, 1998), 17.

¹²⁹ U.S. Commission on Civil Rights, *Public Education Funding Inequity: In an Era of Increasing Concentration of Poverty and Resegregation* (Washington, DC: U.S. Commission on Civil Rights, 2018), 13, <https://www.usccr.gov/files/pubs/2018/2018-01-10-Education-Inequity.pdf>.

¹³⁰ U.S. Commission on Civil Rights, 3.

¹³¹ Jazmine Denise, "A Broken System: What a Lack of Resources in High Poverty Schools Actually Looks Like," *Madame Noire*, August 28, 2019, <https://madamenoire.com/1090318/a-broken-system-what-a-lack-of-resources-in-high-poverty-schools-actually-looks-like/>.

the achievement spectrum because of the disparities associated with income and ethnicity.¹³²

In 2002, the No Child Left Behind (NCLB) Act was established to increase the accountability of schools receiving Title I funds.¹³³ Performance metrics were incorporated that addressed and identified learning gaps to provide educational opportunities to all students. Benchmarks were set to gauge students' achievement through annual reading and mathematics testing. The NCLB Act placed the burden of student learning and performance on the teachers.¹³⁴ Incentives were a part of the framework of the NCLB Act in hopes of inspiring teachers to further their level of education, ultimately resulting in educator competency. Students who struggled scholastically were often labeled “bad learners,” and the class moved on without understanding the subject matter. With the implementation of the NCLB Act, students were taught at a level that would work best for them. With the statute, schools were motivated through incentives to identify students who needed extra resources to master classwork instead of placing the burden on the students' families.

With the NCLB Act, teacher pay was directly related to how well their students tested, no matter how hard they tried to prepare the student, resulting in teacher shortages, especially in rural communities.¹³⁵ Many teachers felt they had little to no control over how or what to teach the students, being able only to “teach the test” so that the students would do better on their exams, resulting in stability and better pay for teachers. Students who were not struggling with class assignments and testing often felt neglected because the teachers focused on increasing the scores of the lower-achieving students. Nevertheless, low-scoring students were sometimes abandoned. Teachers categorized the children with the worst scores as “unhelpable” and felt their time was best spent with those closest to the acceptable levels. The NCLB Act's objectives and goals caused teachers to focus more on

¹³² U.S. Commission on Civil Rights, *Public Education Funding Inequity*, 5.

¹³³ U.S. Commission on Civil Rights, 20.

¹³⁴ Louise Gaille, “19 No Child Left Behind Pros and Cons,” *Vittana* (blog), October 18, 2017, <https://vittana.org/19-no-child-left-behind-pros-and-cons>.

¹³⁵ Gaille.

showing students how to take a standardized test than they did ensuring that children grasped the course material, thus passing children who were not ready to move on. The NCLB Act is viewed in retrospect as a failed attempt at providing equal education to primary and secondary low-income school children based on faulty theories of why the system was failing.¹³⁶

According to the Commission on Civil Rights, African American and Latinx high school students have significantly fewer opportunities to take advanced academic courses than their white peers.¹³⁷ African American and Latinx students represent only 37 percent of students able to take “high rigor” courses and only 29 percent of students placed in advanced classes in science, technology, engineering, and math. According to the Commission on Civil Rights, “Only 33 percent of all high schools with a large African American and Latinx presence offered Calculus, 48 percent offered Physics, 65 offered Chemistry, and 71 percent Algebra II. In high schools with fewer African Americans and Latinos, 56 percent offered Calculus, 67 percent offered Physics, 78 offered Chemistry, and 84 percent offered Algebra II.”¹³⁸ Moreover, a disproportionate number of African American and Latinx students are enrolled in talented and gifted programs. Latinx students are 47 percent less likely and African Americans 66 percent less likely to have representation in these high-achievement programs.¹³⁹ Furthermore, African American and Latinx students are two times more likely than their white counterparts to be enrolled in schools with first-year teachers representing 20 percent of the faculty and twice as likely to be at a school where more than 20 percent of the teachers have not attained licensure or state certifications.¹⁴⁰

¹³⁶ Gaille.

¹³⁷ U.S. Commission on Civil Rights, *Public Education Funding Inequity*, 63.

¹³⁸ U.S. Commission on Civil Rights, 63.

¹³⁹ U.S. Commission on Civil Rights, 64.

¹⁴⁰ U.S. Commission on Civil Rights, 64.

B. EFFECTS OF CRIME AND POVERTY

Crime and poverty can have a range of adverse effects on individuals, families, and communities. These negative factors can hinder the fire services' ability to recruit and retain African Americans because they adversely impact individuals. The national poverty rate in America is 12.8 percent, with the national child poverty rate being 16.9 percent.¹⁴¹ Among all ethnicities, African Americans have the highest poverty rate in America at 19.5 percent and a median household income of \$48,000. In communities with high poverty rates, students of low-income families are more likely to have a decreased quality of life and health. Poverty-stricken areas also tend to increase the stressors in a student's life and increase violent encounters.¹⁴² Poverty is the leading factor relative to the African American graduation rate at the high school and undergraduate levels.¹⁴³ In 2021, the African American high school graduation rate was reported to be 75.9 percent, according to the Kids Count Data Center, compared to 86.9 percent for their white peers.¹⁴⁴

In 2021, African Americans had the highest obesity rate among all ethnicities in the United States, with over 44 percent of adults categorized as obese.¹⁴⁵ Obesity is a significant issue that plagues American society in general. According to the National Library of Medicine, research has shown a correlation between low income and higher obesity.¹⁴⁶ Conversely, the argument could be made that if an individual is obese, she is likely to have a low income due to being looked down on as lazy and undisciplined by the

¹⁴¹ Craig Benson, "Poverty Rate of Children Higher Than National Rate, Lower for Older Populations," U.S. Census Bureau, October 4, 2022, <https://www.census.gov/library/stories/2022/10/poverty-rate-varies-by-age-groups.html>.

¹⁴² U.S. Commission on Civil Rights, *Public Education Funding Inequity*, 86.

¹⁴³ "Black High School Graduation Rates by State 2022," World Population Review, accessed November 6, 2022, <https://worldpopulationreview.com/state-rankings/black-high-school-graduation-rates-by-state>.

¹⁴⁴ "High School Graduation Rates by Race and Ethnicity," Kids Count Data Center, accessed November 6, 2022, <https://datacenter.kidscount.org/data/tables/10120-high-school-graduation-rates-by-race-and-ethnicity/>.

¹⁴⁵ "Obesity Rates: U.S. Adults by Race/Ethnicity 2021," Statista, accessed November 6, 2022, <https://www.statista.com/statistics/207436/overweight-and-obesity-rates-for-adults-by-ethnicity/>.

¹⁴⁶ Tae Jun Kim and Olaf von dem Knesebeck, "Income and Obesity: What Is the Direction of the Relationship? A Systematic Review and Meta-Analysis," *BMJ Open* 8, no. 1 (2018): e019862, <https://doi.org/10.1136/bmjopen-2017-019862>.

job market. These unfair stereotypes often cause obese individuals to develop low self-esteem and mental health issues and prevent them from seeking wellness resources. Accessibility to healthy foods in low-income communities is vital to reducing social inequities and improving underserved populations' health.¹⁴⁷ Low-income minority neighborhoods, in contrast to middle and high-income areas, seemingly have more convenience stores that sell foods high in fat and at a higher price than supermarkets that sell more nutrient-rich options such as fresh produce.¹⁴⁸ The absence of nutritious food options has the potential to manifest itself as a barrier, limiting job options that mandate health and wellness requirements along with physical ability testing. Data show that properly nourished children learn better, interact with classmates better, and have much lower absenteeism than their malnourished counterparts.¹⁴⁹ Studies also suggest healthy eating can increase students' cognitive ability, intuition, and reasoning, reducing behavioral problems.¹⁵⁰ According to the Department of Agriculture, 21 percent of African Americans live in food-insecure households. African American children are three times more likely to go to school hungry than their white classmates.¹⁵¹

Children in low-income neighborhoods are more likely to endure violence, such as fights, homicides, aggravated assaults, bullying, and sexual assault. Incidents such as these can lead to physical injuries and mental health issues.¹⁵² Growing up in environments like these can be detrimental to young people who would be prospective candidates for the fire service. The homicide rate for African Americans ages 10 to 34 (37.5 per 100,000) is 13

¹⁴⁷ Punam Ohri-Vachaspati et al., "Healthy Food Access in Low-Income High-Minority Communities: A Longitudinal Assessment—2009–2017," *International Journal of Environmental Research and Public Health* 16, no. 13 (July 2019): 2354, <https://doi.org/10.3390/ijerph16132354>.

¹⁴⁸ Ohri-Vachaspati et al.

¹⁴⁹ "3 Ways Nutrition Influences Student Learning Potential and School Performance," Healthy Food Choices in Schools, June 12, 2019, <https://healthy-food-choices-in-schools.extension.org/3-ways-nutrition-influences-student-learning-potential-and-school-performance/>.

¹⁵⁰ Healthy Food Choices in Schools.

¹⁵¹ "Food Insecurity in Black Communities," Feeding America, accessed November 6, 2022, <https://www.feedingamerica.org/hunger-in-america/african-american>.

¹⁵² Kameron J. Sheats et al., "Violence-Related Disparities Experienced by Black Youth and Young Adults: Opportunities for Prevention," *American Journal of Preventive Medicine* 55, no. 4 (2018): 462, <https://doi.org/10.1016/j.amepre.2018.05.017>.

times the rate of their white counterparts of the same age (2.9 per 100,000). Low-income minority communities are disproportionately affected by racism, concentrated poverty, limited occupational opportunities, and other components of social and economic pitfalls that lead to violence.¹⁵³ These identified components shed light on the disproportionate rates of nonfatal violence and homicides experienced by—especially by—young African American males. These imbalances exist due to the less desirable social and economic conditions in low-income environments and childhood trauma that coincides with increased risk for the perpetration and victimization of violence for generations.¹⁵⁴

Support systems are beneficial when navigating the challenges life places before children. In many instances, support comes from parents, family members, and friends in the form of resources. The lack of support can hamper an individual's ability to persevere when obstacles present themselves. In low-income African American communities, parental incarceration contributes to removing a child's support system. According to *The Color of Justice* report, African Americans are locked up in the state prison system at five times the rate of white Americans, and 1 in 81 adults per 1000,000 is serving time in state prison.¹⁵⁵ Children of an incarcerated parent are 51 percent more likely to suffer from anxiety, 72 percent more likely to suffer post-traumatic stress disorder, and 43 percent more likely to suffer depression.¹⁵⁶ These issues compound the problems of low-income families looking to establish economic stability, placing a more considerable financial burden on the remaining parent, who must find additional employment to compensate for the lost income. While 74.3 percent of all white children below 18 live with both parents,

¹⁵³ Sheats et al., 2.

¹⁵⁴ Sheats et al., 2.

¹⁵⁵ Sentencing Project, *The Color of Justice: Racial and Ethnic Disparity in State Prisons* (Washington, DC: Sentencing Project, 2021), 5, <http://cdn.cnn.com/cnn/2021/images/10/13/the-color-of-justice-racial-and-ethnic-disparity-in-state-prisons.pdf>.

¹⁵⁶ Leila Morsy and Richard Rothstein, *Toxic Stress and Children's Outcomes: African American Children Growing Up Poor Are at Greater Risk of Disrupted Physiological Functioning and Depressed Academic Achievement* (Washington, DC: Economic Policy Institute, 2019), <https://www.epi.org/publication/toxic-stress-and-childrens-outcomes-african-american-children-growing-up-poor-are-at-greater-risk-of-disrupted-physiological-functioning-and-depressed-academic-achievement/>.

only 38.7 percent of African American children do.¹⁵⁷ There are many drawbacks pertaining to living in a single-parent home. Some difficulties arise from the lack of parental supervision when the child needs assistance with homework, reassurance, meals prepared, or guidance in times of peer pressure.

Prospective African American candidates who grow up in poverty may not have the resources and opportunities to succeed. These socioeconomic factors can limit an individual's ability to acquire skills and the experience necessary to enter the fire and EMS service. African American youth in low-income, high-crime areas may struggle to focus on education and career goals when they do everything possible to survive. Also, in environments such as this, individuals are more likely to be involved in the criminal justice system, which can result in a criminal record that can make it challenging to attain employment in the fire and EMS profession.

¹⁵⁷ Zenitha Prince, "Census Bureau: Higher Percentage of Black Children Live with Single Mothers," AFRO News, December 31, 2016, <http://afro.com/census-bureau-higher-percentage-black-children-live-single-mothers/>.

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V. CASE STUDIES

This chapter compares statistical and procedural data from three metropolitan cities and their fire and EMS departments: Fairfax County, Virginia; Atlanta, Georgia; and Memphis, Tennessee. These departments are of similar size and have leaders who value the importance of diversity within their organizations. All three chiefs belong to the Metropolitan Fire Chiefs Association, a group of proven leaders who assist current and future fire and EMS professionals with solutions to problems that plague the fire and EMS industry.¹⁵⁸ During the 2022 Metropolitan Fire Chiefs Conference, the challenging topic of diversity, equity, and inclusion was discussed, with members acknowledging much work was left to do. For hours, the chiefs had intense discussions about unconscious and conscious biases that keep the fire and EMS service from becoming more diverse.

Along this line, this chapter analyzes potential correlations between the first-time pass rates of the NREMT exam and the cities' socioeconomic factors. The analysis of each city involves different socioeconomic factors. Fairfax, Atlanta, and Memphis were chosen for their available data from departmental sources and open-source information. Each case study begins with background on the department followed by four sections.

1. **Background:** Each city's demographics, educational system quality indicators, and socioeconomic factors were examined. The objective was to determine whether the different environments of each city could help or hinder the efforts to recruit African Americans based on the operational staffing needs of each fire and EMS department.¹⁵⁹
2. **Fire and EMS Department Structure:** Each department's organizational structure was examined to analyze the ethnic breakdown of personnel in

¹⁵⁸ "About IAFC," International Fire Chiefs Association, accessed February 12, 2023, <https://www.iafc.org/about-iafc>.

¹⁵⁹ "Memphis City, Tennessee; Fairfax County, Virginia; Fairfax City (County), Virginia; Atlanta City, Georgia," U.S. Census Bureau QuickFacts, July 1, 2022, <https://www.census.gov/quickfacts/fact/table/memphiscitytennessee,fairfaxcountyvirginia,fairfaxcitycountyvirginia,atlantacitygeorgia,US/PST045222>; U.S. Census Bureau QuickFacts, "Population Estimates."

all positions (administrative through first responders). The objective was to compare the diversity of the organization to that of the community it serves. This section also considers each department's response volume to see whether it might negatively impact firefighter attrition.

3. **Hiring and Training Process:** Each department's hiring and training processes were reviewed to identify smart practices and barriers in onboarding future first responders and assisting them in completing their goal of passing certification testing.
4. **Pipeline Programs:** Fire Departments often use introductory programs to recruit future firefighters. Pipeline programs are designed to provide those interested in a fire service career with an introduction to the firefighting profession and to help them develop the skills and knowledge necessary to become a fire recruit. Fire departments desire to build a pipeline of qualified candidates for future job openings. Some pipeline programs offer participants the opportunity to obtain multiple fire and EMS certifications, such as from the NREMT. This study aimed to analyze the impact each department's pipeline program has had on recruiting and attaining EMS certifications. The goal was to analyze aggregate data on the number of African American participants and determine whether they benefited from these programs.
5. **NREMT Paramedic Pass/Fail Rates:** The NREMT maintains accreditation for paramedics.¹⁶⁰ The NREMT paramedic (NREMT-P) certification exam, which is designed to test the knowledge and skills of individuals seeking to become paramedics, is divided into two parts: a cognitive examination and a psychomotor examination. The cognitive examination is a computer-based test consisting of multiple-choice questions that assess the candidate's knowledge of medical concepts,

¹⁶⁰ "Home Page," National Registry of Emergency Medical Technicians, accessed February 11, 2023, <https://nremt.org>.

pharmacology, and patient assessment. The psychomotor exam assesses the candidate's ability to perform specific paramedic-level skills, such as airway management, intravenous access, and cardiac management.¹⁶¹ After three unsuccessful attempts, candidates must attend remedial training before their next attempt. For this case study, each department's NREMT first-attempt pass and fail scores were assessed to determine whether there was any relationship between pass rates and the socioeconomic factors in that city.

A. FAIRFAX COUNTY, VIRGINIA

African Americans make up 11 percent of the total population of Fairfax County, Virginia.¹⁶² According to the World Population Review, Virginia has the fourth-best public school system in the United States. This ranking was based on “quality and safety,” utilizing 33 relevant metrics, including graduation rates, student–teacher ratios, college entrance exam scores, and the number of documented violent incidents.¹⁶³ The Virginia school system is rated fifth in quality and second behind Massachusetts for safety. Among residents of Fairfax, Virginia, 94 percent are high school graduates, and 64 percent hold a bachelor's degree in some field of study.¹⁶⁴ The median household income for Fairfax residents is approximately \$134,000, and 7 percent of the population lives in poverty. Furthermore, 96 percent of Fairfax County residents have household internet access, and 97 percent have a computer.

1. Fire and EMS Department Structure

Fairfax County Fire and Rescue Department (FCFRD), located in Fairfax, Virginia, is a career and combination department providing fire suppression, emergency medical

¹⁶¹ National Registry of Emergency Medical Technicians.

¹⁶² “Memphis City, Tennessee,” U.S. Census Bureau QuickFacts, July 1, 2022, <https://www.census.gov/quickfacts/memphiscitytennessee>.

¹⁶³ “Public School Rankings by State 2023,” World Population Review, accessed January 17, 2023, <https://worldpopulationreview.com/state-rankings/public-school-rankings-by-state>.

¹⁶⁴ U.S. Census Bureau QuickFacts, “Memphis City, Tennessee; Fairfax County, Virginia.”

services, and technical rescue expertise to 1.17 million residents.¹⁶⁵ The department employs 1,360 uniformed men and women who staff eight battalions, with three operational shifts and 39 fire stations covering 395 square miles. The FCFRD's organizational chart comprises the ranks of fire chief, assistant chief, deputy chief, battalion chief, captain, firefighter EMT, and firefighter paramedic.¹⁶⁶ The FCFRD's breakdown of commissioned personnel by rank is 57 chief officers, 179 captains, 167 lieutenants, 507 technicians, and 503 firefighters. In 2021, the FCFRD responded to 108,882 calls consisting of 81,049 EMS calls, 19,474 fire calls, and 8,359 public service calls.¹⁶⁷

2. Hiring and Training Process

When applying for the FCFRD, the candidate undergoes a five-step process: a personal background review, physical abilities test, written test, polygraph test, and psychological examination.¹⁶⁸ In 2021, the FCFRD attended 83 recruiting events, received 2,568 applications for employment, and hired 69 recruits.¹⁶⁹

The FCFRD has a training center that educates volunteer and career firefighters and EMTs, with training authority throughout the Virginia Department of Fire Programs for certification and recertification of fire suppression training.¹⁷⁰ The department also has partnered with Virginia Commonwealth University to develop an in-house paramedic program. Fire school for a recruit comprises 28 weeks of classroom and practical evolutions.¹⁷¹ When recruits leave the academy and enter the workforce in the field, they must complete a rookie task book within a year. This task book helps rookies connect what they learned in the academy. Newly hired recruits obtain certifications for Firefighter I,

¹⁶⁵ Fairfax County Fire and Rescue Department, *2021 Annual Report* (Fairfax, VA: Fairfax County Fire and Rescue Department, 2021), 6, <https://online.fliphtml5.com/murtp/dxck/>.

¹⁶⁶ Fairfax County Fire and Rescue Department, 9.

¹⁶⁷ Fairfax County Fire and Rescue Department, 10.

¹⁶⁸ Fairfax County Fire and Rescue Department, 35.

¹⁶⁹ Fairfax County Fire and Rescue Department, 35.

¹⁷⁰ Fairfax County Fire and Rescue Department, 18.

¹⁷¹ Fairfax County Fire and Rescue Department, 18.

Firefighter II, Emergency Vehicle Driving, Hazmat, Intro to Technical Rescue, National Registry, and EMT Basic.¹⁷²

The FCFRD appears to be a desirable agency to work for, as it received 2,568 applications in 2021 for only 69 positions, suggesting a low attrition rate. The FCFRD's hiring process is similar to that of other major departments, except for a polygraph test. The research on training shows the FCFRD is a progressive agency that excels at understanding and meeting the department's staffing needs through fire recruit training and key partnerships that assist in developing critical positions such as firefighter-paramedics. Fire recruits are in the academy for 28 weeks, receiving fire and EMS certifications through the NREMT. This excellent practice gives recruits vital lifesaving skills before they leave the academy. In some departments, recruits must attend EMS school on days off from the fire station, which burdens them. In such training environments, recruits are up most of the night working a busy shift and then must report for school the next morning. After spending little time with their families, they study all night to repeat the strenuous work/training cycle again the next day. Such practices can make retaining fire and EMS personnel difficult.

3. Pipeline Programs

The FCFRD developed a High School Firefighter Program (HSFP) with the Fairfax County Public Schools in 2017.¹⁷³ This program aims to equip the high school firefighter with the beginner's knowledge needed to start a career in the fire service. All 384 hours of class instruction are facilitated by the FCFRD's training academy and conclude with the students' receiving certifications for Firefighter I, Firefighter II, Hazmat, First Aid, and CPR.¹⁷⁴ In the students' junior year of high school, some successfully receive their EMT certification and enter fire school their senior year of high school. Upon graduation,

¹⁷² Fairfax County Fire and Rescue Department, 18.

¹⁷³ "High School Firefighter Class 4 Holds Virtual Graduation Ceremony," Fairfax County Fire and Rescue Department, May 27, 2020, <https://ffxfirerescue.wordpress.com/tag/high-school-firefighter-program/>.

¹⁷⁴ Fairfax County Fire and Rescue Department, *2021 Annual Report*, 18.

students can possess the certifications of EMT-B, Firefighter I, Firefighter II, Hazardous Materials Operations, and Hazardous Materials Awareness.

The HSFP has achieved immense success in getting high school students interested in and acclimated to the fire and EMS service. Of the 10 students who entered the HSFP in the most recent class, all 10 completed the program and were hired into the FCFRD, for a 100 percent success rate. The only issue encountered with the HSFP is that students who have not reached the age of 18 before graduating high school must delay their integration into the FCFRD. This problem is generally resolved within a few months when the student turns 18.

4. NREMT Pass/Fail

Of the FCFRD candidates who took the NREMT-P certification exam in 2021 and 2022, 94 percent passed on their first attempt. Pass/fail rates by ethnicity and the areas where students struggled most during EMS schooling were unavailable.

B. ATLANTA, GEORGIA

African Americans make up 48 percent of the total population of Atlanta, Georgia.¹⁷⁵ Among Atlanta residents, 94 are high school graduates, and 56 percent hold a bachelor's degree in some field of study.¹⁷⁶ The Georgia school system is rated 36th in quality and 27th for safety. This ranking considered 33 relevant metrics, including graduation rates, student–teacher ratios, college entrance exam scores, and the number of documented violent incidents.¹⁷⁷ The median household income for Atlanta residents is approximately \$69,000, and 19 percent of the population is impoverished. Furthermore, 88 percent of Atlanta's residents have household internet, and 93 percent have a computer.¹⁷⁸

¹⁷⁵ U.S. Census Bureau QuickFacts, “Memphis City, Tennessee; Fairfax County, Virginia.”

¹⁷⁶ U.S. Census Bureau QuickFacts.

¹⁷⁷ World Population Review, “Public School Rankings by State 2023.”

¹⁷⁸ “Atlanta City, Georgia,” U.S. Census Bureau QuickFacts, July 1, 2022, <https://www.census.gov/quickfacts/fact/table/atlantacitygeorgia,US/PST045222>.

1. Fire and EMS Department Structure

The Atlanta Fire and Rescue Department (AFRD) in Atlanta, Georgia, is an all-hazards, career-based fire and EMS service that protects the lives and property of over 519,000 residents, covering 133 square miles and maintaining an Insurance Service Office (ISO) rating of Class 1.¹⁷⁹ The AFRD has defined six departmental core values: professional development, emergency preparedness and response, customer service, public information, education, and relations programs. Annually, the AFRD responds to over 100,000 calls for service while also protecting the Hartsfield-Jackson Atlanta International Airport, the world's busiest airport, which has five fire stations on the property and serves one million passengers from over 100 countries.¹⁸⁰ The department is also responsible for protecting 23 miles of the rapid rail system, 60 miles of interstate highway, and over 3,000 high-rise buildings. The AFRD employs more than 1,100 civilian and sworn staff employees and 35 fire stations within the Atlanta city limits.¹⁸¹ The internal rank structure of the AFRD consists of the fire chief, first deputy, deputy chief, shift commander, battalion chief, fire captain, lieutenant, fire apparatus operator, and firefighter/paramedic.¹⁸² The AFRD's breakdown of commissioned personnel by rank is 41 chief officers, 150 captains, 135 lieutenants, 192 sergeants, and 482 firefighters.¹⁸³

2. Hiring and Training Process

The AFRD's hiring process to become a firefighter includes an Accuplacer test, physical ability test, interview, background investigation, voice stress analysis, medical exam, psychological exam, and a fire chief or designee review of the candidate's complete application packet.¹⁸⁴ Recruit training lasts eight months to a year, including fire training

¹⁷⁹ City of Atlanta, *Fiscal Year 2015 Adopted Budget* (Atlanta: City of Atlanta, 2015), <https://www.atlantaga.gov/Home/ShowDocument?id=16263>.

¹⁸⁰ "Who We Are," Atlanta Fire Rescue Department, accessed October 22, 2022, <https://www.atlantafirerescue.com/about-afrd/who-we-are>.

¹⁸¹ Atlanta Fire Rescue Department.

¹⁸² Atlanta Fire Rescue Department.

¹⁸³ Atlanta Fire Rescue Department, email message to author, October 2, 2022.

¹⁸⁴ Atlanta Fire Rescue Department, "Who We Are."

and EMT school. The AFRD does not support a lateral transfer hiring program; all new candidates must enter the department as entry-level recruits.

The AFRD's EMT and Paramedic Program, which the commission accredits through the Accreditation of Allied Health Education, has members with EMS certifications including Intermediate (I), Advanced (A), and Paramedic (P).¹⁸⁵ The EMS division aims to train incumbent members and improve medical services delivery to its citizens while identifying trending industry issues that can negatively impact the community.

The AFRD is efficient and well-run, justified by its Class 1 ISO rating. Like many other departments, including the MFD, the AFRD faces staffing shortages due to wages that are not considered competitive with other professions.¹⁸⁶ The AFRD has many specialized areas that require highly skilled personnel, even when staffing shortages exist. The department's hiring processes align with other major departments, except for its not bringing in laterals from other agencies. Lateral fire and EMS workers are desirable for some agencies because they already hold fire and EMS certifications and need only to become acclimated to the policies and procedures of the hiring department. The Accuplacer testing for prospective recruits is a part of the hiring process that evaluates the candidate's writing, reading, and arithmetic skills. Identifying a candidate's ability to be successful in certification testing can help with staffing, patient care, and budgetary issues. Recruit training for the AFRD can take up to 12 months and culminates in the recruit's obtaining fire and EMS certifications. This practice equips the recruit with valuable lifesaving skills before joining a fire and EMS company as a community member. This process is also favorable for a recruit's work-life balance.

¹⁸⁵ Atlanta Fire Rescue Department.

¹⁸⁶ Doug Richards, "Atlanta Firefighter Shortage Threatens Safety, Insurance Rates," 11Alive, May 5, 2022, <https://www.11alive.com/article/money/firefighter-atlanta-insurance-shortage/85-c1769eb3-8fcf-4d7e-b63b-ff8b1b076c33>.

3. Pipeline Programs

The AFRF's mission is to support the members of the AFRD and enhance public safety by funding initiatives, diversity programs, and essential equipment to meet the needs of the citizens of Atlanta.¹⁸⁷ The AFRF assists communities and neighborhoods by supporting continuing education, AFRD facilities upkeep, and community initiatives. Industries that support the vision of the AFRD and the mission of the AFRF include Camp Ignite and the AFRD Cadet Program. Camp Ignite, which launched in the last few years, is a pipeline program for girls ages 14–18 that aids in building a diverse and inclusive department by offering guidance and mentorship opportunities to those looking for a career in the fire and EMS profession.¹⁸⁸ The AFRD Cadet Program is a pathway program for boys and girls ages 14–18 that allows cadets to experience what AFRD membership is like by working with the incumbent members of the department. The Cadet Program gives participants a glimpse into the fire and EMS profession.

The success and prominence of these programs developed by the AFRD are vital for introducing African Americans to the fire service profession. The success of a few could inspire others to join and counter the disproportionate statistics relative to African Americans in the fire and EMS service. One 2022 article about the AFRD pipeline programs offers insight into how they benefit recruitment.¹⁸⁹ The article mentions one young African American girl who participated in Camp Ignite, the AFRD's 10-month program, and is now a recruit at the fire academy. The AFRD recently initiated the first "Cadet Signing Day," which offers high school youth employment within the department.¹⁹⁰ This program allows cadets to earn a \$40,000 salary; once they complete

¹⁸⁷ "Camp Ignite: A Youth Pathway Program," Atlanta Fire Rescue Foundation, accessed March 22, 2023, <https://atlfrf.org/pages/camp-ignite>.

¹⁸⁸ Atlanta Fire Rescue Foundation.

¹⁸⁹ "Teen Girls Get a Look at Life as a Firefighter with Atlanta Fire Rescue's Camp Ignite," 11Alive, December 9, 2022, <https://www.11alive.com/article/news/local/atlanta-fire-rescue-camp-ignite-for-teen-girls-how-to-apply/85-4d922694-75ba-417c-8b0e-cc8c4194a31f>.

¹⁹⁰ Sawyer Bucky, "Programs Give High School Students Opportunities with Atlanta Fire & Rescue," Atlanta News First, May 16, 2022, <https://www.atlantaneWSfirst.com/2022/05/16/program-allows-high-school-students-opportunities-with-atlanta-fire-rescue/>.

the program, the Atlanta Fire and Rescue Foundation provides them with a college scholarship much like the military's GI Bill benefits.

4. NREMT Pass/Fail

Of the AFRD candidates who took the NREMT-P certification exam in 2021 and 2022, 64 percent passed on their first attempt. Pass/fail rates by ethnicity and the areas where students struggled the most during EMS schooling were unavailable.

C. MEMPHIS, TENNESSEE

The Memphis Fire Department was established in 1846 and was called "Independent Fire Company #1." In 1965, through the adoption of a resolution by the City Commission, the MFD was given the power to establish EMS.¹⁹¹ On July 1, 1966, the MFD began providing EMS to the community, quickly becoming the leader in annual call volume. Not long after the establishment of the MFD EMS, Dr. Martin Luther King was assassinated by James Earl Ray at the Lorraine Motel. Subsequently, civil disturbances were frequent, resulting in higher call volumes from March 28 to April 9, 1968. By 1975, the MFD was capable of advanced life support techniques and electrocardiogram telemetry that paramedics could utilize. In 2007, the MFD required all new members to become paramedics within 3.5 years of joining the department. Currently, the MFD provides EMS to the community utilizing a combination approach of basic and advanced life support. All calls are graded using the Medical Priority Dispatching System to determine the appropriate response to mitigate the incident.

According to 2022 U.S. Census Bureau data, African Americans make up 65 percent of the total population of Memphis, Tennessee.¹⁹² School system rankings—based on 33 relevant metrics, including graduation rates, student–teacher ratios, college entrance exam scores, and the number of violent incidents documented—list Tennessee 30th in

¹⁹¹ Memphis Fire Department, *Community Risk Assessment—Community Risk Reduction* (Memphis: Memphis Fire Department, 2020), 63.

¹⁹² U.S. Census Bureau QuickFacts, "Memphis City, Tennessee; Fairfax County, Virginia."

terms of quality and 44th for safety.¹⁹³ Among Memphis residents, 87 percent are high school graduates, and 27 percent hold a bachelor's degree in some field of study.¹⁹⁴ The median household income for Memphis residents is approximately \$44,000, and 24 percent of the population live in poverty. Furthermore, 78 percent of Memphis residents have household internet, and 87 percent have a computer.

1. Fire and EMS Department Structure

The MFD is a fire and EMS-based agency that has earned an ISO Class 1 rating while providing emergency response to the 628,000 citizens that make up the population.¹⁹⁵ The MFD offers safety to the public by preventing, protecting, and responding to all-hazard incidents involving life and property.¹⁹⁶ The department has 57 fire stations that employ over 1,700 employees and staff. Among the MFD's commissioned personnel, 46 percent are African American. In 2021 the MFD responded to over 155,000 incidents of which 132,000 were EMS related. The MFD is a paid-career department encompassing a list of bureaus, fire suppression, emergency medical services, fire prevention, communications, and logistical services. The department's rank structure comprises the following: fire chief, assistant fire chief, deputy chief, division chief, battalion chief, lieutenant, driver, firefighter paramedic, firefighter EMT-A, and single-role paramedic. Figure 1 depicts the MFD's ethnic breakdown by operational bureau.¹⁹⁷

¹⁹³ World Population Review, "Public School Rankings by State 2023."

¹⁹⁴ U.S. Census Bureau QuickFacts, "Memphis City, Tennessee; Fairfax County, Virginia."

¹⁹⁵ U.S. Census Bureau QuickFacts.

¹⁹⁶ Memphis Fire Department, *Community Risk Assessment*, 65.

¹⁹⁷ Source: Memphis Fire Department, "Breakdown by Ethnicity" (unpublished data, November 21, 2021).

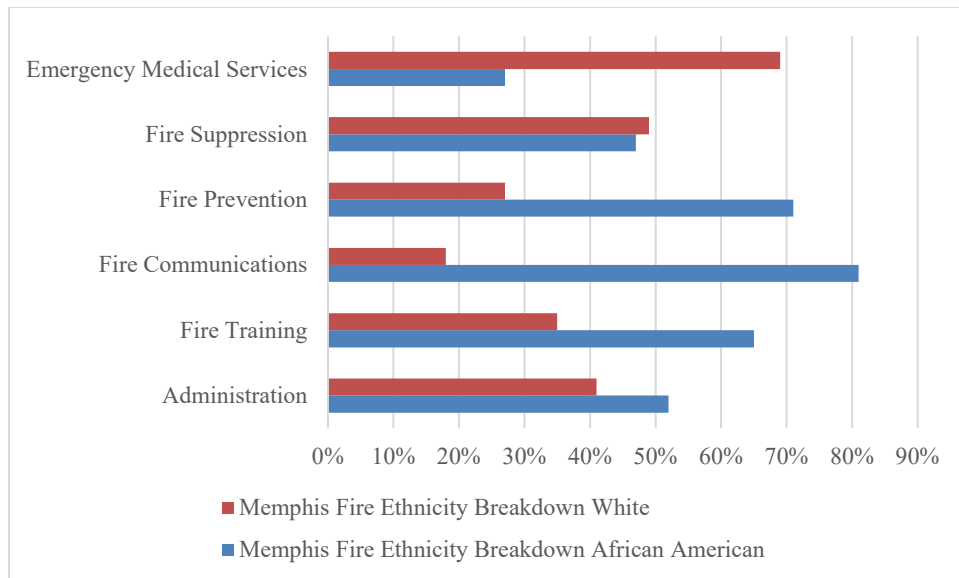


Figure 1. MFD Breakdown by Ethnicity.¹⁹⁸

The MFD’s training center, the Chester Anderson Training Academy (CATA), trains hundreds of recruits annually to become firefighters, paramedics, and emergency medical technicians to benefit the Memphis communities served. The academy sits on 92 acres with 60,000 square feet encompassing six classrooms and multiple offices.¹⁹⁹ The training center has a list of fire and EMS training props, including a five-story training tower, a fully stocked in-classroom emergency unit, and a disaster city prop area that provides firefighters with an accurate world simulation of a disaster incident. The Fire Training Bureau has 16 instructors assigned to the CATA, and EMS Training has 18 instructors daily. The MFD’s goal is to provide service to all citizens and visitors of Memphis through geographic coverage, staffing, equipment, and training.

2. Hiring Process and Training

To join the MFD, a candidate must be 19–45 years old by the start date of the recruitment class.²⁰⁰ All fire recruit applicants must complete and pass a written exam,

¹⁹⁸ Source: Memphis Fire Department.

¹⁹⁹ Memphis Fire Department, *Community Risk Assessment*, 66.

²⁰⁰ “Fire Recruit,” Memphis Fire Department, accessed October 25, 2022, <https://joinmemphisfire.com/fire-recruit/>.

physical ability test, background screening, medical assessment, and a psychological exam consisting of a written test and interview. The MFD conducts basic recruit classes for individuals with little to no prior fire and EMS experience and lateral recruit classes for members holding fire and EMS certifications. The fire recruit class lasts approximately 10 weeks during which the participant acquires knowledge in fire suppression topics and conducts practical drills and evolutions. Class instructors administer a weekly written test to recruits to assess their mastery of the subject matter. Upon graduating from the fire training phase, recruits register and enter into EMT-A and paramedic school to become certified EMT-As or paramedics. This schooling can be completed at CATA, or the student can opt into an accredited program outside the MFD.

As an innovative department, the MFD was tasked with reinventing some of its hiring practices in the face of staffing shortages affecting the department and profession. The MFD's hiring processes are similar to those of other agencies. Regular attrition and EMS certification failures have plagued the department, with 1,058 members separated since 2018. All recruits entering the MFD must obtain a paramedic license as a condition for employment. A smart practice utilized by the MFD has been to recruit laterals from 37 different states who could quickly fill the gaps of those who have left the MFD. The MFD has also offered hiring bonuses and housing assistance to those looking to join the department.

The MFD prioritizes fire recruit candidates with EMT, EMT-A, or paramedic certification. When fire recruits leave the training academy, they must attend EMT-A and paramedic school on their days off, which can lead to an unhealthy work-life balance. By leaving fire school early, the recruit becomes a fire and EMS company member with fire skills but with minimal knowledge about EMS.

An overwhelming 40 percent of all MFD recruits, primarily African American recruits, separate from the department within their first five years due to EMS certification failures, emergency call volume burnout, and other job opportunities. Knowing this information, it would be a good practice to utilize an Accuplacer-type test that accesses candidates' writing, reading, and arithmetic skills before they are hired by the MFD, as

well as to create a framework that allows them to complete EMT-A school, at a minimum, before joining a fire and EMS company.

3. Pipeline Programs

The MFD Fire Cadet Program (FCP) was developed in 2021 to provide teenagers with a pathway to the fire service profession at an early age. The program offers the cadet an opportunity to obtain an EMT-A license to get an early start on the various EMS certifications needed to become a firefighter with the MFD. Candidates for this program must be at least 18 years old by the beginning and not older than 20.²⁰¹ Fire cadets have a unique experience in the program, gaining knowledge and understanding of the many bureaus and programs that fall under the umbrella of the MFD, such as Fire Suppression, Communications, EMS, and Fire Prevention. The cadets receive training at CATA from MFD instructors who support them through learning about fire and EMS issues in hopes of academic success. One of the goals of the FCP is to build camaraderie throughout the group, similar to what is expected at MFD fire stations. Each component of the FCP is structured to provide the cadet with all the tools and skills needed to enter the fire profession.

Of the original nine cadets hired for the initial 2021 program, six obtained their EMT certification, two are currently enrolled in EMT school, and one is in paramedic school. Of the original nine, two cadets resigned, and four cadets went on to become fire recruits. For the FCP that started on August 1, 2022, six students began the process. Two students are working toward an EMT certification, two are completing prerequisite courses for EMT certification, and two were set to begin EMT school in January 2023. One cadet has already started the recruitment application process for the upcoming MFD recruit class. The MFD FCP has successfully acclimated young African Americans to the fire and EMS service, providing them with early opportunities to challenge EMS certification testing that creates difficulties for so many. Future partnerships with the public school system and area colleges should be explored to grow this program further.

²⁰¹ “Fire Cadet,” Memphis Fire Department, accessed October 25, 2022, <https://joinmemphisfire.com/fire-cadet/>.

4. NREMT Pass/Fail

Of the MFD candidates who took the NREMT-P certification exam in 2021 and 2022, 76 percent passed on their first attempt. Pass/fail rates by ethnicity and the areas where students struggled the most during EMS schooling were unavailable.

D. SYNTHESIS OF CASE STUDIES

1. Socioeconomic Factors

The case studies of Fairfax, Atlanta, and Memphis revealed that the socioeconomic factors within each could be related to the NREMT-P first-time pass rate. Fairfax County, Virginia, with its low poverty rate and crime, had a thriving educational system with excellent first-time NREMT-P pass rates. The cities of Atlanta, Georgia, and Memphis, Tennessee, with significant socioeconomic issues, showed pass rates that were average or slightly below the national average. When resources within and outside the home setting are scarce, as they are in areas of high poverty, they can create barriers for those looking to enter the fire service and maintain employment. Individuals with resources such as transportation, internet connectivity, and computers could be seen as having an advantage when submitting employment applications and completing school assignments. Another factor analyzed was each city's educational system. The higher-ranking public school systems with better graduation rates were in areas with lower poverty and crime. Students who took the NREMT-P had higher pass rates in departments where the city's public education system was of higher quality. With more African Americans living in high-poverty areas, these factors could be listed as possible barriers to African Americans' becoming firefighter-paramedics.²⁰²

These three case studies revealed that in areas with a prospering educational system and fewer residents suffering from socioeconomic disparities, such as crime and poverty,

²⁰² "Unequal Opportunities: Fewer Resources, Worse Outcomes for Students in Schools with Concentrated Poverty," Commonwealth Institute, accessed November 1, 2022, <https://thecommonwealthinstitute.org/research/unequal-opportunities-fewer-resources-worse-outcomes-for-students-in-schools-with-concentrated-poverty/>.

candidates who challenge the NREMT-P exam score better on their first attempt (see Table 2).

Table 2. Pass Rate of the NREMT-P Exam, Rate of High School Graduation, and Crime and Poverty Rates in Three U.S. Cities.²⁰³

City	NREMT-P First-Time Pass Rate	High School Graduation Rate	Crime Index	Poverty Rate
United States	70%	87%	—	12%
Fairfax County, VA	94%	93%	22	7%
Atlanta, GA	64%	92%	64	18%
Memphis, TN	76%	87%	75	24%

Decreasing negative socioeconomic factors that could limit a potential recruit's access to resources and improving educational systems could prevent separations for EMS licensure failures and the need for an aggressive recruitment program for agencies that require paramedic licensure. This study identified a correlation between socioeconomic disparities and NREMT-P licensure, whereby poorer education and higher crime and poverty indexes indicated lower pass rates. The numbers suggest that socioeconomic factors such as poverty and education, which lead to resource disparities, can create barriers for African Americans attempting to enter the fire and EMS profession and other means of gainful employment. Additional research into the NREMT-P pass/fail rates by ethnicity is needed. If the data suggest that a disparity exists, barriers should be exposed and interventions made.

NREMT-P pass rates are important because they provide opportunities for those who obtain the certification. In conversation with representatives from each department, all agreed that marketing the fire service as a career instead of a job is vital and that

²⁰³ Adapted from Atlanta Fire and Rescue Department, email message to author, February 9, 2023; Fairfax County Fire and Rescue Department, email message to author, October 25, 2022; Memphis Fire Department, email message to author, February 10, 2022; U.S. Census Bureau QuickFacts, "Memphis City, Tennessee; Fairfax County, Virginia." The crime index gauges how cities rank among the most dangerous cities in the United States.

department leaders and recruiters need to explain the role of a firefighter better because fires have decreased dramatically. Today, a firefighter's role is mainly patient care during EMS incidents. Through their actions and outreach practices, each department has recognized that opportunity, nonbiased recruiting practices, and support form the missing pieces to the puzzle of factors inhibiting the recruitment and retention of African American firefighters and paramedics in the United States. Building strong relationships among peers within other agencies is essential to removing barriers through meaningful and challenging conversations on this issue.

2. EMT-A and Paramedic Certification Requirements

Each department's hiring processes are similar, except that the MFD's new hires are required to become paramedics whereas the FCFRD's and AFRD's new hires must become EMT-As. The practice of requiring all new hires to become paramedics could have a negative effect on African Americans, especially those who come from cities with poor education systems. Each fire and EMS service must evaluate the pros and cons of establishing certification standards that adversely impact staffing. Discussing these barriers internally and externally with legislators should be a priority, particularly if the profession cannot support the expectation, and lower levels of certification would ease the burden.

Evaluating potential hires using Accuplacer testing could provide valuable information, especially for departments requiring EMS licensure as a condition of employment. This exam can determine a prospective candidate's ability to complete all fire and EMS training phases before hiring. Often applicants are hired utilizing antiquated testing processes that fail to consider aptitude levels, which might negatively affect pass rates. After completing fire school, fire and EMS departments sometimes release recruits from the academy before they obtain their EMS licensure to decrease the cost of overtime pay. This practice could inhibit the retention of African Americans in the fire service. When recruits become members of a fire company, before completing EMS certifications at the academy, they must juggle shiftwork at the station, EMS school during the week, and personal life. This balancing act can be overwhelming for some and lead to resignations. A measure noted in this case study that supported the recruitment and retention of African

Americans was hiring firefighters from other agencies and states who have already passed their fire and EMS certification testing. This onboarding practice adds diversity along with the desired skill set already in place.

3. Pipeline Programs

For all three departments, pipeline programs proved valuable in recruiting African American students who could get an early start on becoming first responders, challenging certification testing, and subsequently entering fire school. The structured pipeline program approach supported the needs of candidates and offered resources that were lacking or nonexistent in the home or classroom, such as remedial instruction and internet access. A smart pipeline practice was identified in the FCFRD's partnership with the public school system. In their junior year of high school, cadets can obtain an EMT certification and subsequently enter fire school by their senior year. The AFRD and MFD, in awarding a salary for those in their cadet programs, provide individuals with a method of removing some of the economic burden placed on those wanting to join the fire service.

VI. FIRE AND EMS RECRUITMENT AND RETENTION

The recruitment and retention of fire and EMS personnel are two of the most critical undertakings of an organization. Departments invest valuable financial resources into recruiting, hiring, training, and equipping fire department members, so they can effectively do their jobs.²⁰⁴ There are many acceptable recruiting methods around the nation by departments, but each has varying effects depending upon the department's needs. Aside from recruitment, a much larger issue has been the retention of incumbent members who are highly skilled and experienced.²⁰⁵ Departments are losing members much faster than it takes to train new employees to replace them in an increasingly competitive job market. Firefighter retention has the potential to impact not only the department itself but the entire community. Older, more seasoned firefighters hold experience and institutional knowledge they can pass on to younger firefighters.²⁰⁶

This chapter examines a seniority analysis conducted by the MFD that recognized the department's attrition issues. The study separated the attrition of members by rank and years within the department. The analysis found gaps in retention that could reduce competency and efficiency within the MFD. The analysis also exposed areas of concern that could contribute to firefighters leaving the profession.

This chapter also explores interventions that have been or could be established to reduce the attrition rate. Decreasing the attrition rate of the MFD would directly impact the need to recruit high numbers of candidates for recruit schools and focus on quality over quantity to fill open positions. Remedying this issue would also reduce budgetary funding spent on training members who ultimately leave the department for other departments or professions and decrease the overtime costs necessary to fill vacancies.

²⁰⁴ Jerry L. Streich, "Five Stages for Effective Firefighter Recruitment," Minnesota State Fire Department Association, May 27, 2022, <https://www.msfa.org/post/five-stages-for-effective-firefighter-recruitment>.

²⁰⁵ "4 Ways to Increase Firefighter Retention," ESO, January 14, 2021, <https://www.eso.com/blog/4-ways-to-increase-firefighter-retention/>.

²⁰⁶ ESO.

A. MEMPHIS FIRE ATTRITION ANALYSIS BY SENIORITY

In August 2021, the MFD conducted a seniority analysis to identify personnel gaps within the department.²⁰⁷ Of the 1,785 incumbent members, 449 had between one and three years of service. This group still had contractual EMS certification obligations to fulfill for continued employment. There has been a retention rate of 58 percent for this group relative to meeting educational commitments. There was also a significantly large personnel gap for 7–12 years of service, which could be associated with the desire to change occupations due to injury, burnout, or other factors.²⁰⁸ Senior members in the department leaving due to retirement create experience and knowledge gaps that leaders have to compensate for so that the workforce maintains its competency and efficiency levels.

B. ANALYSIS OF MFD RECRUITS SEPARATED BY ETHNICITY

An analysis was conducted of 678 MFD recruits, of whom 45 percent (306) were African American and 50 percent (338) were white. The recruits participated in only fire suppression training and the associated testing while attending the MFD Training Academy. No EMS training was provided to this group until the completion of the academy. Among this group, 53 separations resulted from fire suppression test failures, disciplinary issues, and resignations during fire school. During the fire academy, 62 percent (33) of the separated recruits were African American, and 34 percent (18) of the separated recruits were white (see Figure 2). Most separations occurred during the EMS phase of the fire academy.

²⁰⁷ Memphis Fire Department, “Seniority Analysis” (unpublished report, November 9, 2022).

²⁰⁸ “‘The Great Resignation’: It Could Go Either Way for the Fire Service,” Fire Rescue 1, December 4, 2021, <https://www.firerescue1.com/recruitment/articles/the-great-resignation-it-could-go-either-way-for-the-fire-service-7qRTIojYYd377mAB/>.

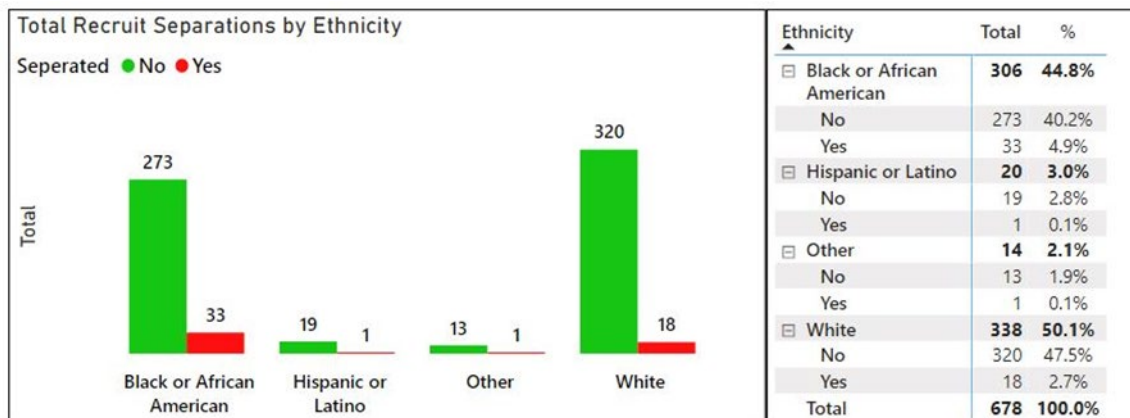


Figure 2. Total MFD Recruit Separations by Ethnicity, 2021–2022.²⁰⁹

C. MEMPHIS FIRE ATTRITION ANALYSIS BY RANK

From January 2021 to June 2022, the MFD had 254 members separate from the department due to resignation, termination, retirement, disability, or death. Of the 254 incumbent employees, 184 resigned, 53 retired, eight were terminated, six left due to disability, and three died (see Figure 3).²¹⁰

²⁰⁹ Source: Memphis Fire Department, email message to author, October 21, 2021.

²¹⁰ Memphis Fire Department, “Attrition” (unpublished report, November 9, 2022).

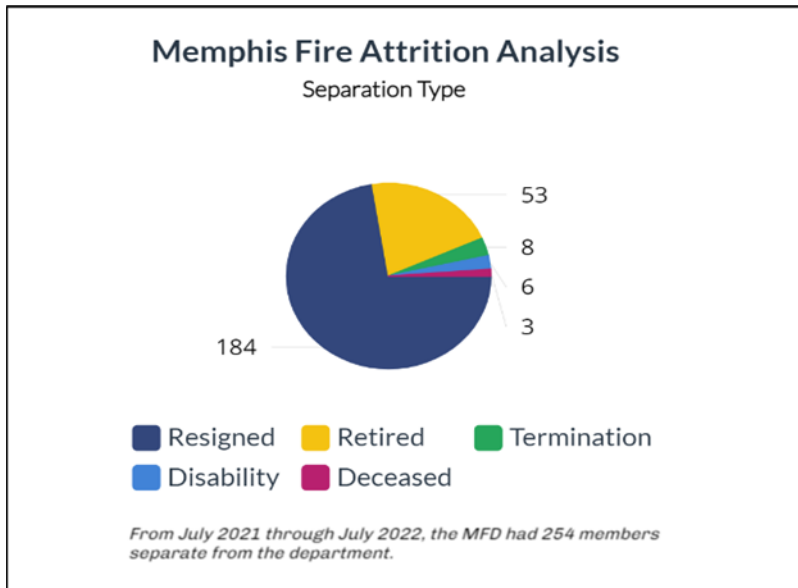


Figure 3. MFD Attrition by Type, 2021–2022.²¹¹

An analysis of the ranks of the members who departed from the department revealed that 5 percent were drivers/engineers, 9 percent were company officers, and 3 percent were chiefs, suggesting most of this group left due to retirement. The ranks on the lower end of the organizational chart, who carried most of the workload and certification obligations, showed a significant increase in attrition. Among the rank and file who separated, 21 percent were firefighter-paramedics, 32 percent were firefighters, and 29 percent were fire recruits during this analysis period (see Figure 4).²¹²

²¹¹ Adapted from Memphis Fire Department.

²¹² Memphis Fire Department.

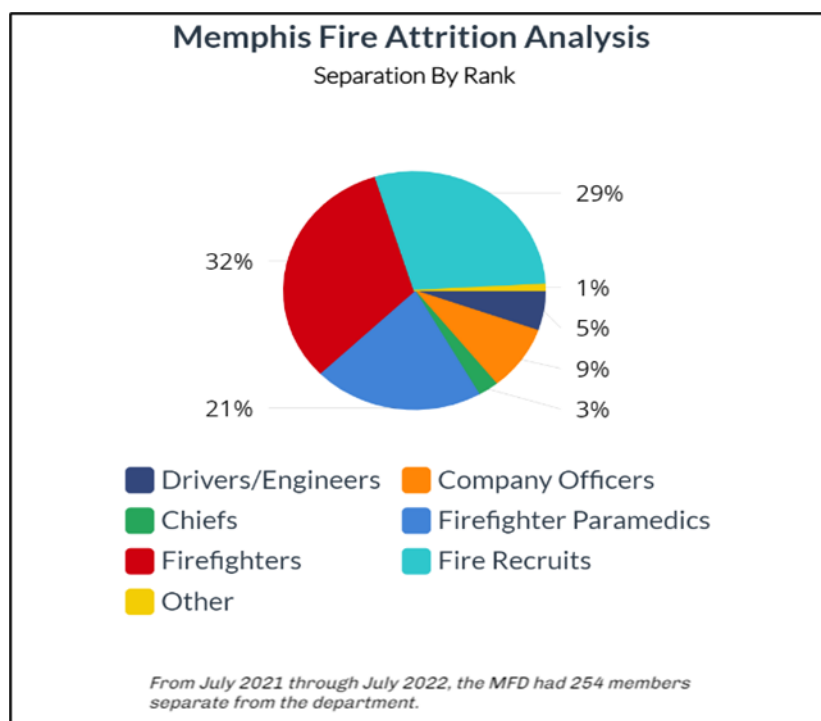


Figure 4. MFD Attrition by Rank, 2021–2022.²¹³

D. POSSIBLE SOLUTIONS FOR MFD ATTRITION

To slow down the attrition rate, departments, including the MFD, have reverted to legacy pension plans that provide a defined compensation payout when members retire—as opposed to a retirement payout depending on the world economy.²¹⁴ Moreover, the City of Memphis offers all commissioned fire and police employees a 9 percent retention bonus (9 percent of their salary per year) to agree to remain with their respective departments for two to five years.²¹⁵

In the first quarter of 2023, the MFD listed only 68 vacancies, attributable to the diligent recruitment team that is constantly looking for new ways to bring in recruits interested in the fire service. These low vacancies are expected to be short-lived due to the

²¹³ Adapted from Memphis Fire Department.

²¹⁴ “City of Memphis Restores Public Safety Employee Pension to Legacy Pension Plan,” City of Memphis, September 28, 2022, <https://www.memphistn.gov/news/city-of-memphis-restores-public-safety-employee-pension-to-legacy-pension-plan/>.

²¹⁵ City of Memphis.

high attrition rate. Indeed, since 2018, 65 percent of the entire commissioned complement of 1,623 fire and EMS personnel has separated from the MFD (see Figure 5).

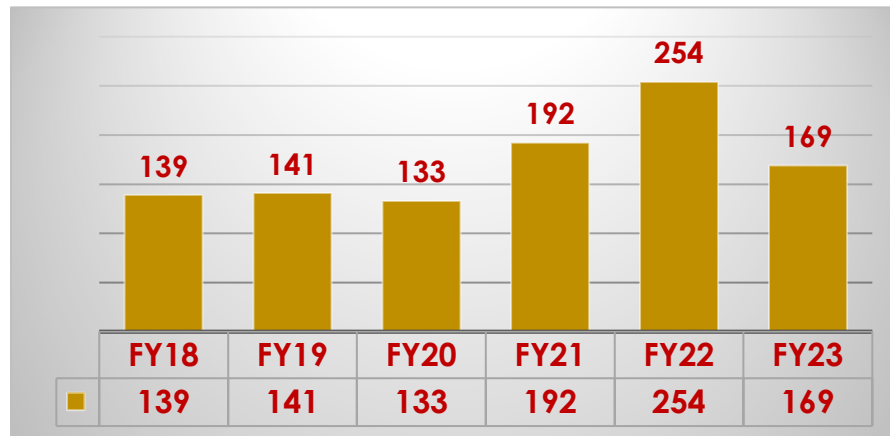


Figure 5. MFD Separations by Fiscal Year.²¹⁶

E. LOW-COST MEASURES TO REDUCE ATTRITION RATES

With fire departments around the country experiencing shrinking budgets and higher operating costs, many are in search of low-cost solutions to retain valued members of their departments. One low-cost measure departments can employ involves opening communication lines between the command officers and the membership.²¹⁷ This requires the leadership to identify the current strengths and weaknesses that hinder information flow and correct this issue through education, engagement surveys, exit surveys, and regularly scheduled conversations.²¹⁸ One-on-one conversations can make employees feel appreciated by management, especially when the discussion involves asking for their input, discussing things that interest them and their families, and taking on key roles and responsibilities.

Firefighters train daily for situations that may present themselves at a moment's notice. There are hundreds of hours spent learning how to become an effective and

²¹⁶ Adapted from Memphis Fire Department, "Attrition."

²¹⁷ ESO, "4 Ways to Increase Firefighter Retention."

²¹⁸ ESO.

competent firefighter, along with hours of continuing education training that must be conducted and completed annually. Without creative instructors who search for ways to keep the training engaging, the classes become dull and the student-firefighters uninterested. Thus, training exercises should address the needs of the community, firefighters, and department instead of present courses without relevance. When facilitating the class, instructors should refrain from using only PowerPoint presentations but instead use various methods such as onsite learning, videos, and student-led training sessions, which tend to keep the participants engaged and create buy-in.²¹⁹ Using technology platforms that simplify training documentation, tests, and tracking equipment is an excellent way to leverage technology and standardize processes department-wide, thus streamlining routine daily activities.²²⁰

Creating a team culture and bonding among the members are integral to department employees feeling good about themselves and their job.²²¹ Studies show that 56 percent of workers were devoted to agencies where a caring culture had been established, proving that a work environment built on teamwork can improve retention.²²² Pairing tenured members with new employees through mentorship programs can enhance camaraderie, allowing each to interact and learn from the other.²²³

Departments should recognize members for the good things they do every day. Ceremonies, awards, and media releases can show how much a department appreciates its members, not only to them but also to their families.²²⁴ Decentralizing decision-making and empowering department members to make decisions cultivate trust among the rank

²¹⁹ ESO.

²²⁰ ESO.

²²¹ ESO.

²²² ESO.

²²³ ESO.

²²⁴ ESO.

and file. Often, chief officers feel the need to control every decision, so they miss the opportunity to assist members by identifying their strengths and weaknesses.²²⁵

F. SUMMARY

This analysis examined the recruitment and retention of the entire MFD. Data show that most firefighter recruits who leave the department are African Americans. Most leave because they have failed to obtain EMS certifications within the allotted time. Also, fire and EMS personnel with 7–12 years of service have left the MFD, possibly due to better-paying jobs in and outside the fire service with lower call volumes, stress, and displeasure. To address this issue of attrition, fire and EMS departments must identify the root causes and provide creative solutions. This industry trend of responders walking out the door midway through a career is unsustainable. It decimates an organization's budget and diminishes the experience the community deserves and expects. Improving retention can help recruitment by decreasing the number of candidates needed for a recruitment class.

²²⁵ “Empowerment Is Key for Retention in the Fire Service,” Firefighter Nation, January 30, 2020, <https://www.firefighternation.com/leadership/empowerment-is-key-for-retention-in-the-fire-service/>.

VII. CONCLUSIONS AND RECOMMENDATIONS

This thesis aimed to identify factors that support or inhibit the recruitment and retention of African American firefighters and paramedics in the American fire service. Identifying these factors can positively impact the community and the organization by bringing various perspectives, experiences, and ideas to the forefront. Applying researched solutions to this disparity can increase diversity within the fire and EMS organizations and assist with establishing trust with the public. This chapter provides recommendations to improve the number of African Americans who successfully enter the fire service and remain gainfully employed.

A. LIMITATIONS OF THE STUDY

This research study included three major metropolitan cities and fire and EMS departments. I chose these departments due to their varying socioeconomic factors and the availability of data from departmental sources and open-source information. The research and study were limited due to their quantitative structure, requiring aggregate data to ascertain relationships regarding the disproportionate barriers to African Americans for recruitment and retention in the fire and EMS profession. Other limitations to this research were the fire and EMS departments' ability to provide procedural and aggregate information relevant to this thesis or the departments' lack of data collection within their organizations, specifically not having the breakdown of pass/fail rates categorized by ethnicity. The final limitation could have been the researcher's bias from being a high-ranking African American officer in the fire service who has seen, heard, and experienced first-hand the barriers for African American recruits. However, the researcher's perspective also provided insight into the studied problem.

B. RECOMMENDATIONS FOR FIRE AND EMS DEPARTMENTS

This section provides recommendations that can be used to assist in removing obstacles and creating solid frameworks for the recruitment and retention of underrepresented minority groups within the fire and EMS profession.

1. Encourage Department Leadership to Recognize the Lack of Diversity within the Fire and EMS Service

Leadership and culture should start at the top of the organization. Only through acknowledgment, awareness, and transparency will an issue of this magnitude be corrected. All aspiring fire chiefs and current fire chiefs should attend Courageous Conversations workshops to understand why so few African Americans serve in the American fire and EMS service. Workshops such as these provide the opportunity to listen and learn from others in the seminar who may offer different opinions and solutions relative to this disparity. Healthy discussion is welcomed because addressing certain situations sometimes involves becoming vulnerable and experiencing discomfort. Talking about biases that people have consciously or unconsciously can prevent discrimination and promote a culture of respect for all involved.

By discussing and addressing the issues related to the lack of African Americans in the fire and EMS profession within their organizations, fire chiefs can demonstrate their commitment to fairness and inclusivity. Taking action can help build trust among all department and community members, regardless of ethnicity.

Finally, all fire chiefs should maintain and report data relative to diversity within their organization, along with capturing all examination data on members by ethnicity and gender from the time they enter as recruits. This information should be compiled in a national database for complete transparency so that the appropriate interventions can be made to address issues of this nature.

2. Create a Diverse Recruitment Team

Creating a recruiting team of diverse individuals would be a proactive step for the fire and EMS departments to increase diversity within their departments and improve recruitment outcomes. By dedicating resources specifically to recruiting minorities, fire and EMS departments can strengthen their recruitment outcomes and increase the number of qualified candidates. A group such as this can bring specialized knowledge and expertise to the recruitment process and develop targeted outreach strategies. Recruitment teams

could identify African American candidates who might have had issues with certifications or been overlooked in past recruiting efforts.

Encouraging recruiters to attend unconscious bias training can be beneficial. This will allow the recruitment team to improve their decision-making during the recruitment process, which will assist them in making fair and unbiased decisions, attracting a more diverse pool of candidates. Policies that downplay the issues that prospective candidates face when attempting to become a fire service member must be addressed. Candidates encounter problems with the financial means to afford suits for interviews, transportation, and technology to fill out and submit applications. To remedy these issues, casual wear should be allowed for interviews, and applications could be filled out and submitted at any neighborhood fire station where representatives are willing to help in any way.

3. Develop Pipeline Partnerships in Schools within Underserved Communities

A smart practice noted with each fire and EMS department researched for the case studies proved how valuable an asset a pipeline program could be in recruiting African Americans. Establishing these programs in high schools and colleges of underserved communities allows for mentoring and educational opportunities for African American youth. Becoming acclimated to the fire and EMS profession and challenging certification testing in this setting assist in removing barriers for African Americans interested in joining the organization. Ensuring that high schools expose students to a curriculum conducive to successfully passing EMS certification testing would be an outstanding achievement. Research suggests that students who are part of a thriving educational system fare better during examinations, which could lead to fewer African Americans leaving the profession due to certification failures. School counselors can be force-multipliers in identifying students who they feel would fit the fire service well. They need to be educated on the attributes required in today's fire service profession, where 80 percent of the responses are EMS based.

4. Consider Changes to Hiring and Training Processes

Fire and EMS departments should incorporate Accuplacer-type testing for prospective fire recruit candidates to evaluate the likelihood they will be successful at passing rigorous EMS examinations that are now commonplace in the profession. This process would help identify the best candidates for recruiting schools with the required attributes to pass testing and certifications. The fire and EMS department, along with high schools and colleges, should know the types of questions that will be asked of candidates to instruct them on how to prepare for the exam.

Fire recruits who enter fire school should undergo both the fire and EMS phases before joining a fire company and engaging in shiftwork. Recruits who go only through the fire phase are at an extreme disadvantage due to having limited operational knowledge. Recruits who must attend EMS school during the week on their off days between shift days can experience burnout and an unhealthy work–life balance.

To decrease attrition rates, fire and EMS departments should explore not requiring paramedic certifications for all new hires. Fire and EMS departments could establish a new framework that would incorporate a tiered program whereby EMS licensure levels are incentivized with additional pay and points to overall promotional testing scores. Recruits would be required only to obtain EMT-basic certification, which should reduce the number of terminations due to EMS license failures. This framework would allow paramedics to be placed on all fire engines and trucks that make first-responder calls and arrive at the incident before the emergency unit staffed with two EMT-basics. If the call is less severe and within the scope of practice for the EMT-basics, they can transport the patient to the appropriate emergency facility. If the call is severe, the paramedic can provide care to the patient and ride in the emergency unit to a suitable emergency facility.

5. Involve External Stakeholders in the Reduction of Socioeconomic Factors That Plague the African American Community

Elected officials are also responsible for creating opportunities for our youth through legislation, pathway programs, better schools, and mentoring opportunities that lead them away from the crime, violence, and physical and mental traumas experienced

when growing up in poverty. Children and young adults who grow up without necessities such as proper nutrition, shelter, and support systems are less likely to encounter life-altering opportunities or more likely to be unequipped to accept the responsibilities that come with them. In some instances, underserved youth establish an arrest record that can prevent them from securing employment in the fire service profession. Legislators can assist in removing socioeconomic barriers that plague so many African Americans by working to increase funding for schools in disadvantaged areas and creating programs that target at-risk students. Lawmakers can take action to increase access to job training programs such as the pipeline programs that provide African Americans with opportunities. Elected officials can also address systemic racism, a root cause of many African Americans' socioeconomic barriers. Addressing these factors prevalent in many African American communities can impact African Americans who are looking for a prosperous career in the fire and EMS profession.

C. RECOMMENDATIONS FOR FUTURE RESEARCH

Future research is required to understand what factors support or inhibit the recruitment and retention of African American firefighters and paramedics in the United States. The following list discusses possible areas of research.

1. Due to the limited number of cities and fire and EMS departments selected in this study, additional research should include a larger sample size to validate key findings identified in this thesis.
2. Future researchers may want to acquire data that show recruitment and retention numbers and EMS certification pass/fail rates by ethnicity. This may assist in making definitive conclusions on factors that support or inhibit African American recruitment and retention.
3. Further research may identify the factors that support or inhibit the recruitment and retention of African Americans in the fire and EMS profession by gender.

4. Future researchers may want to dive deeper into African Americans' socioeconomic disparities, such as the educational system, nutrition, affordable housing, and poverty.
5. Future researchers may want to administer questionnaires or form focus groups to compile first-hand perspectives and data on the factors that support African Americans in or inhibit them from joining or remaining employed in the fire and EMS profession. This could involve gathering data on their perceptions of workplace culture, leadership, training, and opportunities for advancement.
6. Future research may be done to identify the benefits and drawbacks of fire and EMS departments providing advanced life support versus basic life support as the standard of care.
7. Future research could explore the role of social networks and community engagement in recruiting and retaining African American firefighters and paramedics. This could involve gathering data on how individuals learn and pursue careers in the fire and EMS profession and the role of community-based organizations in supporting recruitment and retention efforts.

D. LOOKING FORWARD

Society constantly changes, so the fire and EMS profession must evolve to meet the community's needs. To do this, it is essential for fire and EMS departments to acknowledge that diversity, equity, and inclusion within the profession are things to be valued. The problems discussed in this thesis should be recognized and their origins identified to expose root causes to mitigate them. Barriers can be removed through teamwork and transparent metrics. The goal of diversifying the fire and EMS service can be achieved, thus building a better and safer society.

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