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Effects of Herzberg's Hygiene Factors on Fire Department Paramedics

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Abstract

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by

Christine Peterson

MPA, Ashford University, 2012

BS, Indiana University, 2003

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy and Administration

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Abstract

The decline in the number of lead paramedics at an Indiana fire department has stressed the local emergency medical system (EMS), jeopardized public safety, accelerated personnel burnout, and increased overtime expense. Using Herzberg's motivation hygiene theory as a guiding lens, this phenomenological study explored the effects of the Indiana fire department's policies related to lead paramedic job satisfaction. The purpose of this study was to investigate possible hygiene factors, relabeled as *workplace satisfaction factors*, which led to a decrease in the number of lead paramedics within EMS from 2007–2017. The reduction in lead paramedic numbers led to unanticipated and unbudgeted increases in overtime expenditures that were absorbed through alternative staffing models and budget reallocations. From a purposeful sample of 20 paramedic participants, data were collected through semistructured interviews that included a self-administered workplace satisfaction ranking activity. Following data coding and analysis, thematic analyses indicated that the fire department had failed to meet workplace satisfaction factors of work conditions, policy and administrative practices, and supervision, causing paramedics to not seek, to drop, or to consider dropping lead paramedic designations. This study may lead to positive social change at three levels: (a) organizational, by identifying workplace satisfaction factors that could increase the number of lead paramedics as well as reduce paramedic burnout; (b) community, by decreasing overtime expenditures and improving the standard of staff care; and (c) national, by illustrating for external EMS agencies the benefit of workplace engagement studies when facing similar paramedic workplace dissatisfaction.

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Dedication

I would like to dedicate my study to my late father, Irwin R. Young Jr., PhD, who always believed I would go far in life. And to the first responders of the world, who put their own personal needs aside to respond to the emergencies of others.

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Chapter 1: Introduction to the Study

Introduction

The decline in the number of lead paramedics at an Indiana fire department has stressed human resources for the local Emergency Medical System (EMS), accelerated personnel burnout, increased overtime expense, and potentially jeopardized public safety. According to the EMS chief, the fire department had 72 paramedics in 2015, with 27 of those holding lead paramedic status. The number of lead paramedics had significantly decreased from approximately 60 in 2005.

The decreased number of lead paramedics at this Indiana fire department has required the department to use alternative solutions to staff ambulances. The fire department administration, with approval from its medical directors, created a staffing and response plan for days when there are not enough lead paramedics to staff all of the ambulances. Ambulances that do not have a lead paramedic are staffed with two personnel having Advanced EMT (AEMT) or higher credentialing. When these ambulances are dispatched on a nonemergent call, an Advanced Life Support (ALS) engine is also sent on the call. When these ambulances are dispatched on an emergent call, an ALS chase vehicle is sent along with an ALS chase engine. If the patient has a serious illness or injury, the lead paramedic on the ALS chase vehicle must accompany the ambulance crew in the patient compartment en route to the hospital.

As codified in the local collective bargaining agreement between EMS staff and the city government, the fire department has a set number of personnel budgeted per day, per shift. Without a consistent plan to continually recruit and retain paramedics who can

function as leads, those planning daily staffing allocations must regularly resort to implementing modifications by pulling lead paramedic staff from non-EMS staffing assignments (engine duty), by calling up reserve personnel for extra shifts (planned overtime), and through the repetitive use of unplanned, just-in-time overtime to meet locally imposed EMS staffing standards.

The following sections demonstrate the need for and purpose of this study. The ensuing Background section demonstrates that there is a gap in the literature that is addressed by this study. My literature review found no studies that had used Herzberg's motivation hygiene theory to address job satisfaction specifically in paramedics.

Background

The National Registry of Emergency Medical Technicians (NREMT) offers participating states the ability to defer oversight of paramedics' initial certification to a national organization. The NREMT provides both written and practical exams for initial certification (NREMT, 2016a). Indiana is a NREMT state. In order to practice as a certified EMS provider in the state of Indiana, a person must obtain initial NREMT certification. After obtaining this certification, one can then apply for reciprocity by sending a completed request form, along with a copy of one's certification, to the Indiana Department of Homeland Security (IDHS). If the individual is certified as an AEMT or paramedic, he or she must also be affiliated with an ALS provider (IDHS, 2018). The state of Indiana recognizes the National Scope of Practice module for paramedic-level providers.

Title 836 (Indiana Emergency Medical Services Commission) of the Indiana Administrative Code (Title 836, 2017) specifies in Article 2 that all active ALS prehospital care providers and ALS prehospital care organizations will have medical direction provided by a licensed physician affiliated with a supervising hospital (Title 836, 2017, p. 1). "Upon establishment of a medical control policy, the paramedic provider organization, medical director, and the chief executive officer have the duty to enact the policy within the paramedic provider organization and accordingly enforce the policy" (Title 836, 2017, p. 2). A local medical control organization is tasked with setting up protocols for provider agencies and personnel, providing audit and review sessions, and attesting to the competency of paramedics within the system (Title 836, 2017, p. 2).

Medical control for the fire department of interest is provided by the local county emergency medicine committee at no cost. The county emergency medicine committee recognizes the same EMS certification levels provided by the NREMT, the National Scope of Practice, and the state of Indiana, with an exception made at the paramedic level. Paramedics who operate under the committee's medical direction have been segmented by local administrative policy into lead paramedics and nonlead paramedics —a segmentation more restrictive than that outlined in Article 4 of Title 836 (Title 836, 2017, p. 2). Lead paramedics are paramedics who have (a) undergone a minimum of a 6-month preceptorship, (b) submitted a minimum of 20 patient charts, and (c) been authorized by the committee to provide the highest level of care in the field. Any paramedic ambulance that operates under the county's medical direction must have at least one lead paramedic assigned to it during a shift. The second provider must hold an

AEMT or higher credential. When not directly supervised by a lead paramedic, nonlead paramedics are allowed to operate at only a reduced scope of practice.

Herzberg's Motivation Hygiene Theory

Herzberg's motivation hygiene theory has been used to study job satisfaction and dissatisfaction in the United States for over 50 years. Motivating factors, if met at an organization, can create job satisfaction. Distinct from motivation factors, hygiene factors do not create job satisfaction, but they can cause job dissatisfaction if they are not met at an organization. Hygiene factors are maintenance factors such as pay, benefits, company policies, communication, relationships with coworkers, and quality of supervisors.

A review of existing literature found that Herzberg's theory has been used to study job satisfaction of medical professionals across numerous healthcare settings, and previous study populations have included physicians, radiology technicians, nurses, and staff in acute care hospitals (Herzer & Pronovost, 2013; Huffenberger, 2012; Schachtner, 2013; Wegner, 2011). And while Herzberg's theory has also been used to study police officers, volunteer EMTs, and firefighters, it has not yet been used in the United States to study job satisfaction specifically among paramedics.

Green (2013) found that the job satisfaction factors of Herzberg's motivation hygiene theory were impacted by police officers' understanding of and support of risk management policies. Reducing operational risks may limit officers' ability to perform their jobs in the most effective and efficient manner. Green reported a statistically significant relationship between an officer's lack of understanding of (and support by) risk management policies with lower job satisfaction.

Haug and Gaskins (2012) found that Herzberg's motivators have a positive correlation with retention of volunteer EMTs. The researchers identified that there is an international problem arising from reduced numbers of volunteer EMTs in both urban and rural areas. Their research goal was to identify and understand what motivates people to volunteer as EMTs so that initiatives to increase EMT recruitment and retention could become both more strategic and fruitful.

Young (n.d.) found that Herzberg's motivation hygiene theory applied to fire department personnel and maintained that good employees were increasingly leaving the fire service because of lack of continued motivation. Accordingly, Young suggested that fire administrators needed to change their approach to motivation and leadership through supporting workers, participating in training, embracing diversity, being trustworthy and fair, participating in daily life at fire stations, encouraging new ideas, and maintaining an open-door policy.

The decline in the number of lead paramedics at the Indiana fire department upon which this study is undertaken has not previously been examined. It is important to understand what hygiene factors are causing lead paramedics to become dissatisfied with their jobs so that the fire department can address these factors in order to enhance job satisfaction. Increasing job satisfaction may play a key role in supporting the fire department's ability to increase the number of lead paramedics through retention of

existing staff and by providing and encouraging lead paramedic career path.

Problem Statement

In the middle of a night in the fall of 2016, the local Indiana fire department responded to a call from a Section 8 assisted-living high rise apartment for a patient with difficulty breathing. The local dispatch center received the call through enhanced 911. The dispatcher interrogated the caller, and, using that information in combination with a preestablished triaging protocol, determined the proper response personnel that would be dispatched. The dispatcher sent Engine 1, Medic 1, and a paramedic chase vehicle. On that particular night, Medic 1 and Engine 1 were operating at the AEMT level only. The paramedic chase vehicle was staffed with a lead paramedic. The medic unit was staffed with a nonlead paramedic and an AEMT. According to local protocols, the medic crew could operate as AEMTs only unless a lead paramedic was on the scene and rode in the ambulance with the patient to the hospital.

As Engine 1 and Medic 1 arrived on scene, they realized that they had not heard the chase vehicle go “in-service” to the call. Thus, Medic 1 requested that the dispatcher issue a second dispatch notification to the chase vehicle. Medic 1 and Engine 1 gathered the medical equipment that might be needed from the ambulance, entered the building, and made their way to the apartment via the elevator. When they entered the apartment, they immediately knew that this was a critical call because they could hear the patient’s audibly abnormal lung sounds. The crews immediately went to work treating the patient by administering a breathing treatment, establishing an intravenous (IV) access, and by obtaining an electrocardiogram (EKG). The Medic 1 crew quickly realized that the

breathing treatment was not helping and that the patient was in respiratory failure. If they did not act quickly, this failure would progress to respiratory arrest. The lead paramedic chase vehicle had still not responded to the call. The Medic 1 nonlead paramedic knew that the best treatment to save this patient would be to support the patient's respiratory efforts with a continuous positive airway pressure (CPAP) machine. This intervention is in the paramedic scope of practice for the state of Indiana but not in the AEMT scope of practice. The nonlead paramedic had been trained to use this machine and had used it many times before but under the current situation was not authorized to provide this treatment because they were operating at the AEMT level only without a lead paramedic on the call. The nonlead medic applied CPAP to the patient and directed the rest of the responders to prepare the patient for immediate transport. As the nonlead paramedic juxtaposed the urgency of essential lifesaving interventions against the time it would take for the redispatched chase vehicle to arrive at the scene, the medic felt compelled to make a treatment choice beyond the parameters of his scope of practice in the county EMS guidelines.

The patient was loaded onto the cot and transported to the waiting ambulance. The nonlead paramedic advised Engine 1 to provide a driver to transport the patient via highest priority to the closest hospital using lights and sirens. Both Medic 1 crew members would ride in the ambulance patient compartment to care for the patient. Medic 1 arrived at the local hospital just several minutes later, whereupon the patient was transferred to the emergency department for continued care. The nonlead paramedic violated local protocol in order to provide the best and most expeditious care for the

critical patient. Fortunately, his actions helped to save the patient's life. Unfortunately, however, this was not the first time that a similar such protocol violation event had occurred at this fire department—nor would it be the last.

Every year, there are over 240 million 911-calls in the United States (National Highway Traffic Safety Administration, 2017). When citizens call 911, they expect an emergency response that will fit their needs or address their issues. Citizens do not think about what department will respond and what skills the responders can perform; they just expect help. Additionally, citizens are unlikely to be aware that staffing shortages or personnel dissatisfaction may be impacting the quality and responsiveness of the care they expect to receive.

The local Indiana fire department that is the focus of this study experienced a decline in its number of lead paramedics from 2007 to 2017. The department had not taken steps to offset the loss of lead paramedics through retirement, dropping of lead status by personnel, and lowering of certification levels held by its personnel. During this time frame, the department had not conducted a paramedic *special hire*, increased minimum manpower numbers, added additional ambulances to alleviate higher call volumes, or provided the opportunity to attend a paramedic program to every member interested in gaining paramedic licensure. According to the EMS chief, the decrease in the number of available lead paramedics had significantly increased the department's overtime budget to the degree that the fire chief requested an additional $420,000 from the city on November 30, 2015 to cover overtime expenses for that year alone. Significantly, and arising from both direct and indirect results of locally imposed lead

paramedical designations, increases in budgeted and unbudgeted overtime expenses were likely covered by redirecting or reappropriating monies from other fire department discretionary budget categories as well as local, governmental general funds. Such an approach reduces the budget of other city departments, and, if left unaddressed, may eventually lead to tax hikes. The decline in the number of lead paramedics at the fire department led to increased workload for the remaining lead paramedics, staff of ALS ambulances, ALS chase vehicles, and the ALS engines; and in turn, this held marked potential to impact public safety. Collectively, increased EMS workload, lack of city and administrative support, and less than sufficient financial compensation have served to further exacerbate the already existing shortage of lead paramedics, while compromising the safety and wellbeing of EMS responders and the public alike.

Purpose Statement

This phenomenological study explored job satisfaction of lead paramedics at a local Indiana fire department using Herzberg's motivation hygiene theory as a guiding lens with a purposive sample of 20 interviews grouped as at least 10 current lead paramedics, five former lead paramedics, and five current nonlead paramedics who were either in the lead process or did not plan to go through the lead process. Specifically, this phenomenological study explored the hygiene factors that lead paramedics perceived as contributing to their job dissatisfaction or lack of dissatisfaction. These identified hygiene factors may affect retention of their lead status. It also may impact why some paramedics do not seek lead status or why some fire department personnel do not seek Indiana paramedic licensure. Lead paramedic retention is a current issue for the local Indiana fire

department. This research could potentially result in overtime savings, increased public safety, and decreased lead paramedic turnover. This research could be used by medical directors, city administrators, union negotiators, and fire department administrators to address the influencing factors leading to the decline in the number of lead paramedics. Departmental policy changes designed to address these factors, coupled with budget adjustments, could increase lead paramedic retention.

Research Questions

The research questions listed below were designed to guide in-depth exploration of information and personally held beliefs of an Indiana fire department's paramedic staff that may be contributing to the main problem of the decline in the number of lead paramedics.

RQ1: How have the hygiene factors of Herzberg's motivation-hygiene theory contributed to job satisfaction among paramedics at an Indiana fire department between 2007 and 2017?

RQ2: How have the hygiene factors of Herzberg's motivation-hygiene theory influenced an Indiana fire department's paramedic personnel to seek, not seek, or drop lead status designation between 2007 and 2017?

Theoretical Framework

My phenomenological study explored the role of Herzberg's hygiene factors in the decline in the number of lead paramedics at one selected local Indiana fire department. Herzberg published a two-factor motivational theory in 1959 (Herzberg, Mausner, & Snyderman, 1959). The factors were divided into hygiene factors, or

dissatisfiers, and motivators, or *satisfiers*. *First-level factors* are events or occurrences that prompt an emotion or feeling. *Second-level factors* are the feelings created by or associated with the first-level factors. The study was conducted through interviews with accountants and engineers. Herzberg found that job dissatisfaction was not associated with the job itself but with the conditions surrounding the job (Herzberg et al., 1959). "These events suggest to the individual that the context in which he performs his work is unfair or disorganized and as such represents to him an unhealthy psychological work environment" (Herzberg et al., 1959, p. 113). Herzberg also found that hygiene factors must be present before motivators can work (Herzberg et al., 1959). Hygiene factors are not motivation and do not create job satisfaction by themselves; they can create job dissatisfaction. Hygiene factors include working conditions, policies and administrative practices, salary and benefits, supervision, status, job security, fellow workers, and personal life (Basset-Jones & Lloyd, 2005).

Hygiene factors that exist at a fire department-based EMS system include the same general factors. Hygiene factors at the local Indiana fire department of interest specifically included lead status; fire department administration; city, department, state, and medical director polices; salary and specialty pay; increased call volume per ambulance; and increased scope of practice. These hygiene factors must exist and not create job dissatisfaction before motivators can create job satisfaction.

Nature of the Study

This phenomenological study explored the role of Herzberg's hygiene motivational factors in the decline in the number of lead paramedics at a local Indiana

fire department from 2007 to 2017. As is characteristic of qualitative research models, my study examined the personal, lived experiences of the fire department's paramedics.

> Generally speaking, qualitative research has 'traditionally' been conducted by means of direct observation of a sample, case studies, personal experiences, introspection, an examination of relevant texts, interviews, focus groups, life stories, and the researcher's own participation in the settings that she/he is researching. (Hogan, Dolan, & Donnelly, 2011, p. 10)

In accordance with qualitative study models, my study collected and maintained the participants' own words as data

> Unlike quantitative approaches, it does not try to transform verbal symbols into numerical ones; the data remains at the level of words, either the research participants' own words, or the words written in the documents or the words used by the researcher herself/himself to describe the activities, images and environment observed. (Hogan et al., 2011, p. 10)

Qualitative studies are just as valuable as quantitative studies to research. "Scientists must gain an empathic understanding of societal phenomena, and they must recognize both the historical dimension of human behavior and the subjective aspects of the human experience" (Frankfort-Nachmias & Nachmias, 2008, p. 256). A phenomenological approach is used when a researcher wants participants to describe their own experiences (Moustakas, 1994). Moustakas (1994) considered participants to be co-researchers. The qualitative method was used to understand the relationship between hygiene factors not

being met at the fire department or by the county EMS committee and how those factors had led to employees dropping or not seeking lead paramedic status.

The primary sources of data originated from participants who were employed at the selected local Indiana fire department. The participant group was composed of employees who currently held an Indiana state paramedic license or whom had held that license at some point from 2007 to 2017. This participant group was divided into three sections: 10 current lead paramedics; five former lead paramedics; and five nonlead paramedics (who had never obtained lead status or who were currently working to obtain lead status). Data for my study were collected using focused interviews with at least 10 participants from the lead group, five from the former lead group, and five from the nonlead group, for a total of at least 20 interviews. Focused interviewing has four characteristics:

> It takes place with respondents known to have been involved in a particular experience; it refers to situations that have been analyzed prior to the interview; it proceeds on the basis of an interview guide specifying topics relations to the research hypotheses; and it is focused on the subjects' experiences regarding the situations under study. (Frankfort-Nachmias & Nachmias, 2008, p. 215)

Data were analyzed using NVivo for Mac software.

Definitions

This study and the literature contain common terminology that is used in the field of emergency medical services in the local EMS system, in the state of Indiana, and in the

United States. Additional terminology from Herzberg's theory is also included in this section.

Advanced emergency medical technician (AEMT): "The Advanced Emergency Medical Technician (AEMT), like the EMT, provides basic-level care and transportation as well as some advanced-level care, including use of advanced airways, monitoring of blood glucose levels, and administration of some medications, which may include intravenous and intraosseous administration" (Limmer & O'Keefe, 2016, p. 7).

Advanced life support (ALS): "Advanced lifesaving procedures such as intravenous therapy, drug therapy, intubation, and defibrillation" (Bledsoe, Porter, & Cherry, 2013, p. 205).

Basic life support (BLS): "Basic lifesaving procedures such as artificial ventilation and cardiopulmonary resuscitation (CPR)" (Bledsoe et al., 2013, p. 205).

Emergency Medical Services (EMS) *system*: "A comprehensive network of personnel, equipment, and resources established for the purpose of delivering aids and emergency medical care to the community" (Bledsoe et al., 2013, p. 207).

Emergency medical technician (EMT): "In most areas, the EMT is considered the minimum level of certification for ambulance personnel. EMTs provide basic-level medical and trauma care and transportation to a medical facility" (Limmer & O'Keefe, 2016, p. 7).

Hygiene factors: Extrinsic factors of a job (Herzberg et al., 1959).

Lead status or lead paramedic: According to the 2007 local EMS guidelines, "Lead status is the **highest level of local credentialing** (sic) conferred on those EMT-I's

and Paramedics whom have demonstrated the ability to confidently and independently deal with the breadth of EMS practice, whom are fluent in the local procedures and local county emergency medical services guidelines, and whom **have shown the capacity to lead** (sic) other EMS Personnel in providing optimal patient care".

Medical director: "A physician who assumes ultimate responsibility for the patient-care aspects of the EMS system" (Limmer & O'Keefe, 2016, p. 13).

Motivator factors: Intrinsic factors of a job (Herzberg et al., 1959).

Nonlead paramedic: According to the 2007 local EMS guidelines, a nonlead paramedic is "An Indiana licensed paramedic operating under the Local Guidelines who has not obtained lead status".

Paramedic: "The Paramedic performs all of the skills of the EMT and AEMT plus advanced-level skills. The Paramedic provides the most advanced level of prehospital care" (Limmer & O'Keefe, 2016, p. 7).

Prehospital care: "Medical care provided to a patient prior to arrival at a hospital. Also referred to as *out-of-hospital care*" (Limmer & O'Keefe, 2016).

Scope of practice: "A set of regulations and ethical considerations that define the scope, or extent and limits, of the EMT's job" (Limmer & O'Keefe, 2016, p. 79).

Assumptions

"Assumptions are formed by the researcher's underlying beliefs and values" (Calabrese, 2012, p. 23). Assumptions for this qualitative case study originated from participants, the researcher, the chosen theory, and both the city and fire department

administrations. These inherent flaws of the study could not be eliminated, but some could be minimized.

Study participants were assumed to be honest in their interview responses. The participants' identities were maintained as confidential. As the researcher, I alone knew their true identities, which minimized the likelihood of dishonest interview responses. The responses themselves were based on subjective feelings about events from the participants' points of view. It was also assumed that the sample was representative of all of the fire department personnel.

I had personal knowledge of the issues surrounding the reduced number of lead paramedics. I also had professional and personal relationships with the majority of potential participants. Researchers in the social sciences are not able to be completely detached from the studies they conduct (Yin, 2009). I viewed it as beneficial to this study's nature that I had an already-established rapport with my study's participants.

The major assumption of this study was that Herzberg's hygiene factors had in some way impacted the decisions of the paramedics to obtain or maintain their lead status, or that the hygiene factors had deterred other personnel from seeking to become licensed paramedics. It was further assumed that these outcomes had occurred at other fire departments.

The final assumption was that the city and fire department administrations would support the study and would not discourage personnel from participating in interviews. In particular, the fire department administration had been cooperative in providing requested information for this study until July 20, 2018 (see Appendix A). Ensuring participant

confidentiality would also have helped to encourage participation had the assumption related to administrative cooperation turned out to be untrue.

Scope and Delimitations

This study was designed to address the decline in the number of lead paramedics at the selected local Indiana fire department between 2007 and 2017 using the hygiene factors of Herzberg's motivation hygiene theory. Herzberg's motivation hygiene theory provided the opportunity to focus solely on job dissatisfiers for this study. The hygiene factors that were identified for the fire department were salary and benefits, working conditions, personal life, policy and administrative practices, supervision, interpersonal relations, job security, and (paramedic) status.

My study applied to employees selected from a local Indiana fire department that had held a paramedic certification between 2007 and 2017. The scope of the study included current lead paramedics, previous lead paramedics, and current paramedics who were in the lead process or had never sought lead status. Previous lead paramedics did not have to hold a current paramedic certification to be included in the scope.

Fire department retirees, nonunion supervisors, and administrators were not included in this study. The exclusion of nonunion supervisors and administrators meant that the study did not capture the constraints and issues that may have led to the creation of policies that impacted the number of lead paramedics at the fire department. I did not include other department personnel who had never acquired paramedic certification. I also did not include other paramedics who were employed in the same countywide EMS

system but outside the studied fire department because each department has different policies, regulations, and collective bargaining agreements.

The data collection interview method also functioned as a delimitation by limiting the sample size. Given that my research intent was to investigate hygiene factors that support or detract from workplace satisfaction—specifically a paramedic's desire to obtain or drop a lead status designation—other work motivation theories such as Maslow's hierarchy of needs, expectancy theory, need for achievement theory, equity theory, and ERG theory were investigated and found to not be suitably specific constructs for my inquiry.

The results of this study may be transferable within the department to those who hold a lower level EMS certification and who have not sought paramedic certification. It may also be transferable to other departments within the county EMS system if the themes are not specific to the department or union. The results may also help departments located outside this study's area that are struggling to retain paramedics.

Limitations

Limitations are weaknesses of a study that are beyond the researcher's control. A common limitation in phenomenological research is the methodology itself. In that phenomenological research relies on participants being able to clearly express their thoughts and feelings about their lived experiences, it is sometimes viewed as a less credible research methodology by policy makers (Moustakas, 1994). Another limitation is the argument that phenomenological research cannot be generalized to a wider population but can be generalized to theoretical propositions (Moustakas, 1994).

Additionally, phenomenological research is often viewed as unmanageable because it can be time consuming, and it is mistakenly believed that data are valid only if obtained by a researcher experiencing the same event (Moustakas, 1994). A final limitation argument involves the nontransferability of outcomes because of limited sample sizes (Moustakas, 1994).

My research study included several limitations related to the researcher, participants, and content. One limitation was the potential influence of researcher bias given my familiarity with and proximity to both the participants and the issue (due to my community employment status within this research area). Another limitation was that the findings derived from this fire department cannot be applied to all other fire departments. For example, while this county's EMS system provides medical direction to this study's fire department, the specifics of such oversight does not apply to other EMS systems. The terms of the city's and fire department's union contracts posed additional limitations in their capacity to have influenced participants' responses about hygiene factors. Pay rates, vacation policies, sick time policies, work assignment schedules, and other contractual terms of employment can impact job satisfaction. A final limitation was that not only had participants needed to volunteer to participate in the interviews, but that the interviews were time consuming, which may have discouraged some potential participants.

Significance

The purpose of this phenomenological study was to determine what possible hygiene factors had led to changes in job satisfaction and the ensuing decrease in the number of lead paramedics at a medium-sized, urban, municipal fire department in

Northern Indiana between 2007 and 2017. There are currently no studies that look at the impact of Herzberg's motivation-hygiene theory on paramedic staffing. My hope is that this study will improve understanding of the role of hygiene motivation factors in the recruitment, retention and job satisfaction of fire department-based paramedics, and that these findings may serve to increase paramedic personnel numbers overall.

Significance to Practice

The major significance of this study to practice is its goal to increase retention and recruitment of lead paramedics through city and department policy changes as well as changes in administrative decisions. The identification of the issues, or hygiene factors, that cause lead paramedics to drop their lead status will help the city and fire department create polices to address those issues. The same hope is to address the issues through policy creation for those who never seek to become paramedics or paramedics who never seek lead status.

Policies may need to be created that address pay and benefits for those who have lead status and are assigned to the ambulance. Increasing current compensation may improve retention when coupled with additional decisions that address the issues facing lead paramedics—most notably, those issues which cause quicker exhaustion and burnout such as call volume, increased scope of practice, and lack of rotation onto fire engines. Fire department administration could address these issues by increasing personnel, adding an additional ambulance to the city, and mandating regular rotations on fire engines. City and fire department administrators could reestablish their ambulance lieutenant positions to expand promotion opportunities for lead paramedics. Relationships

with supervisors and administration could be augmented through better communication with subordinates and participation in management courses. The results of this study could also be used by the union during contract negotiations with the city to increase compensation for personnel and encourage a dedicated paramedic hiring process.

Significance to Theory

This phenomenological study contributes to filling a gap in the literature regarding the application of Herzberg's motivation hygiene theory. The theory has never been applied to study job satisfaction among EMS providers in the United States, or more specifically, to paramedics. The study provides additional information regarding the use of this theoretical lens in the EMS and fire department settings.

Significance to Social Change

This phenomenological study investigated the role of hygiene factors on job satisfaction among paramedics. "Social change in the broadest sense is any change in social relations" (Wilterdink & Form, 2017). The goal was to identify issues and provide additional information that would increase knowledge of EMS and government policy makers regarding the role of hygiene factors in job dissatisfaction, not only for the Indiana fire department, but also for fire departments and EMS agencies across the United States.

The implications for social change for this study occur at three levels. The first level of potential social change is the organizational level. The selected local Indiana fire department could take the findings of this study to address the identified issues that have led to the decrease in the number of lead paramedics. Addressing the issues through

policy change could increase morale, improve supervisor-subordinate relationships, and decrease per-ambulance call volume, thereby decreasing job dissatisfaction. “Changes in a small group may be important on the level of that group itself but negligible on the level of the larger society” (Wilterdink & Form, 2009, p. 7).

The second level of potential social change is the community level. Improved morale and more downtime during a shift could help paramedics be more alert and patient-care oriented. Crews at many fire departments work 24-hour shifts. According to a fire department supervisor, ambulance crews at the Indiana fire department of interest respond to over 80% of the department’s yearly call volume. “Fatigue and sleep disturbance are factors which can compromise the effectiveness of these workers, and as a result not only hamper patient safety but can have detrimental consequences on the paramedics’ health and overall well-being” (Sofianopoulos, Williams, Archer, & Thompson, 2011, p. 1).

The last level of social change is also the broadest. This level involves fire department and EMS agency culture across the United States. Fire departments and EMS agencies are typically paramilitary organizations wherein supervisors give orders and subordinates do not participate in the decision-making process. Lacking consideration of hygiene factors or low morale, the culture of such organizational structures is failing with respect to paramedic personnel at the selected local Indiana fire department, and it is assumed to be an issue at other fire departments and EMS agencies in the United States.

Summary

In this phenomenological study, I used interviews to identify hygiene factors from Herzberg's motivation-hygiene theory that were contributing to the decline in the number of lead paramedics at an Indiana fire department. The identification of these factors may benefit not only the department and its local community, but also fire departments and EMS agencies nationwide. In Chapter 2, I review the literature pertinent to Herzberg's motivation-hygiene theory, public policy, and EMS. Chapter 2 also demonstrates the gap in literature that is filled by this qualitative research study.

Chapter 2: Literature Review

The purpose of this literature review is to provide background information on multiple components that led to the development of the research questions. The review next addresses the theoretical framework used for the study. The literature review concludes with the rationale for choosing a qualitative research methodology for the study.

Literature Search Strategy

The literature collected for this review included government documents, news periodicals, published dissertations, peer-reviewed articles, literature reviews, and scholarly journal articles. I obtained articles through the Walden University Library using databases that included (but were not limited to) ProQuest Central, SAGE Premier, SAGE Journals, Emeraldinsight, EBSCOhost, LexisNexis Academic, CINAHL & MEDLINE Simultaneous Search, and ABI/INFORM Complete. Publication date was initially limited to 2006 through 2016 but was expanded beyond those parameters to obtain a sufficient amount of literature. The initial search phrase used for general literature was *Frederick Herzberg*. Search results were further narrowed down by locations within the United States. Literature for the healthcare section was obtained using *Frederick Herzberg*, in combination with the terms *healthcare, clinics, hospitals, doctors, physicians, nurses, radiology, long-term care,* and *rehabilitation*. Public-sector literature was found using *Frederick Herzberg* in addition to *government, public sector, public policy, public administration, schools, education,* and *teachers.* Public-safety literature was obtained by adding the terms *police, law enforcement, corrections,*

military, Army, Navy, Marines, Coast Guard, Air Force, and *Homeland Security*. Fire and EMS literature was found by using *Frederick Herzberg* combined with *fire, EMS, ambulance, prehospital, paramedic,* and *firefighter*.

Online media accounts and newspaper articles about overtime at the selected Indiana fire department were found using the Walden University Library and Google. Government documents from the selected Indiana fire department were obtained through the Freedom of Information Act (see Appendix B). Further fire department information and personnel information was acquired through meetings with both the current finance chief and EMS chief, as well as with previous EMS chiefs. EMS history was obtained through EMS journals and government websites. EMS certification levels and scope of practice were obtained through the National Registry of Emergency Medical Technicians, National Education Standards, and the Indiana Department of Homeland Security. Lead paramedic history and information related to the current status of the lead paramedic program were retrieved through an interview with one of the EMS medical co-directors.

Theoretical Foundation

This qualitative research case study explored the role of Herzberg's hygiene factors in the decline in the number of lead paramedics at the selected Indiana fire department. Herzberg published a two-factor motivational theory in 1959 (Herzberg et al., 1959). The two factors of Herzberg's motivational theory were hygiene factors, or dissatisfiers, and motivators, or satisfiers. Through interviews conducted with both accountants and engineers, Herzberg found that hygiene factors must be present before motivators can work. "Job satisfaction was more frequently associated with achievement,

recognition, characteristics of the work, responsibility, and advancement" (Kinicki & Kreitner, 2009, p. 149). Hygiene factors are not motivation and do not create job satisfaction by themselves, but they can create dissatisfaction. Hygiene factors include working conditions, policies and administrative practices, salary and benefits, supervision, status, job security, fellow workers, and personal life (Basset-Jones & Lloyd, 2005).

This study used the hygiene factors from Herzberg's theory only. Hygiene factors that exist at a fire department-based EMS system included the same general factors from Herzberg's theory. Hygiene factors at the fire department in this study specifically included lead status; fire department administration; city, department, state, and medical director polices; salary and specialty pay; increased call volume per ambulance; and increased scope of practice. The following literature review shows that this type of study had not previously been completed at a fire department to study paramedic satisfaction using Herzberg's motivation hygiene theory

Literature Review

Herzberg's Motivation Hygiene Theory

Herzberg et al. (1959) completed a motivation hygiene research study in 1959 using the sequence events technique. To obtain their sample, they chose different departments from the following nine different company sites in or within 30 miles of Pittsburgh, PA:

- a medium sized company that manufactured special steels;

- a large fabricating plant, that employed several thousand people, and that turned out consumer goods and material for the armed forces (as a branch of a nation-wide metal company);
- the central offices and plants of a major basic steel producer;
- the staff of concern that engaged in a wide variety of engineering functions, including shipbuilding;
- the accounting staff of a specialty steel firm;
- the staff of a large engineering company that operated as a job shop for the building of heavy machinery;
- a major utility that was part of a national holding company.;
- a small manufacturer of industrial instruments; and
- a small manufacturer of light industrial equipment. (Herzberg et al., 1959, p. 30)

Herzberg et al. (1959) wanted participants to identify times when workers had higher than usual job satisfaction or lower than usual job satisfaction. The researchers looked at two different factors. *Intrinsic factors*, or *motivators*, referred to the actual work that was required by the job. *Extrinsic factors*, or *hygienes*, referred to the work environment.

Over 200 interviews were conducted to obtain the results of the study. Herzberg et al. (1959) sent out an informational letter to respondents prior to the interviews to ensure that the participants had a good understanding of the study before they submitted to the interview. The researchers also worked to show the participants that their interviews would remain confidential. The interviews began with the interviewer reviewing the

nature of the study. The researchers asked workers to "describe a time, an incident, when you felt good, and a time, incident, when you felt bad" (Herzberg et al., 1959, p. xi). The participants were given the freedom to pick a recent event or a past event. After the first question, the interviewer based the ensuing question on the participant's previous response. For example, if participants had selected a recent event, they would next be asked to think of a past event. If participants had selected an event in which they felt good about their job, they would next be asked to select an event in which they felt bad about their job.

The researchers analyzed the interviews using an *a posteriori* approach. In an a posteriori approach, "the categories of analysis are extracted from the material itself" (Herzberg et al., 1959, p. 37). With this approach, factor analysis and coding are done after the interviews. This approach was chosen because the researchers wanted the data to speak for themselves. Each interview was read by the coders who separated statements about feelings and events. Five thousand of these statements were separated and then put into piles with other similar statements. These piles were then organized into three groups representing first-level factors, second-level factors, and effects. Each group was then coded. Only 476 out of the original 5000 statements fit the predetermined guidelines for acceptable statements for use in the study. "With 95 per cent agreement between two independent coders and an additional check by a third person, we felt that analysis to be sufficiently objective to provide reliable data" (Herzberg et al., 1959, p. 39).

As part of the content analysis of the interview, the researchers defined two levels of job-attitude factors. First-level factors were objective factors that resulted from a

situation that caused good or bad feelings about the respondent's job. Fourteen first-level factors were identified during the study:

- Recognition
- Responsibility
- Achievement
- Company police and administration
- Possibility of growth
- Working conditions
- Advancement
- Work itself
- Salary
- Factors in personal life
- Interpersonal relations
- Status
- Supervision (technical)
- Job security

Second-level factors were derived from the respondents' feelings about an event that had occurred as a first-level factor. The researchers asked, "What did these events mean to you?" (Herzberg et al., 1959, p. 49). The limitation of second-level factors came from the ability of respondents to share their feelings or understand the way an event had made them feel. The researchers next asked the respondents how the first-level and second-level factors had affected their job attitudes. These effects were placed into five categories: performance effects, turnover, mental health effects, effects on interpersonal

relationships, and attitudinal effects. The results of the study were separated into three areas: the data for factors that created either positive or negative job attitudes; the effects of these job attitudes; and, individual differences. The most common first-level factor that created positive or negative job attitudes was achievement (Herzberg et al., 1959). Working conditions, personal life, and job security were at the bottom of the list. Respondents who had positive job attitudes were more likely to improve their job performance than respondents who had negative job attitudes that caused them to decrease their job performance. Those who had thoughts of quitting (based on their job attitudes) were very likely to quit in the long-term. Seventeen out of 20 respondents who had thoughts of quitting did so in the long term (Herzberg et al., 1959). Job attitudes were also found to have a positive correlation with positive views of the company. Mental health effects were found to be short lived. Interpersonal effects were more likely to occur with long-term events than with short-term events. First-level factors created positive or negative attitudes toward the job over 50% of the time (Herzberg et al., 1959). The study concluded that workers were dissatisfied by a bad environment but were seldom made satisfied by a good environment. Since the creation and publication of Herzberg's motivation hygiene theory, it has been used by researchers to study job satisfaction and dissatisfaction in a multitude of career sectors including physicians, nurses, radiological technicians, engineers, accountants, public school administrators, correctional officers, firefighters, and city managers, to name a few (Herzer & Provonost, 2013; Huffenberger, 2012; Maidani, 1991; Schachtner, 2013; Schmidt, 1976; Udechukwu, 2009; Young, n.d.; Zhang, Yao, & Cheong, 2010).

United States. Utley, Westbrook, and Turner (1997) conducted research at nine organizations that employed a large number of engineers and technical employees in the southeastern United States. The researchers had been trying to determine if there was a connection between Herzberg's motivation hygiene theory and quality improvement (QI) programs. Their study hypothesis stated that companies that emphasized motivators were more likely to have successful QI programs—when compared to companies that emphasized hygiene factors (Utley et al., 1997). Employees and managers were surveyed at all nine organizations. The first part of the survey focused on the success of the QI programs, while the second part of the survey focused on motivators and hygiene factors. Part 1 of the survey used a Likert scale ranging from 1 to 5, with 1 corresponding to *strongly disagree,* and 5 corresponding to *strongly agree*. Part 2 of the survey closely followed Herzberg's original study. Participants were asked to share an event that caused job satisfaction and an event that caused dissatisfaction. QI programs at the companies had a range of 2.79 points on a 10-point scale (Utley et al., 1997). Because the range was less than 3 points, the researchers used the two highest scoring companies and the two lowest scoring companies only when looking at job satisfaction. The top motivator at the nine organizations was "accomplishment", and the top hygiene factor was "management style" (Utley et al., 1997). The two top-scoring QI companies had 100% of their respondents reporting job satisfaction and no respondents reporting dissatisfaction (Utley et al., 1997). The two lowest scoring QI companies had an overall satisfaction range of 45-67% and overall dissatisfaction range of 28-55% (Utley et al., 1997). The results of

the study indicated a correlation coefficient of 0.86, supporting the researchers' hypothesis.

Knight and Westbrook (1999) conducted a quantitative study of telecommuting workers to determine if they had the same motivators and hygiene factors as traditional workers. The researchers collected data via a survey sent out to 125 telecommuting workers, and they received 20 responses. All of the respondents indicated that they were satisfied overall with their jobs (Knight & Westbrook, 1999). "Accomplishment" and "flexibility" were found to be the top motivators, and "working conditions" was the top hygiene factor (Knight & Westbrook, 1999). Flexibility was a newly identified motivator, and work overload was a new hygiene factor that had not been identified in previously conducted job satisfaction studies (Knight & Westbrook, 1999). Aside from the newly identified factors, telecommuting workers were found to be satisfied by the same motivators and dissatisfied by the same hygiene factors as traditional workers (Knight & Westbrook, 1999).

Valente (1999) conducted a case study of an international aerospace machinist union located in the northeastern United States. Using Herzberg's theory, the researcher examined the new *participatory management* techniques of the study's organization. Participatory management allows each union member to have the opportunity to be involved in all parts of the organization thereby making union representation obsolete. The study included three research questions which addressed: (a) the extent to which Herzberg's theory described the company and union since 1980, (b) how the union had been impacted by the new management style since 1980, and (c) how the new

management style had impacted union workers and the company (Valente, 1999). Valente used a three-step process for data collection that included an evaluation of previously administered surveys, a review of fifteen years of union contracts, and interviews with both union workers and company management (Valente, 1999).

The previously conducted survey by an outside agency found that 50% of respondents gave favorable responses, 20% gave unfavorable responses, and 30% gave neutral responses (Valente, 1999). The union interviews revealed employees' distrust of both the company and management, and the company interviews revealed the sentiment that unions protected weak workers (Valente, 1999). The results of the data analysis indicated that the new management techniques were adequately addressing hygiene factors but were not adequately addressing motivating factors. Coding of the written-in responses from the surveys indicated that 85% of respondents believed that issues with hygiene were successfully addressed by management, and only 25% of respondents believed that motivating factors were adequately addressed by management. Valente (1999) concluded that the new management style did not seem to work for union workers due to distrust, a decline in union membership, and a decline in worker control.

Bitsch and Hogberg (2005) researched agricultural employee job satisfaction using Herzberg's motivation hygiene theory. They sought to determine whether the theory had remained relevant, and whether it applied to the under researched area of nonsupervisory agricultural employees who, at that time, were predominately Hispanic males with lower education levels (Bitsch & Hogberg, 2005). Interviews were completed with 15 employees from 14 different horticulture businesses in Michigan. Satisfaction

with motivators was found to be higher (69%) than dissatisfaction (27%) (Bitsch & Hogberg, 2005). Satisfaction was also found to be higher for hygiene factors — that is, with 62% satisfied compared to 33% dissatisfied (Bitsch & Hogberg, 2005). The data for hygiene factors did not support Herzberg's theory but did show that motivators were more likely to create satisfaction, whereas hygiene factors were more likely to create dissatisfaction (Bitsch & Hogberg, 2005).

Healthcare. Wegner (2011) conducted a quantitative study using Herzberg's motivation hygiene theory to explore the importance of employee engagement and its relationship to employee turnover at a 398-bed acute care hospital on the east coast of the United States. Wegner compared surveys administered from 2005 to 2009 by the Gallup Organization to volunteer participants at the hospital with that hospital's employee turnover rates for that same timeframe. Survey-participants were required to have had at least nine consecutive months of employment within the hospital. The surveys consisted of 12 questions for which responses were ranked on a Likert scale of 1 to 5, with 1 representing *extremely dissatisfied* and 5 representing *completely satisfied*. A sixth response option was *does not apply* or *don't know*. "The level of employee engagement was positively and strongly correlated with the rate of retention, $r = 96$, $p < .05$" (Wegner, 2011, p. 55). The results indicated that voluntary turnover was more likely when employees were less engaged; and conversely, as employee engagement increased, employee turnover was seen to decline. Employee retention and engagement levels had a 91.4% variability rate (Wegner, 2011).

Huffenberger (2012) completed a quantitative study to research job satisfaction among registered nurses (RN) across differing demographics of generation, gender, and country of training using Herzberg's motivational hygiene theory. The researchers had noted a national shortage of RNs and a high level of RN turnover (Huffenberger, 2012). Almost one-fourth of RNs reported job dissatisfaction (Huffenberger, 2012). The first two hypotheses were:

H1. Is there a difference in personal satisfaction among RNs from different demographics?

H2. Is there a difference in workload satisfaction among RNs from different demographics?

A third hypothesis looked at the relationship of personal and workload satisfaction to global satisfaction. An online survey was administered via Survey Monkey. More than 127,000 RNs were invited to participate in the study, and there were 272 respondents (Huffenberger, 2012). The three null hypotheses for the first hypothesis regarding personal satisfaction and generation, gender and country of training were not rejected because generation had a p value of .605, gender $p = .661$, and training $p = .912$. Nor were the three null hypotheses for the second hypothesis regarding workload satisfaction and demographics rejected because generation had a p value of .776, gender $p = .779$, and training $p = .621$. The two null hypotheses for the third hypothesis were rejected. Personal satisfaction and global satisfaction were positively correlated with a p value of $< .001$ for the null hypothesis. Workload satisfaction and global satisfaction were also found to be positively correlated with a p value of .001 for the second null hypothesis.

Herzer and Pronovost (2013) discussed the factors that best motivate physicians and examined the use of quality improvement (QI) programs that would address those motivators. The authors reviewed a QI program at the University of Michigan that was aimed at reducing infections caused by central (venous access) lines. At the beginning of the program, many of the physician participants believed that central line infections were inevitable, but after completing the program's educational component, they believed that these infections were preventable (Herzer & Pronovost, 2013). The authors believed that physicians were motivated by the intrinsic factors of achievement, purpose, autonomy, responsibility, growth, and learning and were not motivated by extrinsic factors such as financial gains (Herzer & Pronovost, 2013). The authors expressed their concerns related to pay-for-performance incentives for physicians.

Schachtner (2013) explored job satisfaction among radiology technicians at two Midwest suburban, acute care hospitals. The researchers used both Maslow's theory of needs hierarchy and Herzberg's motivation hygiene theory for the study's conceptual framework. Participants were recruited through flyer distributions and emails. Data were collected through semistructured 16-question interviews with 10 radiology technicians from each hospital. The top three reasons interview participants liked their work were (a) working with patients, (b) working with co-workers, and (c) working for the sake of working (Schachtner, 2013). Eighty percent of participants indicated that they were satisfied with their jobs (Schachtner, 2013).

Public sector. Schmidt (1976) used Herzberg's motivation hygiene theory to look at job satisfaction among high school administrators in the Chicago suburbs. The first

hypothesis stated there was a relationship between a favorable or unfavorable event, the motivator or hygiene factor, and the source of the feelings or first-level factors (Schmidt, 1976). The second hypothesis looked at the relationship between a favorable or unfavorable event, the motivator or hygiene factor, and the psychological reaction or second-level factors (Schmidt, 1976). Participants came from 25 out of 132 high schools. A total of 74 administrators were randomly selected. The administrators consisted of the principal, their immediate supervisor, and their immediate subordinate. Participants were interviewed about four job related events and included participants' written statements about the strength and duration of their feelings about each event. The interviews were coded by five independent coders. First-level codes were events that were the source of feelings while second-level codes were reported psychological reactions to the respective events. The study concluded that high school administrators were motivated by recognition, advancement, and achievement. Further concluded was that high school administrators could become dissatisfied because of pay, interpersonal relationships, policies, and supervision. The hypotheses were tested, and data were shown using a chi-square presentation. The chi-square value for the results of the study was 92.66 (Schmidt, 1976). In summary, the study's author recommended that school boards focus on (a) promoting job growth opportunities, (b) encouraging creativity, (c) public recognition, and (d) working to eliminate interpersonal issues within teams (including the polarization between teachers and administrators) (Schmidt, 1976).

Park, Lovrich, and Soden (1988) completed a comparative analysis of public employees in both Korea and the United States using Herzberg's two-factor theory. The

researchers selected the Vocational and Management Agency in Korea, which oversees ten agencies and 3000 employees. The sample consisted of administrators and vocational teachers/counselors. Each agency was asked to provide ten "typical" employees (five teachers and five counselors) with the exception that the headquarter agency was asked to provide 12 (researcher) employees. Participation was voluntary. Participants were interviewed with a similar structure as was used in Herzberg's original study. There was not a similar agency in the United States, so the researchers selected four separate agencies from Spokane, Washington. Participants in the U.S. side of the study had similar job descriptions as did those from the study's Korean counterpart. The researchers concluded that there was no difference in first-level factors between Korea and U.S. public employees. Both interview analyses indicated that "achievement" (Korea 55.8% and U.S. 49.1%) and "recognition" (Korea 47% and U.S. 32.5%) were the most important motivators (Park, Lovrich, & Soden, 1988). The researchers did conclude that there was a difference among second-level factors. In Korea, "interpersonal relations" with superiors was the most important potential dissatisfier at 45%, whereas in the U.S., combined "company policy and administration" was the highest ranked potential dissatisfier at 25.9% (Park et al., 1988).

Maidani (1991) retested Herzberg's two-factory theory using a comparative analysis of employees in both the private and public sector. The researcher tested four hypotheses:

H1. Satisfied employees value motivators more than dissatisfied employees.

H2. Dissatisfied employees value hygiene factors more than satisfied employees.

H3. Private sector employees value motivators more than public sector employees.

H4. Public sector employees value hygiene factors more than private sector employees (Maidani, 1991).

The researcher used surveys with response-choices correlated to a Likert scale. The surveys were distributed to 486 accountants and engineers in both the private and public sectors of a defined, same area in Florida. Seventy-two percent of the surveys distributed were returned to the researcher. The first hypothesis had a mean of 31.01 for *satisfied* and 30.01 for *dissatisfied* showing that members of the satisfied employee group valued motivators more highly than did members of the dissatisfied employee group (Maidani, 1991). Hypothesis 2 had mean values of 33.76 and 32.69, which revealed that there was not a significant difference between the two groups. Thus, Hypothesis 2 was not supported by the data (Maidani, 1991). Comparably, the third hypothesis was not supported by its means values of 30.23 and 30.33 respectively (Maidani, 1991). Hypothesis 4 was supported by its mean values of 33.39 and 32.61 respectively, indicating that public employees valued hygiene factors more than private employees, (Maidani, 1991).

Zhang, Yao, and Cheong (2010) studied job satisfaction of city managers in the state of Georgia. The purpose of the study was to develop Herzberg's theory in a manner so as to identify motivator factors and hygiene factors for city managers. The researchers

crafted and distributed 21-question surveys to 199 city managers. The survey questions covered managers' feelings about their work, their relationships with city council, and city performance (Zhang, Yao, and Cheong, 2010). The surveys used a Likert scale of 1 to 7 for responses, with 1 representing *strongly disagree* and 7 representing *strongly agree* (Zhang et al., 2010). One-hundred-fifty-two surveys were returned with 142 surveys usable for the study (Zhang et al., 2010). Ten surveys were not used because of missing information. Results of the surveys indicated that performance of the city government and the manager's community influence were important motivators with coefficient alpha reliabilities of .81 and .88 respectively (Zhang et al., 2010). City managers who were paid higher salaries (more than $100,000) while managing larger populations, were found to be more frustrated or dissatisfied than their counterparts who were paid lower salaries (under $100,000) while presiding over smaller, less populated cities. (Zhang et al., 2010). The hygiene factors of pay and city population both had negative p values (Zhang et al., 2010).

Human services. Green (2013) studied the relationship between perceptions of risk management policies at law enforcement agencies and levels of job satisfaction using Herzberg's motivational hygiene theory as a study framework. *Risk management policies* are policies that are enacted to reduce financial liability. Risk management policies are purposed to reduce liability by means of guideline-creation for the use of force, vehicle pursuit, and search and seizure performance. The null hypothesis was, "There is no relationship between police officers' job satisfaction and their perception of effects of risk management policies and procedures in performing their roles in an urban

community" (Green, 2013, p. 81). Data were collected via surveys completed by 126 police officers at a large, urban Midwestern police department. Responses to survey questions were provided using a Likert scale from 1 to 6, with 1 equaling *disagreeing very much* and 6 equaling *agreeing very much*. Risk management was divided into four categories: training; communication, policies and procedures; and knowledge/awareness. The study found a correlation between eight of the nine job satisfaction categories and a police officer's understanding of and support of risk management policies:

- pay $r = .04$ and $p = .662$;
- promotion $r = -.08$ and p = .356;
- benefit $r = .02$ and $p = .852$;
- contingent rewards $r = -.11$ and $p = .236$;
- operating procedures $r = .02$ and $p = .827$;
- coworkers $r = -.07$ and $p = .413$;
- nature of work $r = .04$ and $p = .691$; and,
- communication $r = -.13$ and $p = .160$ (Green, 2013).

The strongest correlation was found between the subsection of training under risk management and job satisfaction:

- pay $r = .18$ and $p = .040$;
- promotion $r = .22$ and $p = 0.13$;
- supervision $r = .30$ and $p = .001$;
- benefit $r = .08$ and $p = .398$;
- contingent rewards $r = .35$ and $p = < .001$;

- operating procedures $r = .17$ and $p = .066$;
- coworkers $r = .28$ and $p = .001$;
- nature of work $r = .40$ and $p = <.001$; and,
- communication $r = .24$ and $p = .007$ (Green, 2013).

Six of the nine job satisfaction categories had a p value of less than .05, which means that the researcher could reject the null hypothesis.

Granberg-Rademacker and Bumgarner (2011) studied the productivity and motivation of 94 government funded crime labs in the United States. The researchers did a regression analysis using data that were collected by the Census of Publicly Funded Forensic Crime Laboratories in 2005. Using three predictor variables, (a) backlog, (b) lab accreditation, and, (c) management, the authors sought to determine how the variables impacted a dependent variable of lab productivity. Lab productivity was measured by "the number of DNA analyses conducted per analyst in 2005 calendar year" (Granberg-Rademacker & Bumgarner, 2011, p. 84). The study also discussed the *CSI effect*, which had created higher demands from the general public for quicker lab processing-time (at a time when labs were also dealing with decreased budgets). The CSI effect refers to the influence crime television shows has on forensic lab-performance expectations from the general public. The study concluded that there was a statistically significant relationship between productivity and lab accreditation, meaning that accredited labs had a higher level of productivity when compared to labs that were not accredited. Lab accreditation had a p value of less than .05, and $b_2 = 12.95$. It also concluded that there was a statistically significant inverse relationship between productivity and backlog of cases,

meaning that an increase in the number of backlogged cases reduced productivity. Backlog had a negative *p* value of less than .01, and b_1= -16.42.

Udechukwu (2009) studied correction officer turnover in one southern U.S. state using Maslow's hierarchy of needs along with the first-level factors of Herzberg's motivation theory as study frameworks. The author personally felt that being a correction officers was a thankless job that precipitated turnover. The author maintained that job satisfaction affected turnover, and subsequently, turnover affected productivity. The author reviewed exit interviews from a state corrections agency to obtain data for the study. The study concluded that officer-abuse by inmates could have a negative impact on Maslow's physiological- and safety-level needs. It also concluded that most correctional officer jobs would meet only the first three of Maslow's needs — those being self-actualization, esteem and love/belonging. Using Herzberg's theory, the study found that motivational needs, such as salary, benefits, and recognition, when met, created satisfaction and reduced turnover.

Jamison (2003) applied Herzberg's theory to turnover and retention of volunteers in the public sector. The author stated that nearly one-third of the labor force for nonprofit agencies is volunteer. The author further stated that there is a high level of dissatisfaction in volunteer work. The goal of the study was to determine if there was a strong correlation between organizational factors and volunteer-worker turnover. As such, training, orientation, communication, interpersonal relations, direct service, equitable treatment, skill development, challenging tasks, personal growth, decision making, feedback and evaluation, recognition, and reward were identified as the hygiene

and motivating factors (Jamison, 2003). The researcher utilized a 20-item survey distributed to respondents with volunteer experience in one Florida County. Over 200 surveys were sent out with 133 returned and 119 deemed usable for the study. Of the 119 usable surveys, 86 respondents were currently volunteering for a local agency. “Only 38% of the respondents were highly satisfied with their volunteer experience” (Jamison, 2003, p. 124). The study was consistent with Herzberg’s findings and theory. The study found that volunteers had to be satisfied with the job task and not dissatisfied with the hygiene factors in order for them to be more likely to continue to volunteer for the agency. In particular, a volunteer had to feel needed and involved to create satisfaction. In addition, a volunteer had to have good interpersonal relations with other volunteers and supervisors to prevent dissatisfaction.

Fire and EMS. Young (n.d.) undertook his study because he himself had become disheartened with his job as a firefighter/paramedic, and he had noticed similar sentiments among his coworkers. “Some of today’s firefighters are becoming increasingly stressed out, unmotivated, and just plain sick of the job” (Young, n.d, p. 3). Young asked firefighters and officers in his area why they were staying at the job and not looking at new careers. He wanted to know when and where they were losing their motivation. Before beginning his interviews, Young reviewed several theories of motivation: “Maslow’s hierarchy of needs, Herzberg’s motivational needs; Douglas McGregor’s theory X and theory Y; Victor Vroom’s expectancy theory; and Frederick Herzberg’s equity theory” (Young, n.d., p. 4). Young applied Herzberg’s two factor theory to firefighters that worked at a new station, had the best equipment, and got paid

well but still were not satisfied with their jobs. Fire department officers asked firefighters what more was wanted from their department. Young interviewed and corresponded via text with firefighters to gain information about job satisfaction. This study revealed that firefighters wanted department leaders to be "fair, respectful, trustworthy, flexible, and sensitive "(Young, n.d.). The author additionally reported that firefighters wanted officers to "keep them safe, do things with them around the station, provide and participate in high quality trainings, 'get their hands dirty', delegate tasks for them to run with, and be one of them" (Young, n.d.).

Hagen (2012) found that EMS leaders often do not practice a "best leadership style". Leadership style has typically been based on the EMS leader's prior individual experience or "what comes naturally". While modern EMS was emerging at once with the conception and spread of both Herzberg's theory and models of transformational leadership, evolving EMS neither adopted nor embraced these styles of leadership. "While most EMS agencies and companies subscribe to the transformational leadership theory, only 5% of EMS organizations fulfill their vision" (Hagen, 2012, p. 2). Hagen (2012) believed that it would take time for EMS agencies to adopt better leadership styles, but that they would eventually be adopted.

Haug and Gaskins (2011) explored what motivated people to volunteer and how that understanding could increase recruitment and retention of volunteer EMTs. The study was undertaken because the authors had identified a decrease in the numbers of volunteer EMTs internationally. This decrease was, in turn, found to have had a negative impact on public safety. "In the USA, community volunteers provide a significant

percentage of emergency medical assistance—mostly in rural areas. These small communities lack the funding needed to provide adequate emergency services and rely heavily on voluntary donations and volunteer hours" (Haug & Gaskins, 2011, p. 198). Volunteer EMTs often go to school outside of their regular employment, have to leave events to respond to emergency calls, and put themselves in dangerous situations for no financial remuneration. The researchers conducted their study in Virginia, surveying volunteer EMTs at both a rural and an urban EMS provider. Haug and Gaskins (2012) concluded that Herzberg's theory was also applicable to volunteers. The applicability of Herzberg's theory to volunteer job satisfaction was outlined by Haug and Gaskins (2011) as follows:

> For volunteers, hygiene-related examples might be municipal policy, new rescue vehicles, or leadership styles. These external factors do not by themselves motivate; however, a negative situation may generate dissatisfaction. Motivators (opportunities for promotion, increased responsibility, personal growth) are factors internal to the volunteer that augment the task environment, and increase motivation, as well as the desire to persevere. (p. 201)

Survey responses from the 2012 Haug and Gaskins research study indicated that family or friends who were already members of an emergency medical service recruited most of the EMTs. Motivating factors included a desire to help others as well as a desire to begin a career in public safety. Respondents stated that minimum volunteer-hour commitments and family obligations were the biggest concerns when deciding to join the

department. Haug and Gaskins (2011) identified family and finances to be the biggest barriers to retaining current volunteer EMTs.

Ross (1998) completed a research study on paramedic dissatisfaction at the Richardson Fire Department. The fire department had been having difficulty retaining and recruiting paramedics. The department had found that its paramedics were more dissatisfied with their jobs than were the rest of the personnel in the department. "The purpose of this research project is to identify the problems and decide on a solution to bring job satisfaction of the emergency medical services up to a level with fire suppression and fire prevention" (Ross, 1998, p. 5). Ross completed a survey of fire departments in Texas that had similar demographics to Richardson Fire Department. Ross wanted to know what were the perceived problems creating job dissatisfaction; if the identified problems were real; whether or not the same problems were occurring in other agencies and what solutions had been attempted; and whether or not the solutions had been successful (Ross, 1998). The study used Attner's motivation model for a theoretical lens. Attner's model illustrates that an employee establishes behaviors to meet their needs. Motivation is a combination of past experiences, environmental influences, perceptions, skills, and incentives. Attner created his model with components of Maslow's hierarchy of needs, Herzberg's motivation theory, and McClelland's need for achievement theory.

Ross (2012) found that paramedics needed to be better compensated for their jobs. The department needed to increase the number of paramedics in order to decrease individual workloads. Paramedics also needed more time to rest, which, the author noted,

could be accomplished through frequent alternative assignments to fire suppression. Ross (2012) maintained that ambulance personnel should include officers. Lastly, Ross concluded by asserting that the fire department needed to adopt a culture that encouraged personal growth and recognized the important role of its paramedics.

History of EMS

Military History

The first recorded Emergency Medical Service (EMS) operation began during Napoleon's reign and was purposed to treat and transport injured solders from the battlefield (Shah, 2006). Jean Dominque Larrey, Napoleon's chief physician, is credited for creating a system of treatment and transport for the French solders (Shah, 2006). A similar system was used by the Union Army during the Civil War (Shah, 2006). The United States military made significant advances in trauma care between World War II and the Vietnam War. The mortality rate for soldiers arriving at medical centers during World War II was 4.5% but dropped to 2% during the Vietnam War because of improved field trauma care (Shah, 2006). Vietnam soldiers were trained in in-the-field treatment, and when they came home, they were able to afford their knowledge and training to civilian ambulance services (Shah, 2006).

Civilian History

The concepts and structure of battlefield treatment and transport were carried over to create the civilian EMS system (Shah, 2006). The first civilian ambulance service began in 1865 in Cincinnati, Ohio (Bucher & Zaidi, n.d.). At that time, emergency medical services were unregulated and had no training standards. Some areas staffed

ambulances with physicians while other areas staffed ambulances with personnel having little or no medical training (Shah, 2006). Civilian EMS in the United States remained largely unchanged until 1960. (Shah, 2006). “Between 1960 and 1973, a number of medical, historical, and social forces converged, leading to the development of a more structured EMS system in the United States” (Shah, 2006, p.414). These changes would lead to the development of the structured EMS system that exists today.

While EMS made few advances until the 1960s, other areas of health care were experiencing marked growth in new technologies concomitant with a rising concern about increasing incidence-rates of certain diseases (Shah, 2006). Heart attacks, cancer, strokes, and trauma were becoming a growing concern for society, health care professionals, and the government due to the large financial burden that such health conditions placed on the public health system (Shah, 2006). So significant was the perceived socioeconomic impact of these diseases that they even figured prominently in the Democratic platform during the 1960 U.S. presidential elections (Shah, 2006). As Shah (2006) noted, in 1964, President Lyndon B. Johnson asked Dr. Michael DeBakey (a renowned cardiovascular surgeon, scientist and medical educator) to join others in the task of developing a program to conquer heart disease, cancer, and stroke (Shah, 2006, p. 415). In response, the panel compiled a report for President Johnson that included 35 recommendations for the government (Shah, 2006).

One of the panel’s main recommendations was the establishment of regional groups called “Regional Medical Programs” (RMPS), which would be strategically positioned around academic medical centers and tasked with the aims of improving

patient care, education, and research (Shah, 2006). Shah wrote that Regional Medical Programs had five features:

- They were created to improve treatment of heart disease, stroke, and cancer.
- Funding was provided through grants that would allow programs to address regional needs.
- Healthcare improvements shifted from the local level to a regional level.
- Training was expanded for healthcare providers, including EMTs.
- Advancements in healthcare were centered around academic-based medical centers.

The creation of RMPs had a positive impact on EMS by funding training for EMTs and EMS systems. Patients were now being transported to regional specialty centers (Shah, 2006). Even with the creation of RPMs, nationally, EMS remained at that point still a disorganized system with no oversight of training or care.

During the mid-1960s, two reports were released which finally propelled EMS toward becoming an organized system. The first report came from President Johnson's Commission on Highway Safety. The Commission had determined that motor vehicle collisions posed the greatest burden on public health, and their report emphasized a need for timely and adequate care for trauma patients (Shah, 2006). In 1966, the National Academy of Sciences and the National Research Council co-published the report, *"*Accidental Death and Disability: The Neglected Disease of Modern Society*"* that reflected heightened concern about the current status of EMS (Shah, 2006). "Some EMS-related inadequacies included: (a) no treatment protocols; (b) few trained medical

personnel; (c) inefficient transportation; (d) lack of modern communications and equipment; (e) the abdication of responsibility by political authorities; and (f) the lack of research evaluating prehospital care" (Shah, 2006, p. 416).

These two reports compelled the U.S. government to enact the Highway Safety Act of 1970 that was fundamental to the creation of the Department of Transportation (Shah, 2006). The Department of Transportation (DOT) was tasked with improving highway safety and the EMS system. The placement of EMS under the DOT, however, indicated that the government persisted in viewing EMS as more of a transportation and communication system than a medical care system (Shah, 2006). Shah (2006) noted:

> The Act specifically provided for federal involvement to improve EMS plans, ambulance specifications, equipment standards, communications, educational requirements, staffing, and other aspects of caring for medical emergencies. Additionally, the Act allowed for penalties in the event of states' failure to follow the provisions regarding EMS. (p. 416)

The DOT began creating demonstration programs and issuing grants to help regions develop EMS systems. Very little focus was placed on medical care, and in fact, the only mention of medical training by the DOT was a recommendation that providers take the course, "First Aid on the Highways" offered by the American Red Cross (Shah, 2006).

Advances in cardiac care during the 1960s soon impacted several EMS systems. The American Heart Association and the American Red Cross began teaching health care providers how to perform cardiopulmonary resuscitation and defibrillation. Several major cities across the U.S. created mobile cardiac units that could respond to out-of-hospital

cardiac arrests. The responders on these units were considered paramedics and were trained in intubation, intravenous access, and identification of cardiac rhythms, however, the responder-training was not standardized between cities or across the country (Shah, 2006). Survivors began to tell their stories to the media while at the same time, a new television show, "Emergency", highlighted the life-saving actions of two fictional paramedics of the Los Angeles County Fire Department. Such media developments, coupled with the social consciousness of the 1960s, pushed EMS to the forefront of the concerns of the general public (Shah, 2006).

The federal government was not following through with their stated commitment to produce a more cohesive and better trained EMS system (Shah, 2006). The author asserted that, "The tension between the state of the federal and local governments' limited development of EMS as a transport service", and continued with the contention that:

> (1) The transformation of EMS into a medical service using the latest available advances; (2) the media portrayal of EMS medical care and its benefit; and (3) the failure of the federal government to use the enforcement powers in the Highway Safety Act to ensure that states meet the standards for EMS led to additional controversy and demands for legislation during the early 1970s. (Shah, 2006, p. 418)

In the early 1970s, multiple bills framed to address these issues were introduced in Congress. The EMS Services and Development Act of 1973 established 15 essential components of EMS systems, and it transferred control of EMS to the federal Department

of Health, Education, and Welfare. Subjects addressed within the Act included grant provision, planning for better training, and conducting feasibility studies (Shah, 2006).

The changes in EMS since 1973 have been less comprehensive. The role of the federal government has been reduced and supervision of EMS systems has been turned over to the individual states. Training has been added to best meet medical needs that are unique to specific demographic patient-populations such as children (pediatrics) and the elderly (geriatrics) (Shah, 2006).

EMS Today

National Highway Traffic Safety Administration, Office of EMS

The National Highway Traffic Safety Administration (NHTSA) Office of EMS was tasked with four goals over the last forty years, and wrote:

- "We advance a national vision for EMS through projects and research" (NHTSA 2017, p. 1).

The agency has continually reviewed the status of EMS in the U.S. and worked to close any gaps in the system.

- "We foster collaboration among federal agencies engages in EMS programming" (NHTSA, 2017, p. 1).

The NHTSA has supported and collaborated with the Federal Interagency Committee on EMS and the National EMS Advisory Council on needed projects, current projects, trends, and the future of EMS.

- "We deliver the data EMS leaders need to advance their systems" (NHTSA, 2017, p. 1).

The agency has designed and created databases for information that is needed by researchers and EMS agencies.

- "We evaluate system performance" (NHTSA, 2017, p. 1).

The NHTSA has evaluated the EMS systems in all 50 states and given feedback on improvements. The agency has also set benchmarks to evaluate the performance of EMS systems at all levels.

In 1996, the NHTSA published the *"*EMS Agenda for the Future*"* (NHTSA, 2017). While the agenda addressed multiple issues, its overarching message was its push for a fundamental change in the way in which EMS practices were established. Prior to this report, there had been very little evidence-based medical care. Research had been difficult to conduct in EMS because there were no established or centralized data points. A major element in the agenda's urge for change arose in its presentation of a conceptual (role) model known as the *community paramedic*. A community paramedic would not respond to medical emergencies but would instead be involved in illness- and injury-prevention endeavors including: vaccinations, medication compliance checks, health screenings, and public education. The agenda has been updated twice, in 2000 and 2010, and it is projected to receive an additional update by 2020 (NHTSA, 2017).

The "National EMS Core Content*"* was created by a task force in response to the events of September 11, 2011. Created and funded by the NHTSA, this task force included the National Association of EMS Physicians and the American College of Emergency Physicians (NHTSA, 2005). "Core Content defines the entire domain of out-of-hospital practice and identifies the universal body of knowledge and skills for

emergency medical services providers who do not function as independent practitioners" (NHTSA, 2005, p. 5). The report comprises a knowledge base for a multitude of medical conditions, and it is purposed for use by not only EMS prehospital providers, but as well by emergency physicians. The report includes lists of conditions, acuity definitions, EMS task definitions, procedures, and skills (NHTSA, 2005).

The *"*National EMS Core Content*"* report served as a foundation for an ensuing *"*National EMS Scope of Practice Model*"* (NHTSA, 2006). Published in 2006, the latter report defined distinct levels of EMS providers, and it further outlined for each of those levels a minimum set of competencies including knowledge base, skills, practices, and procedures. The goal of the latter report was to create a uniform scope of practice that would make it easier for providers to move among the U.S. states. The National Registry of Emergency Medical Technicians (NREMT) subsequently used this report to establish certification procedures (NREMT, 2016). This measure enabled providers to obtain and hold a national-level EMS certification that would be recognized and reciprocal across all U.S. states.

The *"*National EMS Education Standards*"* established the curriculum for EMS education agencies that was based on the *"*National EMS Scope of Practice Model*"*. "The 'National EMS Education Standards' defined the competencies, clinical behaviors, and judgments that must be met by entry-level EMS personnel to meet practice guidelines defined in the National EMS Scope of Practice Model." (NHTSA, 2009, p. 7). The standards consist of four components: entry-level competency; the knowledge

required to meet that competency; clinical behaviors/judgments; and educational infrastructure (NHTSA, 2009).

National Registry of Emergency Medical Technicians

The National Registry of Emergency Medical Technicians currently certifies and recognizes four different levels of EMS providers (NREMT, 2016a). "The single most important goal of the National Registry of Emergency Medical Technicians (NREMT) is to offer assurance that EMS personnel providing treatment to patients – at their highest moment of need – are competent" (NREMT, 2016b, p. 1). All 50 U.S. states recognize NREMT certification.

The lowest (most basic) level of certification is Emergency Medical Responder (EMR). Emergency Medical Responders can perform some basic lifesaving procedures while waiting for higher-level-certification personnel to arrive on scene. EMRs can assist higher-level-certification personnel with patient care. These responders can (a) perform patient assessments, (b) provide cardiopulmonary resuscitation and operate an automated external defibrillator, (c) administer oxygen, and (d) may artificially ventilate patients using a bag-valve mask device. EMRs can assist higher-level-certification personnel in the patient compartment of the ambulance or they can drive the ambulance. EMRs cannot solely provide care to a patient in the back compartment of an ambulance (National, 2016a).

The next level of certification is an Emergency Medical Technician (EMT). The NREMT Registry (2016a, p. 1) stated, "EMTs have the basic knowledge and skills necessary to stabilize and safely transport patients ranging from nonemergency and

routine medical transports to life threatening emergencies". Thus, Emergency Medical Technicians can provide patient care in the patient compartment of the ambulance without higher-level-certification personnel in attendance. EMTs are trained in the same procedures as EMRs, but possess enhanced skills including (a) the use of basic airway adjuncts, (b) the administration of a limited number of medications, (c) cervical-spine immobilization, and (d) splinting techniques.

The third level of certification is the Advanced Emergency Medical Technician (AEMT). The AEMT-level is a newer certification level that was established in 2014 to replace the intermediate EMT level that had been eliminated by the National Registry. Advanced EMTs are trained to (a) obtain intravenous (IV) access and pediatric intraosseous (IO) access; and (b) administer IV fluids and various medications including IV dextrose, subcutaneous or intramuscular epinephrine, inhaled medications for bronchoconstriction, naloxone for narcotic overdoses, and nitrous oxide for pain control (NREMT, 2016a). Indiana added the additional skills of cardiac monitoring, 12-lead EKG-acquisition, CPAP administration, and adult IO-access. According to one of the county's EMS coordinators, on January 24, 2017, the Indiana EMS Commission voted to eliminate both cardiac monitoring and electrocardiographic rhythm interpretation from the local AEMT scope of practice.

The highest level of certification is the Paramedic. Paramedics are trained to perform numerous advanced skills beyond those permitted at the AEMT-level including (a) endotracheal intubation, (b) needle cricothyrotomy, (c) establishing a surgical airway, (d) nasogastric (NG) tube placement, (e) chest decompression, (f) pericardiocentesis,

(g) 12-lead EKG interpretation, (h) manual defibrillation, (i) both pharmacological and electrical cardioversion, and (j) the administration of antiarrhythmics, pain medications, sedatives, anticonvulsants, neuromuscular paralytics, and antiemetics (NREMT, 2016a). The NREMT specified:

> The **Paramedic** [*sic*] is an allied health professional whose primary focus is to provide advanced emergency medical care for critical and emergent patients who access the emergency medical system. This individual possesses the complex knowledge and skills necessary to provide patient care and transportation. (NREMT, 2016a, p. 1)

Besides providing emergency care in the prehospital setting, paramedics are employed in clinics, emergency rooms, home healthcare agencies, and industrial settings.

State of Indiana

Indiana's EMS system is comprised of three entities that work together to establish laws, practice guidelines, certification guidelines, and course structure. The three-tiered system includes the Indiana General Assembly, the EMS Commission, and the EMS branch of the Indiana Department of Homeland Security (IDHS) (NHTSA, 2015). The Indiana General Assembly passes laws and statutes regarding EMS in the state, and it includes guidelines for trauma patient triage and transportation. The General Assembly established the EMS Commission in 1974 (IDHS, 2017). "The commission is responsible for the establishment and maintenance of an effective system of emergency medical services" (IDHS, 2017, p. 1). The commission has thirteen members, all of whom are appointed by the governor (IDHS, 2017). The commission relies heavily on the

enforcement function of the EMS branch of IDHS that entails responsibility for enforcing rules and statutes. The commission is also granted the power to enact rules that facilitate enforcement. The EMS branch issues and monitors and all Indiana EMS certifications. This branch accords approval for Indiana-based EMS training courses and exams. Indiana does not have a comprehensive EMS system. The EMS systems that exist are coordinated and administered at the county level.

Indiana is currently a National Registry state for most Indiana EMS care providers. Thus, paramedics, advanced EMTs and EMTs must obtain initial certifications to practice through National Registry examination. On July 1, 2017, Indiana replaced state-specific EMT-certification with the National Registry certification pathway—although Indiana has continued to offer its own written and practical exam for EMRs.

County EMS System

The lead paramedic designation is not new to the local EMS System. According to one of the county EMS system's medical co-directors, the lead status designation was introduced to the system sometime during the 1980s. The area's first EMS medical director started the local EMS Committee and System. At its inception, the original system had four medical directors from four local hospitals, however two of the hospitals closed, leaving two medical directors only. In 1990, a new medical director joined the founding medical director. When the founding medical director left the area in 1992, one of the present-day medical codirectors filled his vacant position. At that time, the lead status designation was already in place, however, in the ensuing years it would undergo several role and practice modifications.

The Saint Joseph County Emergency Medical Services Committee (SJCEMSC, 2018) guidelines indicated that:

> Lead status is the **highest level of local credentialing** [*sic*] conferred on those EMT-I's and Paramedics who have demonstrated the ability to confidently and independently deal with the breadth of EMS practice, are fluent in the… guidelines, and **have shown the capacity to lead** [*sic*] other EMS Personnel in providing optimal patient care. (p. 16)

Paramedics wishing to obtain their lead status from the county EMS Committee must complete several requirements. The first requirement is a minimum of a 6-month preceptorship under a current lead paramedic. During this time the paramedic must provide care and treatment management for a minimum of thirty very sick patients. The paramedic must be recommended for lead status by their employer. They also must submit two letters of recommendation from lead paramedics who have worked directly with the applicant. The paramedic must successfully complete a mega-code (practical) exam and guideline (written) exam. The final step includes the submission of 20 cases for review. These cases should demonstrate the paramedic's ability to think critically about what to do and what not to do. The submitted cases should include those of patients whose single diagnoses include: S-T segment elevation myocardial infarction (STEMI), stroke, blunt trauma, penetrating trauma, and pediatric illness/injury. Paramedics who have worked for several years in another EMS system have an option called the "letter option", which affords them a reduction in the required length of time spent working

under a preceptor. All paramedics must provide a letter of recommendation from their previous medical directors.

The medical codirector reported that an expert reviewer from one of the county hospitals takes approximately 8 hours to review a paramedic's case submissions for lead status consideration. The reviewer first looks at the dates of each run to make sure they are not all from a shortened time period (suggesting that the paramedic did a "chart dump"). The reviewer will then consult hospital medical records for any patients that were transported to the same hospital to ensure that hospital providers had similar assessment findings. The reviewer writes notes on each case in the submission book. Any paramedic that has submitted cases can meet with the medical directors to go over the notes that have been made about the paramedic's runs.

The reviewer assigns one of seven appraisal rankings to each case submission. The medical codirector calls the first category the "Slam Dunk". These superior case submissions will be used as future teaching examples for those seeking lead status. The second-level cases are categorized as being "solid", while those in the third category are deemed "okay" (i.e., average or "the equivalent to a letter-grade of "C"). Fourth-level submissions are regarded as "squeakers". While these middle-of-the-road submissions are seen to reflect adequate care, it is predicted that these paramedics will never be in the upper echelon of care providers. Cases assigned to the fifth category are those that are "close, but not quite there". As a remedial strategy to strengthen the paramedic's lead potential, medical directors often attach to such ratings a request for five more cases for submission and/or a ride along by one of the EMS coordinators. Sixth-level submissions

are categorized as “unacceptable” and often include runs that are lackluster, or those that reflect markedly similar patient complaints. The last ranking is “fail”, meaning that these submissions are unacceptable from both documentation and patient-care perspectives. The goal of the medical directors is not to get rid of people or to hold them back. Relative to this appraisal system, the medical codirector maintained that, in his experience, the quality of a provider’s documentation mirrors the quality of patient care delivered by that provider.

The medical directors for the local EMS committee provide medical direction without financial compensation (from EMS) to providers in the system. They are paid for their work by the two local county hospitals. One of the medical directors believes that the primary strength of the lead paramedic process is its preceptorship component, while its main weakness is that the process operates as a somewhat indirect system through its use of case reviews and recommendations. The medical codirector would like to have a true Field Training Officer (FTO) program where in only a handful of individuals would precept new paramedics.

City Government

The city mayor is elected every four years, and the current mayor is in the second year of his second term. The mayor has limited power but can pass executive orders. According to the city’s internet website, all of the current mayor’s executive orders have been ethics-based. The city also has a common council empowered to pass resolutions and ordinances. The city council has twelve subcommittees. The city’s fire department administration is responsible for the day-to-day operations with little to no input from the

mayor. The city mayor appoints the fire chief but allows fire chief to select the remaining fire department administration. The Board of Public Safety has more extensive input on daily operations of the fire department, and it oversees the city's police department. The board performs many functions including (a) approving promotions and new hires, (b) setting punishments (beyond suspension for forty hours without pay), (c) approving contracts between the city and the police and fire unions, (d) approving coverage for newly annexed property, (e) adopting policies for both the police and fire departments, and (f) investigating citizen complaints. The fire department provides the board with statistics, training expenses, and travel expenses.

In the past the fire department had handled its own human resource (HR) issues with direction from the city's HR department. In 2016, the city hired a new HR employee to work exclusively with the police and fire departments. This HR employee was to be trained in areas of specific concern or specialization for those departments, and would then serve as the main contact person for both departments for any HR-related concerns. The employee would also be knowledgeable of union contract content and the benefits outlined therein. This was a significant policy change for both the fire department and the assistant chief of operations (who had been the department's previous human resources representative).

With the city's fiscal year commencing annually on January 1, annual budget planning for the fire department begins in March of the year prior to (the year) for which the budget is being drafted. Each year, the department is provided with preliminary guidelines and fixed allocations. The department then adds priorities and capital items.

The first revision is performed in late summer by the city's administration and finance departments. Fire department representatives subsequently meet with the mayor during the fall to finalize expenditures. According to the fire department's finance chief, if the planning occurs during a union contract negotiation year, the budget may be revised three to four additional times. The budget should retain some cushion for unexpected expenses which may come about from changes in policies at any level. The city's organizational levels are shown in Figure 1.

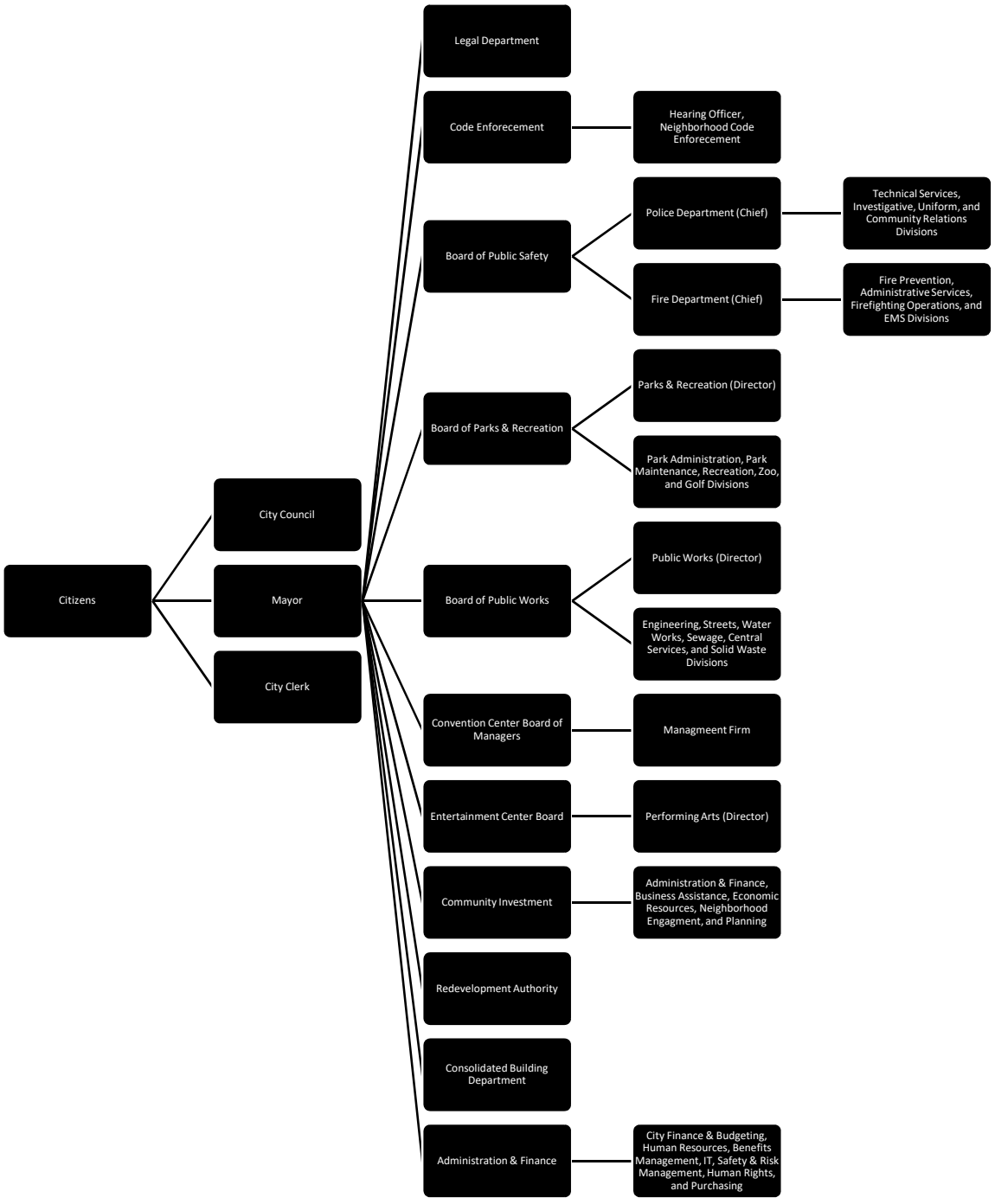

Figure 1. City organizational chart. Adapted from organizational chart posted on city website.

City Fire/EMS

The city fire department began organized fire suppression in 1853 and became a full-time paid department in 1887 (Redacted Fire Department [FD], 2017). Currently, the department has over 250 members and services a population of over 101,000 (FD, 2017). The fire department currently employs four assistant chiefs and six battalion chiefs. While the department has its own standard operating procedures, it operates subject to multiple public policies and interests and must adhere to: (a) policies adopted by the city's board of public safety, (b) the city employee handbook unless doing so contradicts the union contract, (c) medical direction guidelines for ambulance staffing, equipment, and patient care, and (d) state rules and regulations from IDHS and the Indiana General Assembly—along with national standards and practices.

Past. My selected medium sized, urban, municipal fire department in Northern Indiana conducted two paramedic-only hiring pools in the 1990s. The department's finance chief reported that the department hired six paramedics when Medic 4 went into service, and another 21 paramedics when the city took over the county EMS 911 contract. After hiring the two groups of paramedics, the fire department was able to staff each ambulance with either two lead paramedics or a lead paramedic paired with a paramedic who was in process to lead status. This was standard staffing until the late 2000s to early 2010s when many of the paramedics transitioned from the ambulance service to fire suppression vacancies, were promoted to administrative positions, or retired from the department. The department did not, at that time, have ample numbers of new lead paramedics to fill all of the vacated positions.

Present. The EMS chief at the selected Indiana fire department reported that in 2015, the department had 72 paramedics with just 27 of those holding lead paramedic status. The number of lead paramedics had fallen precipitously from approximately 60 in 2005.

The decreased number of lead paramedics at the selected fire department has required the department to use alternative staffing strategies to staff ambulances. The fire department currently operates seven ALS ambulances and one ALS chase vehicle staffed by a paramedic shift captain. Two of the ambulances and the ALS chase vehicle are funded and contracted to cover unincorporated areas of the county. As such, these two ambulances must always (by contract) be staffed by a minimum of one lead paramedic. Fire department administration, with approval from the medical directors, has created a staffing and response plan for days were there are too few lead paramedics to staff all of the ambulances. This plan can be implemented on city ambulances only. Ambulances lacking a lead paramedic are staffed with at minimum one nonlead paramedic and one AEMT. When such ambulances are dispatched on nonemergent calls, an ALS engine is also sent on the call. When these ambulances are dispatched on emergent calls, both an ALS engine and ALS chase vehicle are sent with the ambulance to the call. If the patient has a serious illness or injury, the paramedic shift captain must accompany the ambulance crew in the patient compartment en route to the hospital. This leads not only to an increased workload for the paramedic shift captain, but more importantly, to lengthier timeframes from vehicle-dispatch to onset of direct patient care — timeframes that may be determinant in patient outcomes thus having the potential to impact public safety.

According to the EMS chief, the overtime budget at this study's fire department has also been affected by the reduced number of lead paramedics available to fill all required open shifts on the ambulance. In the past, if no lead paramedic could fill an open ambulance shift assignment, a reserve lead paramedic (who was assigned to an engine) would be reassigned to the ambulance for that day. Since the number of reserve lead paramedics has as well decreased, there are fewer provisional staff available to support such substitutions. Lacking sufficient lead paramedic or reserve lead paramedic staff to meet daily (and contingency) ambulance staffing plans, the fire department, in order to comply with contractual obligations, must pull lead paramedics from other shifts to fill the open spots—at a significantly increased cost to compensate staff for overtime. The fire chief requested an additional $420,000 from the city on November 30, 2015 to cover overtime expenses for that fiscal year alone. Increased overtime expenses will be recaptured either through increased taxes or through reducing the budgets of other city departments.

At the end of 2016, the fire department lost two lead paramedics when one lowered his status to EMT-level, and the other abandoned his lead status altogether. The department had transferred another lead paramedic to a fire-suppression position, but that person will remain a reserve (only) lead paramedic. Lead paramedic losses in 2016 were offset by four other paramedics achieving lead status designation.

Presently, the fire department has only two paramedics actively working with the medical co-directors to achieve lead status; and, the department has only one member currently enrolled in a paramedic program.

Future. My studied local Indiana fire department has been planning for several years to alternatively staff several of its ambulances with nonlead paramedic staff and assign a lead paramedic chase vehicle to accompany those ambulances on specified types of calls. Implementation of this model has been held back over the last year as the medical co-directors are requiring that the city first change to a Medical Priority Dispatch System. The county 911-center currently uses this dispatch program, but the city has thus far failed to make their transition. All 911-centers in the county were to be consolidated by January 1, 2015, although multiple delays have resulted in the date being pushed back several times with the most recent target date having been July 1, 2017. Contributing to the delays have been the Indiana EMS Commission's decision to decrease the scope of practice for Advanced EMTs as well as the protracted length of time required to advance trainees through attainment of initial paramedic certification followed by an ensuing lead paramedic process. Paramedic programs in the area run at minimum sixteen months (not including National Registry testing). The lead process that would follow completion of paramedic training entails a minimum of six additional months—with most processes taking up to at least one full year. Hence, that even some lead paramedics will predictably drop their lead status and/or retire over the next several years could significantly compromise—or even more devastatingly, exceed—the department's ability to maintain the needed number of lead paramedics to staff both its ambulances and chase vehicles.

Summary and Conclusion

In summary, this literature review chapter examined past and recent literature regarding Herzberg's motivation hygiene theory and its application in various job fields.

Chapter 2 further identified and discussed concerns related to job satisfaction and dissatisfaction among Emergency Medical Service personnel. Chapter 3 will discuss the justification for the use of a qualitative research method for this study, and it will describe this study's research design.

Chapter 3: Research Method

Introduction

This phenomenological study explored the effects of a lead paramedic policy on the job satisfaction of lead paramedics at one Indiana fire department using Herzberg's motivation hygiene theory as a guiding lens. In the following chapter, I present and justify the study's research design. The sample size is justified. The population and method for inclusion are discussed. My role as the researcher in both data collection and data analysis are discussed. The interview test is described. Methods for the ethical protection of participants are explained. Permission to collect data for this study was granted by the Institutional Review Board at Walden University (Walden IRB approval no. 11-09-18-0404547).

Research Design

In this phenomenological study, I used a single-level approach for data collection to explore the decline in the number of lead paramedics at the selected Indiana fire department by answering the following research questions:

RQ1: How have the hygiene factors of Herzberg's motivation-hygiene theory contributed to job satisfaction among paramedics at an Indiana fire department between 2007 and 2017?

RQ2: How have the hygiene factors of Herzberg's motivation-hygiene theory influenced an Indiana fire department's paramedic personnel to seek, not seek, or drop lead status designation between 2007 and 2017?

The phenomenological study design was most appropriate for this study because of the need to understand the relationship between lead paramedics and hygiene factors through the lived experiences of the paramedics. This study employed multiple means of data collection including (a) a demographic survey combined with a hygiene-ranking activity, and (b) semistructured, face-to-face interviews. The results of the interviews allowed me to distinguish hygiene factors of concern and to interpret patterns that had led to the decline in the number of lead paramedics.

Role of the Researcher

Following receipt of IRB approval, I contacted potential participants by announcements at two different sessions of the county's monthly quality improvement meetings held during one month. To support the informed-consent process, potential participants were provided information about the study. Qualitative data were collected through structured interviews lasting approximately 45-60 minutes each.

I was able to establish rapport with the participants through commonality of interest because of my previous experience as a paramedic within the same EMS system. Furthermore, I had a professional relationship (which was neither supervisory nor subordinate) with all of the participants. As a clinical instructor, I had worked with many participants to ensure that as paramedic students, they were performing up to their expected skill levels academically. In addition, I may have had personal relationships with some participants, albeit less direct, through my spouse and his friendships. I included a statement on the participant information sheet advising potential study

candidates that their participation or lack of participation would have no effect on our professional or personal relationship. I also restated this prior to each interview session.

Methodology

Participant Selection Logic

The target population for my study consisted of paramedics at a selected local Indiana fire department. This research study employed targeted sampling to obtain participants. Targeted sampling was used because of the specific population and its size. The sample was approximately 20% of the population size. Participants for this study were selected from the population of lead paramedics, nonlead paramedics, and former lead paramedics at the fire department. Participants needed to be currently employed by the fire department, and they needed to have held paramedic certification at some point between 2007 and 2017. Access to the target population was gained through making an announcement at each of two monthly quality improvement sessions across a 1-month calendar. My contact information (as the study's researcher) and a brief description of the study's nature of inquiry were made available at both session meetings with approval from the local EMS medical codirectors. Interested participants were able to contact me via my Walden University e-mail address or my personal cell phone number. To be eligible, participants needed to be able to provide a copy of their current or previous paramedic certification. Those who responded by expressing interest in participation in the study would then be divided into the three categories: (a) current lead paramedics, (b), former lead paramedics, and (c) current nonlead paramedics who, at no prior time, had held lead paramedics status. I personally contacted by phone each individual who had

expressed interest in participation in order to (a) confirm interest, and (b) ask inclusion-criteria questions that would confirm their eligibility to participate (i.e., that their status fell within one of the study's three defined participant categories). I then divided those who met inclusion criteria into their corresponding groups (lead, former lead, nonlead) and proceeded to arrange interview times. My goal was to obtain at least 10 participants from the lead group, at least five participants from the former lead group, and at least 5 participants from the nonlead group. This distribution goal was achieved, and a waitlist of former lead and current lead paramedics was compiled. Participant interest was quite high and revealed what I felt indicated a strong desire among participants for their voices to be heard. At the time of participant acceptance, I provided a more detailed study description, and formal consenting was executed upon initial, individual face-to-face meetings. All recruited participants expressed understanding of and voluntarily agreed with my study's consent process. All recruits were moved on to my full study.

Instrumentation

The main instruments for this study were semistructured interviews combined with a subject-completed demographic survey and hygiene factors rating scale. For simplicity and ease of understanding, the hygiene-ranking activity was titled as a "workplace satisfaction ranking activity" for participants who might not be familiar with the contextual use of the term *hygiene* as used in explorations of workplace satisfaction. Semistructured interviews occur when "the researcher has a list of questions but there is scope for the participants to raise issues that the researcher has not anticipated; this is the commonest type of interview in qualitative research (Braun & Clarke, 2013, p. 78). Data

were not collected from any participant unless they had reviewed the study's information sheet. My study's participants completed their demographic surveys and hygiene factor activities at the outset of their scheduled initial interview sessions. Each paper hygiene-ranking form was marked in the right upper corner to indicate the category of participant completing the survey and activity. That is, "LP" stood for current lead paramedic, "NLP" stood for nonlead paramedic, and "FLP" stood for former lead paramedic. The survey included questions purposed to examine duration and levels of EMS certification, length of service at the fire department, number of years until (anticipated) retirement, employment at outside agencies, and number of previous fire department supervisors (see Appendix E). The purpose of the demographic survey was to describe my participant interviewees.

The hygiene-ranking activity (labeled as "workplace satisfaction ranking activity") was a two-part activity. The first ranking activity provided the participants with eight hygiene factors, and participants were asked to rank these factors in order of *most important* to *least important* (to them). The next ranking activity asked the participants to rank the factors in order of *most met by the local fire department* to *least met by the local fire department* (see Appendix E). From these data, I prepared an overall ranking of the hygiene factors for each interview group. It was theorized that identifying those hygiene factors reported to have caused the greatest degrees of job dissatisfaction among the department's paramedics could subsequently inform and assist drafting recommendations for policy change in a manner that would pinpoint primary target areas for improvement.

These recommendations could then be conveyed to the city and selected Indiana fire department.

The interview portion included 17 semistructured questions with subsections that afforded the participant opportunities to provide further information (see Table 1). I devised a list of precoded categories to help with organizing words and phrases that were stated during the interviews. The categories included:

- pay and benefits;
- call volume;
- station and equipment availability, quality, and safety;
- personal life;
- scope of practice;
- city and department policies;
- quality of supervisors;
- interpersonal relations with coworkers;
- job security; and,
- communication.

One question required a one-word only response, however this question was linked to a follow-up question that was worded in such a way so as to elicit further information. Each participant received an identical set of interview questions to ensure reliable and high-quality interview responses, and participants were instructed to proceed through the questions in top-to-bottom order so as to minimize potential question-order bias.

Table 1

Hygiene Factors Matched With Interview Questions

Hygiene factors	**Interview questions**
Salary & benefits	Has your benefit package and salary changed since you joined the department and, if so, how have these changes affected you? Should benefit packages be changed and, if so, how?
Work conditions (call volume; scope of practice; and station equipment availability, quality, and safety)	Has your workload changed since you joined the department and, if so, how has it changed? Has equipment availability, quality, and safety changed since you joined the department and, if so, how has it changed? Has the scope of practice for your certification/licensure changed since you joined the department and, if so, how has it changed? How have those changes affected you?
Work conditions	Has your personal life changed since you joined the department and, if so, how has it changed?
Policy and administrative practices (city and department policies)	Have city and department policies changed since you joined the department and, if so, how have these changes affected you?
Supervision (relationships with supervisors and communication)	How would you describe your relationship with your supervisors?
Interpersonal relations	How would you describe your relationship with your coworkers?
Job security	Has your feeling of job security changed since you joined the department and, if so, how has it changed? What is your current feeling of job security?
Status (status of being a paramedic)	Has the status of being a paramedic on the department changed since you joined the department and, if so, how has it changed? How has this change affected you? What is your current feeling of status as a paramedic for the department?

Preinterview Methods Testing

Preinterviews were conducted prior to launching the main study to ensure that the interview script was designed to gain the needed information to answer the research questions and to determine possible interview length. The preinterviews were conducted with three participants: one former lead paramedic, one current lead paramedic, and one current nonlead paramedic. The test-interview participants were not included in the main research study. The number of participants for the pilot was 15% of the goal number of participants for the main study. Each interview session was conducted in a private room at a local public library and followed the same procedures listed in this study's Data collection section.

Procedures for Recruitment, Participation, and Data Collection

Recruitment. An e-mail was sent to both locally responsible EMS medical directors requesting that I be allowed to recruit participants at four monthly QI sessions over a 3-month period. During two separate QI sessions in one month, my contact information was provided to interested participants along with study information. I was able to obtain enough participants through this initial recruitment method and did not have to use a recruitment flyer (see Appendix C) as a secondary strategy for participant recruitment at local fire department stations.

Participation. Interested participants obtained through the QI sessions or flyer distribution were entered into one of three group lists according to the group to which they belonged (i.e., current lead paramedic, nonlead paramedic, and former lead paramedic). Prior to contacting each participant, I researched their paramedic license

status and history on the Indiana Department of Homeland Security website to confirm that they were current or past paramedics. This website is available to the general public. I also asked if they had experienced any workplace situations that had led to job dissatisfaction any time between 2007 and 2017. During the phone call, confidentiality was discussed, and I then established a mutually agreed-upon interview appointment time and location with the participant. Recruitment interest level in the former lead paramedic group and the current lead paramedic group exceeded initial threshold needs. As such, I retained extra participants on a backup list for use in the event that any participants withdrew from the study.

Data collection. Data for the study were collected through the demographic surveys, hygiene-ranking activity, and face-to-face interviews. Participants for the study included 10 current lead paramedics, five former lead paramedics, and five current nonlead paramedics who had never previously been lead paramedics. The surveys, ranking activity, and semistructured face-to-face interviews were conducted at a quiet, neutral location. This location was in a private room, with limited distractions, at a branch of a local public library. I did not use the library's main branch because of limited access to parking. I used a smaller branch with a large parking lot that was not visible from the road. I ensured that the room had comfortable chairs and that it was maintained at a comfortable temperature. I provided beverages and quiet snacks—as well as tissues. I arrived at the interview location at least 30 minutes prior to the start of all interviews to allow plenty of time to set up the room and test my equipment. I positioned the chairs so that I faced the participant and we were seated at the same level. Braun and Clarke (2013)

described these interview techniques as being useful and conducive to interviewing and discussion. Interview appointments were scheduled to run 60 minutes in duration with 30-minute breaks between interviews to ensure that participants did not cross paths. I conducted no more than two interviews per day to prevent researcher fatigue and to allow sufficient time to record postinterview notes. Each participant was assigned a unique number that corresponded with their lead status and which was used to ensure study confidentiality.

I began each interview session by greeting the participant and thanking them for their participation (Braun & Clarke, 2013). Next, I introduced myself as the researcher and then reviewed the participant information sheet. Participants were advised that their consent could be withdrawn at any time and that they could ask questions at any time. Participants' identities remained confidential. After obtaining consent acknowledgement, my stepwise approach was that I:

1. reexplained the study's purpose,
2. described the procedures that the interview would follow,
3. outlined the participant's role in the interview,
4. addressed the potential for any adverse effects,
5. stated the steps that would be taken to protect participant confidentiality, and
6. addressed the use of the collected data for aggregate reporting purposes.

Participants were asked to first complete the demographic survey and hygiene ranking activity (workplace satisfaction ranking activity). None of the participants declined to fill out the survey or ranking activity. The demographic survey was used to

describe attributes of the person being interviewed. The hygiene ranking activity was used to provide a descriptive, collective score for each of three participant-groups to determine if groups differed in personal values and departmental values in a way that could be linked to their interview-question responses.

I then asked participants if they had any questions before starting the interview and if they were ready to begin. I began the interview by turning on all recording equipment, and participants were asked to verbalize their consent to being recorded as soon as recording began. Each participant received the same interview questions posed in the same order (see Appendix F). I had previously memorized the interview questions, and a written copy was available for participants to use and for me to use as a guide. Participants were advised that they could ask questions at any time during the interview. They were also advised that they could decline to answer all or part of any of the interview questions. All participants answered all posed interview questions. During the interviews, I journaled words or phrases that might align with my precoded categories, as well as any other words or phrases that aligned with the hygiene factors or department and city public policies. The semistructured interviews were recorded using an external laptop microphone simultaneously with a Sony digital recorder in use as a backup. I took brief notes during the interview. No participant asked for my opinion about the interview topics or sought question clarifications. I also used brief moments of silence to help elicit additional information, I asked clarifying questions, and I employed various communication techniques (i.e., nodding, eye contact, and open body posture) to convey my interest.

At the end of the interviews, I asked the participants if they had any additional information that they wanted to add before I turned off the recording devices. Participants were subsequently given the opportunity to ask any additional questions after interview recording had concluded. This was followed by asking all participants if they had any recommendations for improving the interview process. Finally, I asked participants if they wished to review the transcripts from their interviews at a later date. As such, five of the participants elected to participate in member checking and this was afforded to these members after all of the interviews had been completed. All participants indicated that they would like to read the final study. I again thanked the participants for their time and participation, and I offered to answer any new questions about the research.

Data Analysis Plan

My study included qualitative data analysis which was undertaken in three phases:

1. The first phase was to analyze the preinterview methods testing to ensure that the interview questions had elicited the desired type of information.
2. The second phase was to organize the data from the demographic surveys to describe the participants along with hygiene ranking activity to compare the rankings between the three groups.
3. The third phase was to analyze and interpret thematic data from the interview scripts using the following precoded categories:
    - salary and benefits

- work conditions (call volume, scope of practice, station and equipment availability, quality, and safety)
- personal life
- policy and administrative practices (city and department policies)
- supervision (relationship with supervisors, and communication)
- interpersonal relations
- job security
- status (status of being a paramedic).

Emerging themes were then linked to the lead paramedic policy to show the impact of that policy (along with the department's policy-responses or lack of policy-response) on the decrease in the number of lead paramedics. Where administration was a theme, it was linked to personal communications. The final phase served to integrate all of the collected data and apply it to answering the research questions.

The interview portion was audio-recorded using a laptop with an external microphone simultaneous with the use of a Sony digital recorder as a back-up. The recordings were transcribed during the interviews using Google Docs. After each interview, I reviewed the transcription for accuracy and made any changes as needed when compared to the recording.

I also conducted precoding of the interviews during each session. I wrote down any words or phrases that could be matched with the listed categories and hygiene factors. I also reviewed and reread the interview transcripts to identify any codes that I might have missed during the interviews.

Subsequently, the transcriptions were entered into NVivo12 for Mac and coded using thematic analysis. Key words and phrases were placed into the precoded categories to determine emerging patterns. The emerging patterns were then cross-referenced with the hygiene ranking activity to determine any relationships. An example might have been an emerging pattern that pointed towards dissatisfaction with "increased scope of practice". Such a finding would have lead me to compare the emerging pattern to both the study's research questions as well as to changes in NREMT requirements, Indiana requirements, local EMS protocols, and city and department public policies. Finally, I interpreted the patterns to elicit conclusions to my research questions.

Evidence of Trustworthiness

Qualitative research studies must establish trustworthiness. Four aspects establish qualitative research trustworthiness: creditability, transferability, dependability, and confirmability. The four aspects of my study are addressed in the sections below.

Credibility

Credibility in qualitative research establishes the connection between the study's findings and the real world. Yin (2009) discussed several methods to establish credibility, including member checking and peer-review. Member-checking provides for the use of participants to review the data, interpretations, and conclusions of a research study. A second method means of establishing credibility is through peer-review.

My study employed both member-checking and peer review to establish credibility. Participants were asked after the interviews if they were willing to review the transcripts from their interviews. Five participants expressed interest in member checking

their transcripts at a later date. They were contacted following completion of all of the interviews and all five participated in member checking. Peer-review was conducted by my dissertation committee at Walden University.

Transferability

Transferability allows the researcher to make analytic generalizations about the research findings. The study findings may be applicable in other contexts. Common threats to external validity are people, place, and time.

The population for this study is under 100 people with the sample size being twenty people, or 20% of the population of interest. This percentage reduces the threat of the generalization not being applicable to the population. Convenient and purposeful sampling was obtained from interested volunteers whom had responded to either the recruitment announcement or via word of mouth from other participants (snowballing). The posting of my recruitment flyer in local fire departments was not needed. Participants were asked to not discuss the interviews until after the study was completed in order to minimize response influence among participants. Interviews were also scheduled with 30-minute breaks between interviews, or on different days, to avoid contact between participants. Situational threats were minimized by providing a neutral, comfortable location for the interviews. During the interviews, my selected local fire department enacted a new ambulance staffing model as a response to the decline in the number of lead paramedics. This staffing model had been in the planning stages for several years prior to implementation.

Dependability

Dependability, or "reliability" demonstrates that the operations of a study—such as its data collection procedures—can be repeated with the same results (Yin, 2009, p. 42). Reliability is enhanced when a researcher maintains an audit trail that can be reviewed by a third party to check for consistency in data collection and analysis (Yin, 2009). I followed the written plan for data collection and analysis that is outlined in this chapter. I maintained original records, documentation, and notes for all aspects of the study, and, with the exception of the paper documentation, will continue to do so for a period of 5 years. After the study is published, all paper documentation will be converted to electronic files. Such measures will allow for a third-party researcher to review my actions and confirm that the study's results are replicable (Yin, 2009). The original paper documents will be disposed of by a professional document shredding company.

Confirmability

Confirmability establishes the researcher's neutrality. The findings should be based on participants' responses, not on researcher bias. Confirmability was enhanced for my study through my documentation of procedures for checking data as well as a data audit. My study's findings were supported by the data audit which showed every step of analysis and the rationale for each decision. My data audits included all research notes that were kept up to date as data collection and analysis progressed.

Confirmability is also enhanced through the researcher's awareness of reflexivity. Interviewers and interviewees can unknowingly influence each other during longer interview processes. To accomplish this methodological approach, I conducted shorter

interviews that helped reduce the threat of reflexivity. I also maintained a reflexive journal to help identify and adjust for potential influences.

Ethical Procedures

I submitted a completed Approval to Conduct Research form to the Institutional Review Board (IRB) of Walden University to obtain permission to conduct my research. Permission was granted from the university (Walden IRB approval no. 11-09-18-0404547). I completed the online course, "Protecting Human Research Participants", through the National Institute of Health, Office of Extramural Research.

Recruitment was completed at two monthly quality improvement sessions. Access to these sessions was granted through a partnership agreement (see Appendix D). All participants were provided information about the study, including the potential for any adverse effects, the steps taken to protect confidentiality, and the use of the collected data. Any potential identifying characteristics that arose during the interviews were not used in the final study or were masked sufficiently so as to describe a situation in general but without any identifying characteristics or linkages to actual case reports or human resource situations. According to my research plan, the demographic surveys/hygiene ranking activities are to be stored as paper copies until after the study is published. At that time, they will be converted to electronic files through document scanning and the original copies will be securely shredded by a professional company. Additionally, the interviews' audio recordings, transcriptions, and all other electronic copies are safely secured and will be retained for a period of 5 years. After five years, all study information will be destroyed by a confidential data disposal-service.

Summary

This phenomenological study was designed to determine the relationship between Herzberg's hygiene factors and the decline in the number of lead paramedics at my selected Indiana fire department of interest. First, the role of the researcher was described, followed by the presentation and justification for the research design. Justifications were also made for the method, purposeful sampling, and sample size. I then presented the data collection- and data analysis-procedures. Also, this chapter described the methods and processes used to address any issues with trustworthiness. Finally, I presented the procedures undertaken for the ethical protection of my study's participants.

Chapter 4: Results

This purpose of this phenomenological study was to explore the job satisfaction of lead paramedics at an Indiana fire department using Herzberg's motivation hygiene theory as a guiding lens. The study used purposeful sampling of 20 paramedics: 10 current lead paramedics, five former lead paramedics, and five current nonlead paramedics. This study explored the hygiene factors that lead-paramedics perceived to be instrumental in their job satisfaction or lack of satisfaction. The identified hygiene factors impacted retention of lead paramedic status. These hygiene factors appear to have also shed light on why some paramedics did not seek lead status or dropped their lead status. Lead paramedic retention is a current issue at the selected local Indiana fire department. The results of my study informed recommendations for operational changes, which if adopted, could decrease lead paramedic turnover as well as potentially decrease overtime expenditures while increasing public safety. This study's results could also assist the supervising EMS committee, city administration, union negotiators, and fire department administration to address the influencing hygiene factors that have precipitated or contributed to the decline in the number of lead paramedics. Department policy changes designed to address these factors could increase lead paramedic retention.

First, I discussed the premethods testing and its impact on the main study. Second, I described the research setting. I next explained the demographics for the research participants and outlined my data collection- and data analysis-processes. A discussion of trustworthiness was provided and included credibility, transferability, dependability, and confirmability. Lastly, I presented the results of my research.

Premethods Testing

Premethods testing was completed prior to the main study by conducting preinterviews with select volunteers from the intended sample frame. These interviews were conducted to ensure that the interview script was properly designed to extract experiences from participants that supported content illustration of the posed research questions. The premethods testing process was also used to investigate the ideal length of interview sessions that would be needed in the full study. The premethods testing sessions were conducted through interviews with three participants: one former lead paramedic, one current lead paramedic, and one current nonlead paramedic. The interviewed premethods test participants were excluded from my main research study. The number of participants for the premethods testing-activity represented 15% of the number of participants for the main study. Each premethod interview session was conducted in a private setting at a local public library and followed the same procedures outlined in this paper's Data Collection section.

Research Setting

While I was conducting interviews with personnel at the selected local Indiana fire department, the department enacted a new ambulance staffing and response model to address the decrease in the number of lead paramedics. The new staffing model provided for some or all five of the city's fire department ambulances to function at advanced or nonlead paramedic response-levels during a given shift when the ambulance was paired with one of two lead paramedic (nontransport) chase vehicles. The nontransport chase vehicles were to be staffed (on each shift) with one lead paramedic. As discussed during

several interview sessions, this new staffing model added two new lead paramedic chase vehicles—of which one would accompany nonlead ambulances on calls having the potential to require a lead paramedic. Coding to determine vehicle types to be dispatched was to take place at the 911 dispatch center during the call-intake process. The chase cars allowed the department to operate with just five lead paramedics per shift in contrast to its previous (preresponse plan implementation) need for eight lead paramedics per shift. The five lead paramedics included: one on the paramedic-captain chase car, one each on the two new chase cars, and, as required by contract, one each on the county's two ambulances.

Demographics

Participants for my study were Indiana paramedics who were currently employed at the selected local Indiana fire department, and who were licensed at some point from 2007 to 2017. Participants must have held positions subject to local union membership. This excluded battalion chiefs, assistant chiefs, and the head fire chief. All other ranks were eligible. I interviewed a total of 20 paramedics grouped as 10 current lead paramedics, five former lead paramedics, and five nonlead paramedics.

After consenting to participate in this study, participants completed a one-page demographic survey prior to the full interview session. Out of the 20 paramedics, 18 of them had 11-plus years on the job. One paramedic had between 6 and 10 years, and the other had less than 5 years on the job. All of the participants were previous EMTs and current paramedics. Thirteen participants had held AEMT and/or Intermediate certifications at some point in their careers. Individuals who hold AEMT certifications or

paramedic licenses in Indiana also continue to hold EMT certifications. One participant's demographic data have been excluded from the frequency reporting as its content could have potentially revealed the participant's identity.

Participant EMT-certification durations varied, with four reporting being EMTs for 0-5 years, two reporting being EMTs from 6-10 years, and 14 reporting being EMTs for 11 or more years. Fourteen of the participants had held an AEMT certification or Intermediate certification, with five reporting that they held such certification for 0-5 years, five reporting that they held it from 6-10 years, and four reporting that they held it for 11 or more years. Paramedic-certification durations also varied, with eight reporting 0-5 years, five reporting 6-10 years, and seven reporting 11 or more years. Fifteen of the participants were current or former lead paramedics. Five participants reported being a lead paramedic for 0-5 years, three reported 6-10 years, and seven reported 11 or more years.

The majority of the participants had never been employed at another EMS agency. Nine participants reported that they had been previously or were currently employed by another EMS agency. Twelve participants had served under zero to three head fire chiefs, and eight participants had served under four to six head fire chiefs. Four participants had had seven or more paramedic captains, six participants had had four to six paramedic captains, and 10 participants had had three or fewer paramedic captains.

Data Collection

Data for my study were collected using a single-level approach of interview sessions. The 20 interview sessions included a demographic survey, a hygiene-ranking

activity, and a face-to-face semistructured interview. The sessions were conducted at a secluded public library branch that was not visible from the road. I prepared the interview room in advance of each scheduled interview by providing beverages, quiet snacks, and tissues. Two interviews were conducted per schedule day, with each interview lasting approximately 60 minutes and with a time interval of 30 minutes between interviews. Each participant was assigned a code number which corresponded with their lead status. Code numbers were used in the study to ensure confidentiality.

At the beginning of each session, participants were greeted and thanked for their participation. I introduced myself and then reviewed the participant information-sheet and consent form. Participants were advised that their consent could be withdrawn at any time up to study submission. I informed participants of the study's confidentiality and the steps taken to ensure that confidentiality. I explained the reason for undertaking the study, the study's procedures, participants' roles, the potential for any adverse effects, and the intended use of the collected data. Next, I explained the demographic survey and hygiene-ranking activity (workplace satisfaction ranking activity) and how each would be used. Participants were then asked to complete the survey and ranking activity. No participant declined to fill out the survey or ranking activity, but had a participant declined to fill out one or both, the participant would still have been included in the interview portion of my study. The demographic survey was used to describe whom had been interviewed. One question from the survey was deleted from the demographic section because the resulting data could potentially have identified the participant. The

hygiene-ranking activity was used in this study's Results section to provide a descriptive, collective score for each of three participant-groups.

I asked all of the participants if they had any questions and if they were ready to begin before starting the interview. I began each interview by turning on all recording equipment. Participants were asked to give verbal consent to the recorded interview while being recorded. All participants received the same interview questions in the same order. Participants were told that they could ask questions at any time during the interview. They were also told that they could decline to answer all or part of any of interview question. None of the participants declined to answer any part of any interview questions. Prior to starting the interview sessions, I memorized the interview questions; I also maintained a written copy of the questions available for the participants and me to use as a guide. During the interviews, I wrote down on paper any words or phrases that might align with my precoded categories—along with any other words or phrases that aligned with the hygiene factors or department and city public policies. The interviews were recorded using an external laptop microphone and a Sony digital recorder (as a backup device) while using Google Docs transcription. I took notes during each interview, used brief moments of silence to help elicit additional information, asked clarifying questions, and used various communication techniques to convey my interest. No participant asked my opinion about the interview topics.

At the end of each interview, I asked the participant if there was anything additional that they would like to add before turning off the recording devices. Participants were also given the opportunity to ask questions after the interview

concluded. Participants were asked for feedback for improving the interview process. I asked participants if they wished to review their interview transcripts at a later date for member-checking; five of them expressed interest. These five participants were contacted after the completion of all of the interviews, and all five elected to participate in member checking their own transcripts. I once again thanked all of the participants for their time and participation.

Data Analysis

In the following section, I discuss data analysis procedures that were applied to data collected from the interviews, along with the process used to discover emerging patterns and themes. I followed Braun and Clark's (2013) seven steps of coding and analysis: transcription, reading and familiarization, coding, searching for themes, reviewing themes, defining and naming themes, and writing the final analysis. The analysis was done using *complete coding*. Complete coding is a process in which the researcher seeks to "identify *anything* and *everything* of interest or relevance to answering [the] research question, within [the] entire dataset" (Braun & Clarke, 2013, p. 206).

After each participant interview, I reviewed the transcriptions for accuracy while comparing them to the audio recordings. Once all of the interviews had been completed, I started reading the transcripts. I read anywhere from 10 to all 20 of the transcripts each day and then spent several days reflecting on them. I completed this process 5 times prior to the coding process. One of the first things that I noticed when reading the transcripts was variations in transcript length. Participants who had 11 or more years on the job had

lengthier interviews than those with less time on the job. This may be attributed to the former group's members having had more lived experiences (because of their lengthier time on the job). Overall, former lead paramedics had the lengthiest interview sessions (by group). This may be attributed to the abundance and breadth of this group's stories relating to no longer being lead paramedics.

The next time that I read the interview transcripts, I wrote down potential code words or phrases. I again took a few days to reflect on the selected codes. I then uploaded all of the transcripts into NVivo 12 for Mac. I organized the transcripts by group: lead paramedic, nonlead paramedic, and former lead paramedic. I then reread all of the transcripts to prepare for the ensuing step of coding the interviews using the software. I began the coding in NVivo 12 by setting up nodes which were derived from Herzberg's hygiene factors to (see Table 2). I subsequently added two subnodes: "lead status" under "status of being a paramedic", and "chase cars" under "work conditions". Once the nodes were set up, I commenced reading the transcripts, looking for code words or phrases that aligned with the nodes. I proceeded by reviewing interview transcripts by group, one group at a time (i.e., those from the lead paramedic group first, followed by those from the former lead paramedic group, and concluding with those from the nonlead paramedic group). Completing this preliminary review process required two full days. My next step entailed a review of the nodes and the extracted words and phrases that had been assigned to each—with a goal of identifying emerging themes. I spent two further days reflecting on themes that had emerged thus far.

Based upon my reflections, I added several more nodes under “work conditions”, including “staffing”, “equipment”, “morale”, “run volume”, “scope of practice”, and “training”. Consequently, I moved items from the main “work conditions” node to the newly established (and corresponding) subnodes. Some code words and phrases remained categorized in a main node only (and not a subnode). Furthermore, some participants’ comments or phrases were placed under more than one node. For instance, the following quote was placed under four different nodes (status of being a paramedic, training under work conditions, supervision, and policy and administrative practices).

> “If I were on a fire engine and I couldn't complete the tasks—the basic tasks that were required of me as a firefighter—I would be scolded and in trouble. There's a double standard on this department for fire and EMS personnel.” (Lead Paramedic 4)

Theme names employed in this study were based on Herzberg’s hygiene factors, and with my study’s themes both identified and defined, I began to compose my study’s final analysis and results using the nodes and themes that had been constructed from the completed interview analyses.

Table 2

NVivo Nodes

NVivo nodes and subnodes	
Interpersonal relations	Work conditions (call volume; scope of practice; and station equipment availability, quality, and safety)
Job security	Chase cars
Personal life	Staffing
Policy and administrative practices **(city and department policies)**	Equipment
	Morale
	Amount of work
Salary & benefits	Scope of practice
Status (status of being a paramedic)	Training
Fire vs. EMS	Supervision (relationships with supervisors and communication)
Lead status	

Emerging Themes

Emerging themes that arose from these analyses were: fire versus EMS culture, positive and negative relationships with supervisors (depending on management level), lack of support for administration, lack of accountability, positive coworker relationships,

positive job security, equipment issues, lack of quality and amount of EMS training, amount of work, and process of becoming a lead paramedic.

The most prevalent emerging theme from the interviews was “work conditions” with 220 coded words or phrases. The next most prevalent emerging theme was “status of being a paramedic” with 111 mentions, followed by “policy and administrative practices” with 107 coded words or phrases, and subsequently, “supervision” with 84 mentions. “Interpersonal relations” and “job security” were the least mentioned themes at 27 and 26 instances respectively. No participant indicated any existing issues with “job security” at the time of their interviews. Subnode totals were included in their corresponding main node.

Evidence of Trustworthiness

Evidence of trustworthiness in qualitative research includes credibility, transferability, dependability, and confirmability. The following sections address these four topics as they apply to this study.

Credibility

Credibility establishes the connection between a study’s findings and the real world. This study used member-checking and peer review to establish credibility. All participants were asked after the interviews if they were willing to review the transcripts from their interviews. Out of the 20 participants, five (25%) elected to participate in member-checking. Member checking by these five participants occurred after the completion of all of the interviews. These participants were provided with a transcribed

copy of their interview. The participants then reviewed the transcription for accuracy. Peer review was conducted by my dissertation committee at Walden University.

Transferability

Transferability allowed me to make generalizations about the research findings. The findings from this study may be applicable to other fire departments—or even other industries. Given the uniqueness of my study, my full population from which to draw a representative sample was under 100 people. The sample size was 20 people, or about 20% of the population. Participants were recruited through recruitment announcements at two QI sessions as well as by word of mouth. The ratio of participants to population minimizes the threat of generalization not being applicable to the population. The participants were asked not to discuss their interviews with anyone until all of interviews had been completed so as not to influence other participants. Situational threats were reduced by the use of a neutral location for the interviews. The study was scheduled to be conducted during a timeframe during which no new polices were introduced or adopted that could have altered “call volume”, “scope of practice”, “benefits”, or “equipment”. During the interviewing timeframe, the fire department started a chase vehicle program and it purchased power-lift cots for the ambulances.

Dependability

I followed the written plan outlined in Chapter 3 and reiterated the steps I had taken for data collections and analysis in this chapter. I indicated I would maintain original records, documents, and notes from all aspects of this study for five years. As written, paper documentation will be converted to electronic documentation upon study

publication after which original paper documentation will be destroyed securely through a professional document shredding company. These steps will allow other researchers to review my process and confirm that these study's results can be replicated (Yin, 2009).

Confirmability

Confirmability established my neutrality. The findings were based on the participants' responses, not on my bias. I was able to enhance confirmability through data checking and data audit procedures. The study's findings were supported by the data audit, and the data analysis plan detailed every step of the analysis process. All research notes were kept up to date as data collection and analysis progressed. All notes were maintained as paper documents and would subsequently be converted to electronic data for a five-year archive prior to destruction. Upon conversion to electronic media, paper notes were to be destroyed by a document shredding company.

Confirmability is also enhanced by the awareness of reflexivity. Participants and interviewers unknowingly influence each other during lengthier interview sessions. This study used shorter interview sessions (less than 1 hour) to help reduce this threat. I took notes during each interview and would review them to detect any potential areas of influence needing to be addressed prior to ensuing interviews.

Study Results

Hygiene-Ranking Activity

The hygiene-ranking activity, known as the "workplace satisfaction survey" in my study, was administered after the demographic survey and prior to the semistructured interview. The original eight hygiene factors that were identified by Herzberg (1950)

were defined in more detail to align with fire department- and EMS-specific items. Salary and benefits, personal life, interpersonal relations, and job security remained the same. Work conditions were defined to include call volume; scope of practice; and station equipment availability, quality, and safety. Policy and administrative practices specified city and department policies. Supervision was defined as relationships with supervisors and communication. Status was specified as the status of being a paramedic. The results were entered into spreadsheets and are displayed in tables for each group (see Table 3, Table 4, and Table 5).

There were several themes that emerged from the workplace satisfaction survey. Participants had been instructed to use "1" for their highest rating and "8" for their lowest rating, and so forth. It was noted that participants force-ranked the hygiene factors from 1 through 8 in two categories: personal satisfaction, and satisfaction met by the fire department as the principle employer.

Job security by the fire department was given an average rating of 1.4 among all participants. Job security was never ranked above a 4. Salary and benefits by the fire department were given an average rating of 3.35. The status of being a paramedic was given an average personal ranking of 7.1 and given an average rating of 5.8 for the fire department. Policy and administrative practices by the fire department were given an average ranking of 4.6 and never ranked below a 3. Supervision by the fire department was given an average of 5.5 and also never ranked below a 3. Ten of the participants listed personal life as their number 1 ranking and five listed salary and benefits as their number 1 ranking. Lead paramedic 1 (LP1) initially appeared to be an outlier with the

personal importance hygiene ranking activity. I calculated the rankings for lead paramedics both with and without LP1. The only changes with the rankings without LP1 were that personal life and salary and benefits tied for number 2, instead of ranking 2 and 3, and job security and interpersonal relations swapped positions 5 and 6. Given the relatively low materiality of these ranking changes, I retained LP1 data for all analyses.

The nonlead paramedics average ranking for the status of being a lead paramedic by the fire department was a 7.5, current lead paramedics ranked it a 5.5, and former leads had the most positive rankings at an average of 5. Former leads ranked policy and administrative practices by the fire department as an average of 7 and supervision as an average of 6.2. Current lead paramedics ranked policy and administrative practices by the fire department as an average of 6 and supervision as an average of 5.7. Nonlead paramedics ranked policy and administrative practices by the fire department as an average of 3.5 and supervision as an average of 5.8. All five of the former leads, 8 out of 10 (80%) current leads, and 3 out of 5 (60%) nonleads ranked job security by the fire department as a 1.

Table 3

Hygiene-Ranking Activity Results: Rankings by Lead Paramedics

Hygiene factor	**Lead** paramedics rankings									
Personal Importance	LP1	LP2	LP3	LP4	LP5	LP6	LP7	LP8	LP9	LP10
Salary and Benefits	7	2	4	4	1	5	4	3	4	1
Work Conditions	4	3	2	3	7	2	1	4	2	2
Personal Life	1	1	8	5	5	1	2	1	1	8
Policy and Administrative Practices	6	7	6	1	8	7	6	7	6	4
Supervision	3	5	3	2	6	3	5	5	7	5
Interpersonal Relations	2	4	5	7	4	6	3	6	5	6
Job Security	8	6	7	6	3	4	7	2	3	3
Status	5	8	1	8	2	8	8	8	8	7
Fire Department Employment	LP1	LP2	LP3	LP4	LP5	LP6	LP7	LP8	LP9	LP10
Salary & Benefits	5	5	4	4	4	1	6	3	3	3
Work Conditions	6	7	6	5	5	6	3	4	2	6
Personal Life	2	8	8	1	2	2	1	8	5	8
Policy and Administrative Practices	4	6	5	8	8	8	7	6	4	4
Supervision	8	3	3	6	7	4	4	5	6	5
Interpersonal Relations	3	4	7	3	3	7	5	2	7	7
Job Security	1	1	1	2	1	3	2	1	1	1
Status	7	2	2	7	6	5	8	7	8	2

Table 4

Hygiene-Ranking Activity Results: Rankings by Nonlead Paramedics

Hygiene factor	**Nonlead** paramedics rankings				
Personal Importance	NLP1	NLP2	NLP3	NLP4	NLP5
Salary and Benefits	4	3	1	3	1
Work Conditions	6	2	2	7	2
Personal Life	1	1	3	6	7
Policy and Administrative Practices	8	5	7	1	4
Supervision	5	6	6	4	5
Interpersonal Relations	3	7	5	2	6
Job Security	2	4	4	5	3
Status	7	8	8	8	8
Fire Department Employment	NLP1	NLP2	NLP3	NLP4	NLP5
Salary & Benefits	2	5	2	2	7
Work Conditions	7	2	6	5	1
Personal Life	8	1	5	4	6
Policy and Administrative Practices	3	6	4	3	3
Supervision	4	7	8	6	4
Interpersonal Relations	5	3	3	7	5
Job Security	1	4	1	1	2
Status	6	8	7	8	8

Table 5

Hygiene-Ranking Activity Results: Rankings by Former Lead Paramedics

Hygiene factor	**Former** lead paramedics rankings				
Personal Importance	FLP1	FLP2	FLP3	FLP4	FLP5
Salary and Benefits	1	2	3	7	7
Work Conditions	2	5	4	5	4
Personal Life	3	4	1	1	1
Policy and Administrative Practices	4	6	7	8	5
Supervision	5	3	8	6	6
Interpersonal Relations	6	1	6	4	2
Job Security	7	7	2	2	3
Status	8	8	5	3	8
Fire Department Employment	FLP1	FLP2	FLP3	FLP4	FLP5
Salary & Benefits	5	2	3	4	3
Work Conditions	6	5	2	8	5
Personal Life	7	4	4	2	2
Policy and Administrative Practices	8	7	7	6	7
Supervision	4	8	6	7	6
Interpersonal Relations	3	6	5	3	4
Job Security	1	1	1	2	1
Status	2	3	8	5	8

Hygiene Factors

Table 6

NVivo Node Results

Node	**Number of interviews with node**	**Number of times coded**
Interpersonal relations	20	27
Job security	20	26
Personal life	20	30
Policy and administrative practice (city and department policies)	19	107
Salary & benefits	18	60
Status of being a paramedic	18	111
Lead status	20	49
Fire vs. EMS	15	26
Supervision (relationships with supervisors and communication)	20	76
Work conditions (call volume; scope of practice; and station equipment availability, quality, and safety)	20	220
Chase cars	16	30
Staffing	15	31
Equipment	20	33
Morale	14	17
Amount of work	14	40
Scope of practice	19	27
Training	8	10

Job security. Job security at the fire department was not currently a concern for any of the participants. It had the lowest number of codes at 26. “If you look at job security in the standpoint of being fired, that's very far from a possibility. You would have to be do something really horrendously bad and stupid. That just isn't even in the equation for me” (Lead Paramedic 1). One participant felt that although their overall job security was secure, they no longer felt secure as a lead paramedic because of the nonlead ambulances and chase car program. “My feeling of job security had improved but because our policy for lead medics is changing. My job security is changing. I don't have the job security I did. I feel that I feel I'm more disposable” Lead Paramedic 5). Another participant felt that although job security for the department was good, one’s assigned position or shift could change at any time. “If you look at your job in terms of what your assigned to, and seemingly without any reasoning people can be moved from shift-to-shift rig to rig” (Lead Paramedic 1).

The participants with 11 or more years on the job did report having previous concerns with job security. In 2008, Indiana had enacted a circuit breaker law to cap property taxes. Prior to this enactment, Indiana counties and cities had used property taxes to fund local fire departments (Circuit Breaker Fact Sheet, 2013). After the law was passed, fire department administration and the city council had considered layoffs within the department to offset the expected decline in tax revenue. “There were rumblings because it was, I mean it was an obscene number like 60 or 70 guys” (Former Lead Paramedic 2). Fortunately, layoffs were avoided.

Salary and benefits. Overall, the interviewees were generally happy with the base firefighter pay but 18 out of the 20 (90%) believe that the lead paramedics need a raise in pay. “Medics need to be making at least $10 to $15 thousand more than a firefighter first class” (Former Lead Paramedic 1).

> The biggest change actually and it is the same for I think a lot of people is the pay for pyramid 22 years ago the pay on the fire department for a paramedic was $5,000 then if your Lieutenant got about $1,300 more that continued for 18 years and then it went down. (Former Lead Paramedic 3)

“But the people on the ambo I mean they've been getting paid the same amount of money for over 25 years which is ridiculous especially for the workload” (Former Lead Paramedic 4). “They throw money at a lot of things that are totally unnecessary such as drones and jet skis. They could be taking this money and putting it toward the medics to keep them on the ambulance longer” (Lead Paramedic 10). “If I’m going to endure all that shit, you better pay me for it you better pay me well for it” (Nonlead Paramedic 2).

> I don't think the paramedics actually get compensated for the amount of responsibilities and their roles that they have to take on because at the end of the day they believe paramedics or even the paramedics have the ultimate liability on at the end of the day. (Nonlead Paramedic)

There were several other suggestions about benefits made during the interviews. “It would be nice if the prescriptions were covered more” (Lead Paramedic 3). “The insurance has been watered down it's not as good as it used to be so I feel I think that that

could be improved as well" (Lead Paramedic 5). "Sick days to personal days, extra vision and dental" (Nonlead Paramedic 1).

> Unfortunately, if you have a problem with your child, you're not technically allowed to call in sick for your child. That is against the rules, but you can have as many hours, have hundreds of comp hours but getting that used is very difficult. (Former Lead Paramedic 3)

"Maybe additional time for mental health situations" (Lead Paramedic 6).

Work conditions. The work conditions node had 8 subnodes: chase cars; staffing; equipment; morale; amount of work; scope of practice; and training. The subnode of "amount of work" had 40 items, followed by "equipment" at 33, "staffing" at 31, and "chase cars" at 30. "Training" had the fewest, at 8.

The subnode of "amount of work" included terms like call volume, types of calls, length of calls, public events, on-shift trainings, number of hours worked, burn out, responsibility and stress of a lead paramedic, and posttraumatic stress disorder (PTSD). "Run volume, the run volume per ambulance is pretty high and that's leading to the burn out of a lot of the medics and it's just not the runs by themself, it's the type of people you're dealing with" (Former Lead Paramedic 1). "I mean the call volume is just as steadily gone up by 2,000 calls a year" (Former Lead Paramedic 4). "Medic 3 had to go cover a local university game because we had no back-up rigs available for a crew and off-duty crew to go out to the university" (Lead Paramedic 4). "I don't think it's really changed we just keep getting busier and busier and busier" (Lead Paramedic 6). "We're starting to do more, we're getting a peer review committee together so that if anything

were to happen on shift, we can have that kind of like the old critical incident stress team which is great" (Lead Paramedic 6).

> I mean if it's 4:00 in the afternoon you haven't eaten anything since breakfast and or 5:00, 6:00, 7:00 in the afternoon that you haven't eaten I'll eat anything that's in front of me I don't give a damn if it's a cup of peanut butter or a cheeseburger or carrots are crackers I don't care what it is. (Nonlead Paramedic 2)
>
> The days are not getting any slower and I got these other things going on with training in or you know. We have an appointment to be here or do this or that or public event whatever the fact of the matter be, or better yet, I'm beat down I need to get an hour to nap because who knows what the nights going to see. (Nonlead Paramedic 3)

"That is not just because of call volume at us because of training and stuff" (Nonlead Paramedic 4).

Staffing of the fire department's ambulances (since 2007) was identified by 19 out of the 20 (95%) as having been the biggest change to EMS at the department. The participants identified three different staffing changes: (a) the decline in the number of lead paramedics; (b) the loss of dual lead paramedic ambulances; and (c) the addition of nonlead ambulances with chase vehicles. "I would say the single biggest change that I've seen is people dropping their certifications like flies, many people have done that (Nonlead Paramedic 2).

> We had pretty much every ambulance in the city, in the county had two paramedics that were assigned full-time and most of those rigs had dual lead

> medic rigs. We're lucky to get one lead paramedic assigned to an ambulance and usually an advanced EMT. (Former Lead Paramedic 1)
>
> Going back to number to having double paramedics on all the trucks was a pretty nice thing at 3 in the morning when your 20 hours deep into your shift if you run across a troubling patient you could always bounce ideas off your partner. (Former Lead Paramedic 2)
>
> First of all, that's the first and only time they made a promotion process for Captain's that was based off of taking tests by an outside agency. The fire department had nothing to do with it so I believe the number was 8 out of 10 of the first Captain's promoted off that process were all lead paramedics. They never replace those lead paramedics. (Former Lead Paramedic 3)

"Now it's more that you are the only medic on the scene, not just on the ambulance, but on the scene out of five people that are on the scene" (Lead Paramedic 1). "It's that now they're not requiring lead paramedics to be on the ambulances" (Lead Paramedic 3). "The chase cars, I don't know if that's going to work but they're willing to try something then just leave it the way it is" (Lead Paramedic 2).

> It is probably all the stuff that's happening right now with them going and changing the ambulances so that they don't necessarily want to go and have paramedic ambulances and where they're wanting to actually put the paramedics onto the fire engines. (Lead Paramedic 9)

"Well recently we had an introduction of basics riding in the ambulance, I would say that was probably the biggest" (Nonlead Paramedic 3). "I would say the creation of the chase car program for sure that's definitely" (Nonlead Paramedic 4).

One participant identified the county's newer dispatch system as having been the biggest change to EMS at the department since 2007.

> I'd have to say it was the dispatching that has recently changed a lot of things and I mean right now it's pretty much a mess, such things as being disregarded in the only thing that you have to know that you've been disregarded is a blank screen. (Lead Paramedic 10)

Equipment availability, quality, and safety had several themes in the interviews. Most of the participants, 12 out of 20 (60%), did not report an issue with equipment.

> I think that the department has always tried and this is actually I'll give them good marks this is been one of the better places to work as far as equipment replacement but there is still focus on the fireside. (Former Lead Paramedic 2)

"Our equipment quality definitely is better" (Former Lead Paramedic 5). "In the aspect of the ambulances they have been making them nicer" (Former Lead Paramedic 4). "Oh absolutely the equipment's got much better, the quality, the safety is definitely improved" (Lead Paramedic 6). "Yeah I believe actually stuff has changed the equipment has changed the safety has changed we have more stuff now than we've ever had before" (Lead Paramedic 9). "I think the EMS chief has done a good job of trying to purchase new equipment as it's outdated" (Nonlead Paramedic 2). "I would say that it actually has

increased, quality has gone up. They spend more money to have I think better equipment" (Nonlead Paramedic 4).

One of the main themes was the increase in technology, which had mixed reactions.

> Reports were much faster, you could turn around and be done with the call much quicker but now everything is done as they want to track everything from where you're responding from how long it takes you to go there. (Former Lead Paramedic 3)
>
> The amount of added work whether it's documentation, you have to data link your monitors they may or may not work, one day they may work the next day they don't, so it's not just workload for call volume that has changed but the process. (Lead Paramedic 1)

"Efficiency of the job has gone way downhill with introduction of technology" (Nonlead Paramedic 3).

Another theme was the lack of available disposable supplies. "As a lead paramedic on an engine company you don't have all the drugs that you're supposed to have as a nontransport lead EMS rig so that's a handicap in that sense" (Lead Paramedic 1). "Mega movers, the tarps that we use to move people, they're supposed to be thrown away but yet were cleaning them and putting them back on the rigs" (Lead Paramedic 10). "It's your BLS equipment, traction splints, vacuum splints, no paddled boards, you don't have any of that stuff and that's kind of important" (Lead Paramedic 8).

A third theme was the poor-quality back-up equipment. “I guess the reliability of the things have gotten better. We have more backups, unfortunately they aren't fully stocked” (Former Lead Paramedic 4). “Our raggedy back-ups” (Lead Paramedic 2). “We also got new rigs, but our reserve equipment is really important, and our reserve equipment really should be sold off” (Lead Paramedic 1). “We have equipment available, a lot of it is very old, some of the outdated stuff needs to be replaced” (Lead Paramedic 7).

All of the participants indicated that they liked the type of work they performed at the fire department. Sixteen out of the 20 (80%) participants reported that they had at some point experienced frustration/dissatisfaction related to their jobs, or that morale was an issue among paramedics.

> Before 2007 morale was a lot higher amongst medics. When I was assigned to the ambulance, I was extremely dissatisfied with my job the last couple years that I rode full time. I hated coming into work every day and didn't want to do it anymore so yeah at that time I hated my job. (Former Lead Paramedic 1)

“I think it is morale” (Former Lead Paramedic 2.

> Negatively, I would say the fact that there's less paramedics and there's no desire, actually, denial that there's even a problem with paramedics or the morale of the current paramedics is very frustrating that the administration denies it even exists when everyone that they speak to tells them it does. (Former Lead Paramedic 3)

“Dissatisfied no, frustrated yes” (Former Lead Paramedic 5). “I have felt unappreciated” (Lead Paramedic 1). “The biggest challenge I believe is our morale” (Lead Paramedic

10). “The only time I've really been dissatisfied with my job has been my poor interaction with my superiors, the lack of actual investigative truth to any kind of discipline, usually based on more personal or hearsay rumor”(Nonlead Paramedic 4).

Four of the participants indicated that they had never experienced job dissatisfaction. “I don't think I've ever been dissatisfied with my job. I love my job” (Lead Paramedic 3). “I have not ever felt dissatisfied my job because I knew what I was getting into when I got into it and I looked toward that and that gives me satisfaction” (Lead Paramedic 5). “I love my job” (Nonlead Paramedic 1). “I haven't ever been completely dissatisfied with my job” (Nonlead Paramedic 5).

Participants reported that the scope of practice as a paramedic had undergone few changes beyond the addition or deletion of certain medications, the addition of CPAP, and the addition of 12-lead and 15-lead EKGs.

> Scope of practice, not really anything that scope of practice wise. I think what we had when I got on we pretty much still have now there may be a few drugs that they've deleted and a few new drugs that they've added. (Former Lead Paramedic 1)

“The scope of practice has included a lot of new drugs” (Lead Paramedic 10). “Yeah I think it's changed. We've added some now standard practices that didn't used to be standard practices for example 12 lead” (Lead Paramedic 6). “CPAP” (Lead Paramedic 9). “15 lead EKG” (Nonlead Paramedic 2).

Participants also reported that the addition of new nonlead paramedic protocols had been a positive addition. “I would have to say no some of the stuff now in the new

guidelines they've changed to where with a regular medic can do a little bit more" (Former Lead Paramedic 4). "We've gotten more skills just within the last couple months" (Nonlead Paramedic 3)."As a current nonlead paramedic it has grown in this EMS system" (Nonlead Paramedic 4). "I've been able to treat a patient more without having a lead paramedic with me on a not so critical call" (Nonlead Paramedic 5).

Eight of the participants reported training to have been a concern. The most often relative concern was the proper precepting of new paramedics under the chase car program. "How are we going to make lead paramedics when you don't have another lead paramedic overseeing things and working with you? It is a flaw in the system" (Nonlead Paramedic 1).

> And now then the question is how is that medic it going to get precepted properly to make sure that they get the instruction on the guidelines, the disaster plan, our department policies and procedures and how is that going to function well. (Lead Paramedic 6)

"The biggest challenges I see at this point are mentoring new paramedics and advanced EMTs into doing the right thing" (Lead Paramedic 7). The other concern is EMS training within the department.

> The bigger challenge is if you're on a call and you have somebody who doesn't keep up with their own EMS level of training and now they're on a call and they say 'hey' shouldn't we be administering lidocaine here and no we don't administer lidocaine anymore in a full arrest but they want administer lidocaine. We have a new EpiPen guideline which is that EMTs can give a 1:1000 IM now. A lot of

> them don't know that. When we did nasal Narcan and we assumed they knew. I know we have some that have never been trained to do Narcan nasally. (Lead Paramedic 1)

"They're complaining about training things or that kind of stuff not really interested in that aspect of the job" (Lead Paramedic 3).

> If I were on a fire engine and I couldn't complete the tasks the basic tasks that were required of me as a firefighter I would be scolded and in trouble there's a double standard on this department for Fire and EMS personnel. I am dissatisfied with the double standard of the department is you have to be you have to be on top of all of your fire training, but we still have people who can't take a blood pressure. (Lead Paramedic 4)

The fire department started a new staffing policy in February 2019, while I was conducting interviews. The policy was created as a response to the decline in the number of lead paramedics. The policy included the addition of two lead paramedic chase cars. According to a current member of the fire department, this had permitted the city ambulances to operate at a nonlead or advanced level. The chase car program was mentioned in 14 of the interviews. Nine of these 14 (64%) participants expressed having concerns about the program.

> Anyways especially with the currently department policy we have a nonlead ambulance or Advanced EMTs on ambulances and the paramedic gets there they're not getting that $5,000 a year, but yet they're the ones who required to save that little boy, that middle-aged person, an old person's life and get in the

> ambulance and bring him to the hospital and do all the reports. Yet they're getting paid about the same as that guy in the seat who's not a paramedic. (Former Lead Paramedic 3)
>
> I think it's going to be a problem. I think it's what you're going to have to do because if they are tasked more often going into the hospital on a call and then doing the follow-up, doing the medical report on that, and doing the making sure to EKG is been datalink properly, I think you will start to get pushback from them. (Lead Paramedic 1)

"Your taxes haven't gone down and your rigs haven't gotten better but yet you're quality of care has diminished" (Lead Paramedic 10). "I can't help but feel like I might have a huge target on my back as a nonlead paramedic because they're going to be looking for people with the highest possible scope to ride the ambulance" (Nonlead Paramedic 2). "For me as a nonlead when they went to chase vehicles I was on ambulance and teaching rookies how to do EMS care, how to drive, how to do reports" (Nonlead Paramedic 1).

The other five participants that mentioned the chase car program expressed that the program had been a good initial response to the shortage of lead paramedics. "Chase cars, I don't know if that's going to work but they seem they're willing to try something then just leave it the way it is" (Lead Paramedic 2). "The chase cars, I think it's their way of trying to alleviate some of that. So we'll see" (Lead Paramedic 3). "My understanding of the chase cars is this kind as a transition mode so that we can start building up we need to start building up lead medics so that we can have a lead medic on every engine on

every shift" (Lead Paramedic 6). "I think it is actually a pretty good idea" (Nonlead Paramedic 5).

Personal life. The participants' accounts of their personal lives varied depending on age, marital status, and children. Overall, participants with more time on the job reported experiencing more changes in their personal lives. "I've grown older and life happens and changes and yes it has changed" (Lead Paramedic 6). Others discussed transitions such as going from being single to married, having children, and becoming empty nesters. Specific quotes were not included in this study to protect the identities of the participants.

Twelve of the participants reported that the job had had a negative impact on their personal lives in ways such as divorce, relationship issues, PTSD, cynicism, missing important family events, and substance abuse. "I just don't sleep well, and I don't know if that's because I'm anticipating calls" (Nonlead Paramedic 3). "At the end of that five days you just hate life, takes you almost 4 days to recover" (Lead Paramedic 8). "You're going to go home and you're going to have a bad day and you were never really taught or informed on how to deal with it" (Lead Paramedic 8). "Skewed my idea of how a man should treat a woman, seeing all of the affairs that go on at the fire station and sex in the firehouse" (Lead Paramedic 4). "I would say the job has made me more of a loner when I get off work" (Lead Paramedic 10). "I know addiction is a huge thing whether it be nicotine, alcohol, caffeine, numerous other things" (Former Lead Paramedic 4). "I probably stayed married longer than I should have" (Former Lead Paramedic 2). "Personal life I'm a lot more irritable, more of a short fuse, more cynical, or sarcastic

whenever you want to say, more jaded" (Former Lead Paramedic 1). One participant reported that the 24-hour shift rotation had been a benefit for their family. "I do have to say that our schedule was great for me as far as raising my kids" (Former Lead Paramedic 5).

Six of the participants mentioned the importance of having had a supportive family. "My wife as a single parent 10 days a month or more" (Nonlead Paramedic 2). "If my wife knows I am tired, she says go take a nap" (Lead Paramedic 2).

> Now on the days that I ride the medic or if I am just up all night or whatever I can come home and I can say I need to sleep and I know that we can't have any discussions about big things because I'm just going to be crabby and irritable and angry about stuff. (Former Lead Paramedic 2)

Policy and administrative practices (city and department policies). The hygiene factor of "policy and administrative practices" was the third most coded topic at 107 items. Themes that emerged related to this hygiene factor pertained to departmental policies and included lack of accountability and formal policies, old standard operating guidelines, and the denial of issues among paramedics. The most frequent emerging themes therein had to do with accountability within the department and lack of formal policies.

> Policy-wise there again I think people need to be held accountable for their actions the problem is the fire chief and the rest of the chiefs just want to sweep everything under the rug and put some lipstick on things and make everything

> look pretty but they don't want to address the underlying issues like morale. (Former Lead Paramedic 1)

"If you promote a guy and it turns out he's a bad captain there is no demotion that takes place there is currently a probationary year I'm only aware of one guy that didn't make it" (Former Lead Paramedic 2).

> I think is my biggest problem and it's not just so much their policies at all, it is the guideline, just the agreement we have with the medical director that we work under. We don't work under them, they don't follow them. We're expected to show up at 7 in the morning shaving and in uniform ready to go to work yet we can disregard a lead medic without putting eyes on a priority one patient and it's okay, every single shift, ain't no exception. So how is it that I'm supposed to follow the rules that are laid out to me when the department is allowing other rules to be violated and being told just two days ago that it's okay to violate those rules every single day? (Former Lead Paramedic 3)

"What we need is a policy of holding everyone accountable for good quality patient care, good quality patient interaction" (Lead Paramedic 1). "I think that there needs to be a little more accountability make sure people are doing what they're supposed to do and if they're not then then there needs to be some sort of action taken how I don't know how" (Lead Paramedic 3).

> I don't know how to make that change other than stricter policies or enforced policies that require quality care nobody no one wants to enforce that and when the EMS chief took over that was one of his platforms was that he was going to

> make sure that the first responders were confident in their skills and if they weren't there will be some extra training there would be some remediation there would be some type of accountability for them and that hasn't happened. (Lead Paramedic 4)

"There's nothing really in writing for some stuff so different people get disciplined in different ways" (Former Lead Paramedic 2). "As far as I'm aware there is no written policy that dictates how the staffing is to be done" (Former Lead Paramedic 2).

Three of the participants expressed concerns with the department's (then) current standard operating procedures. "I mean we still have a SOP that has King Kong sitting on top of a high-rise building as part of our high-rise commercial fire protocol" (Former Lead Paramedic 1).

> So the Sops have been under review, we paid a company I believe 25,000 to help develop Sops, it was going to be on a software portal the software was demoed with one sop, two to three months ago, and I haven't heard boo about it since then. I believe the last three promotional testings have not included SOPs so you're looking at roughly like three years where they've said disregard. (Former Lead Paramedic 2)

> We have those SOPs on the job and I don't know if it was from laziness or this or that but people would never turn around and go and review them there was no formal review policy there was no oversight committee and there was nothing. (Lead Paramedic 9)

Nineteen out of the 20 (95%) participants identified staffing to have been an issue at the department, and some participants felt that the administration had been ignoring staffing issues. “If you talk to our Administration, we don't have any issues with morale. We don't have any ambo staffing issues” (Former Lead Paramedic 1). “I also personally to have so the fire department also doesn't like to fail we don't like to talk about things that don't work” (Former Lead Paramedic 2). “Actually, denial that there's even a problem with paramedics or the morale of the current paramedics is very frustrating” (Former Lead Paramedic 3). “I've told the supervisors in the past you can only let morale drop so far and it is impossible to get the morale back up regardless of what you do” (Lead Paramedic 10).

Supervision (relationships with supervisors and communication). All 20 of the participants reported a having had positive relationship with their station captain, while 16 out of the 20 (80%) reported a having had positive relationship with their immediate EMS supervisor. Out of the 20 participants, 12 reported a having had a negative relationship with fire department administration. Battalion chiefs, assistant chiefs and the head chief were all classified as fire department administration because they are not in union positions.

> My direct supervisor is great. Battalion chief wise I would say the relationship is mediocre. I don't trust the BCs so I don't know I guess I'm on a neutral relationship with the battalion chiefs. As far as the front office, the assistant chiefs and the head chief I have absolutely no relationship with them and that's the way I'd like it. I don't trust them. (Former Lead Paramedic 1)

> That would be one of the biggest problems is the lack of trust between the administration and us because we can't believe what they're telling you. My relationship with my immediate supervisors wonderful, above that with the exception of one battalion chief everything else is not a great relationship. (Former Lead Paramedic 2)

"Broken communication between myself and people in the front office" (Former Lead Paramedic 4). "I really didn't care for my supervisor, but I don't have a problem with him either" (Lead Paramedic 2). "BCs, I have a good relationship with them. EMS chief have a hot and cold relationship with him" (Lead Paramedic 1). "I trust them" (Lead Paramedic 3). "One of the battalion chiefs is, he's very open to suggestions. Administration does not support us" (Lead Paramedic 4). "I don't feel like they listen to what I say" (Lead Paramedic 5). "I feel I can go to him with any problem or concern" (Lead Paramedic 6). "Pretty good relationship with all my supervisors" (Lead Paramedic 8). "I don't think that the fire department does a good job at all with supervision, with the supervisors on the department" (Lead Paramedic 9). "I feel it's just more of an act of submission instead of a relationship" (Nonlead Paramedic 4). "My chiefs are very easy to talk to, as well as the front office" (Nonlead Paramedic 5).

Issues with open communication with supervisors and administration were mentioned in some of the interviews.

> That's kind of the way we do stuff in shrouded in secrecy nobody knows anything because we think guys are maybe going to torpedo it and rather than if you get a ridiculous suggestion from a guy then it's okay to throw it out if you get a good

> suggestion from a guy maybe you should think about it. (Former Lead Paramedic 2)
>
> There was no department notification, there was no department memo sent out that by the way all nonlead medics your scope of practice is now increased to this and you need to be maybe brushing up on these skills blah blah. (Nonlead Paramedic 4)

"As far as the administration, there's a disconnect and you feel like they need to come out of their offices a little bit more and get a little first-hand experience" (Lead Paramedic 10). "I think some more are open to discussion and well there's a lot of talk about this open-door policy type thing that I think is kind of kind of laughable" (Nonlead Paramedic 2). "Lack of respect and communication" (Lead Paramedic 4).

Interpersonal relations. Interpersonal relations had the second lowest number of coded words or phrases at just 27. Most of the interviewees, 17 out of 20 (85%), related that they had experienced good coworker relations. "Friend wise it so nice that I can be close with friends" (Lead Paramedic 4). "I think I got a good relationship with coworkers. I like my coworkers" (Lead Paramedic 9). "I have my brothers and sisters that I've been with since day one and there's a reason I want to be there with them" (Nonlead Paramedic 4). "As a general rule I have a good working relationship with them. I don't do a lot of outside stuff with coworkers except the ones from recruit school" (Nonlead Paramedic 1). "I think by and large it is fantastic" (Former Lead Paramedic 1). "I have a great relationship with my coworkers at my fire station on my shift we all work well together.

We have problems like anyone else has but nothing major nothing that doesn't get solved relatively quickly" (Former Lead Paramedic 3).

The three other interviewees described their interpersonal relations having been "distant" because of gossip or previous incidents. I cannot share quotes from one of these interviewees because it may identify the participant.

> I don't really care for is a lot of the scrutiny that goes on and then I guess that's boys being boys but you know there's a what I call the peanut gallery there's always a huge peanut gallery around that somebody wants to make fun of somebody cuz [sic] they don't quite do it this way or they don't do it that way or they don't do it their way. (Nonlead Paramedic 3)

"I don't feel the comradery like I used to" (Lead Paramedic 6).

Status (status of being a paramedic). The status of being a paramedic at the fire department was rated as a 7.1 personally by the participants in the hygiene ranking activity, but it was the second most coded topic with 111 items. This section was split into three parts: (a) the status of being a paramedic on the fire department, (b) the fire versus EMS culture, and (c) the lead paramedic status with the county EMS committee. The fire versus EMS culture had 26 coded items and lead status had 49 coded items.

The status of being a paramedic on the fire department varied among participants, but overall, participants expressed they hadn't felt as valued as they felt they should been by the department and their coworkers. "I think they use the status of a paramedic as a bargaining chip right now and not always good" (Former Lead Paramedic 3). "I don't

know that the status of being a paramedic is necessarily one that is sought after or values or there is no value to it" (Lead Paramedic 1).

> I think that being a paramedic or were you going to be a lead paramedic bring some level of respect with the job because you know you went through all that schooling you did your lead book to earn in that status in so I think people then look to you on medical calls for guidance and direction and so then they have that level of respect for you as long as you've proven that you know what you're doing. (Lead Paramedic 3)

"I think being a paramedic you're looked at is a valuable resource but that doesn't mean being a paramedic on an ambulance" (Lead Paramedic 5). "The prestige of being a paramedic or pride in the job has going downhill" (Nonlead Paramedic 3). "It can still be desirable for those that are wishing to challenge themselves" (Nonlead Paramedic 4). "Now there is a large focus on EMS because it was 87% of call volume last year. Being 'just a paramedic' has died down" (Nonlead Paramedic 1). "So they look up to me now since I became a paramedic" (Nonlead Paramedic 5).

One theme that emerged from the interviews under "status of being a paramedic" was the culture of "fire versus EMS" at the department. "Medics and firefighters are still treated differently. Medics are looked down upon" (Former Lead Paramedic 1). "I think that EMS is still is not really part of the fire department the phrase bastard stepchild kind of gets thrown around" (Former Lead Paramedic 2). "EMS is still kind of the stepchild" (Former Lead Paramedic 4). "And EMS at the fire department is still treated as a second-rate step-child that no one wants to do" (Lead Paramedic 1). "I feel like we are the trolls

under the bridge" (Lead Paramedic 2). "There's always been a divide between what we call the fire and EMS side of things" (Lead Paramedic 4). "Yes and no and the reason I say that is the paramedic is still considered as a redheaded stepchild in the department at least to my feelings" (Lead Paramedic 6). "I don't feel really has changed it all it's always been kind of negative to be considered a medic in the eyes of many people" (Lead Paramedic 7). "It is a fire-based EMS-department so a lot of times EMS is not looked upon as being the most major" (Lead Paramedic 9). "Still an attitude of fire vs EMS" (Nonlead Paramedic 2).

The lead paramedic process and status were also themes that emerged from the interviews under "status of being a paramedic". "Before becoming lead paramedic, it was a relatively quick process" (Former Lead Paramedic 3). "I know numerous Medics would get their leads back if they didn't have to jump through hoops" (Former Lead Paramedic 5). "Making it a little more easier to go about" (Lead Paramedic 2). "How when they go to a QI they're called out in front of all their peers and it really harsh environment" (Lead Paramedic 1). "Don't make it such a hassle to get your lead status" (Lead Paramedic 3). "Tying to simplify the process and I don't want to minimize it by any stretch of the imagination, I want to make it simple" (Lead Paramedic 6). "Once you get your lead you don't really ever have to worry about losing it and they never go and take it away" (Lead Paramedic 9). "Need to be able to have a defined set of parameters in order to obtain lead status" (Nonlead Paramedic 4). "I considered doing lead status then all the sudden the hoops that you had to jump through because more significant" (Nonlead Paramedic 1).

Research Question 1

- How have the hygiene factors of Herzberg's motivation-hygiene theory contributed to job satisfaction among paramedics at an Indiana fire department between 2007 and 2017?

Participants indicated that the decline in the number of lead paramedics at the fire department had been caused by job dissatisfaction through the lack of response by department administration to the issues experienced by lead paramedics.

> After 2007 we got an EMS chief that was more of a dictator and people didn't want to work for him. Morale went in the tank; people didn't feel like they were worth anything. They didn't feel like their chief backed them. So, there was a mass exodus after he became chief. (Former Lead Paramedic 1)
>
> We are constantly having issues with morale and ambo staffing. They want to paint this picture that everything's fine and it's because our chiefs or administration are not addressing the issues with EMS and addressing any issues with the guys to try to improve the system and improve self-worth, pay, morale, all that kind of stuff. (Former Lead Paramedic 1)
>
> So, since ‘07 we have dramatically went down in numbers and never got those numbers back at that same time as when we lost our raining EMS chief. So the job itself is not a problem, whatsoever, I can do the job all day every day. It's the lack of respect, the lack of care for new supervisors that used to be here that has been gone since 07 unfortunately. (Former Lead Paramedic 2)

"Why would you want guys working on the ambulance that are being forced to be there because that's currently what they're doing" (Former Lead Paramedic 2). "When they're always on island by themselves and get no support from our EMS chief" (Lead Paramedic 1). "There needs to be somebody on your side, there has to be an advocate, somehow you assumed that it would be your chief but it doesn't seem to be, they're politicians in white shirts" (Lead Paramedic 10).

> The EMS chief, while personally is a very nice fellow, holds a grudge and anytime questions are asked of him, a policy or procedure, he becomes defensive and wants to pick a fight when discussing changes such as the advanced ambulances that will be coming in to play here in the future. (Lead Paramedic 4)

"The open-door policy, others don't necessarily practice what they preach in terms of that so that makes it more difficult to have a conversation with those people" (Nonlead Paramedic 2).

Research Question 2

- How have the hygiene factors of Herzberg's motivation-hygiene theory influenced an Indiana fire department's paramedic personnel to seek, not seek, or drop lead status designation between 2007 and 2017?

Half of current lead paramedics reported that they had at some point considered dropping their lead status to facilitate being transferred to a fire truck in order to improve their work conditions. "A few years ago, I considered dropping my lead status to facilitate myself getting off the ambulance" (Lead Paramedic 1). "I have considered dropping my lead. I've actually considered dropping back down to an advanced as much

as I really am stressed about the job and feel like the administration does not support us" (Lead Paramedic 4). "Yes. Why? Because I don't believe the real issues are being heard by my supervisors" (Lead Paramedic 5). "Yes, because there's been many times that I actually considered getting off of the ambulance and going onto a fire apparatus" (Lead Paramedic 9). "I did consider dropping it when I was getting off" (Lead Paramedic 10).

The other half of current lead paramedics reported that they had never considered dropping their lead status because of their personal pride or their personal ethics. "It took me awhile to get. I don't have any intentions on dropping it" (Lead Paramedic 2). "I'm proud of my lead status and so I won't drop it" (Lead Paramedic 3). "No, I worked too hard to get it and I love doing what I do and I'm not going to drop my status because I would basically be dropping my skill set and that's not fair to the community" (Lead Paramedic 6). "I've never even considered, it. It was a lot of work to get" (Lead Paramedic 7). "Strangely enough I've never considered dropping it, it may be in masochistic I guess, I just feel like I work too hard to do it" (Lead Paramedic 8).

Four out of the five (80%) nonlead paramedics reported that they had not wanted to become lead paramedics because of work conditions, status, and the lead status process.

> I considered doing lead status then all the sudden the hoops that you had to jump through because more significant. I would have dedicated 2-3 years of my life to an ambulance and then taking another 2 years to get back to the engine" (Nonlead Paramedic 1).

> I generally feel like the leads are whipping boys for a fire department and I just feel like they're beat on relentlessly. I feel like they're poorly compensated and undervalued as I've said several times and I just can't personally when I look at it in a cost-benefit sort of analysis. I can't personally see the benefit outweighing the cost for me to voluntarily become a lead medic being up all night running calls all night long. (Nonlead Paramedic 2)
>
> I think that's a cumulative effect of my personal job experience over the course of my career, of the inconsistency of staffing, watching guys get, good guys, get grounded and pounded to where they drop their status or don't want to do it anymore. Again, the inconsistencies with not spreading the wealth of everybody having to ride the ambulance that certified to the stressfulness of the job. (Nonlead Paramedic 3)

"I would have to more unless give up my position. The lack of supervision and quality direction by the medical director and the administration made me choose to not pursue that" (Nonlead Paramedic 4).

Each former lead paramedic had a specific story that resulted in no longer being a lead paramedic. The former lead paramedics shared these stories in their interviews. I cannot share the details of these stories without the risk of exposing their identities, but, four of the former leads reported having dropped their lead statuses because of combined burnout and a lack of response to burnout by fire department administration.

> The nail in the coffin was my battalion chief at the time, and he was constantly pulling us. There were six lead reserve medics that were assigned to suppression.

> He was constantly pulling 3 of us and his thought process was the three of us were all temps we weren't captains, we weren't primaries, we weren't drivers so we should ride more than everybody else. (Former Lead Paramedic 1)

"I felt that I was being pulled more often than other people or so I kept track and I was being pulled more often than other people" (Former Lead Paramedic 2).

> My status was dropped with the fire department because they were using it as a tool. They threatened too, not much of a threat, they simply told me that this was going to be the way it was because you are a lead paramedic so I said well I am no longer a lead paramedic so they moved me from that position I was in. (Former Lead Paramedic 3)

"Communication between myself and people in the front office definitely broke down. I didn't feel as though I wasn't being heard" (Former Lead Paramedic 4).

Summary

From 2007 through 2017, the fire department's lack of response to concerns and work conditions confronting lead paramedics has impacted job satisfaction through the dissatisfiers—or hygiene factors—of Herzberg's motivation theory. Sixteen of the study's 20 participants indicated that they had at some point experienced some nature of job dissatisfaction associated with a hygiene factor. Work conditions, status of being a paramedic, and policy and administrative practices were the most frequently referenced hygiene factors underlying lead paramedic job dissatisfaction.

Herzberg's hygiene factors were shown to have influenced paramedics at my selected Indiana fire department to seek, not seek, or to drop their lead statuses over the

last 10 years. One half of those paramedics who held lead status during this study's timeframe had considered dropping their lead status so as to hasten being transferred to a fire truck with the aim of reducing their workload or getting a needed break. Four of the five former lead paramedics dropped their lead status for similar reasons. The former leads reported that once they were transferred to a fire truck, they were frequently reassigned to the ambulance to cover unfilled lead paramedic spots. Four out of the five nonlead paramedics had not sought lead status because they had witnessed the increased workload of lead paramedics.

In Chapter 5, I will discuss my study's findings in more detail, and I will present the conclusions derived from the study. I will next make recommendations to address areas of concern elicited by my findings, and I will propose suggested areas for further research. Finally, I will discuss my study's implications for social change.

Chapter 5: Discussion, Conclusions, and Recommendations

In this phenomenological study, I explored the decline in the number of lead paramedics at a local Indiana fire department using Herzberg's motivation hygiene theory's hygiene factors as the guiding lens. My study explored the hygiene factors that lead paramedics, nonlead paramedics, and former lead paramedics perceived as integral to their job satisfaction or lack of satisfaction from 2007 to 2017. Lead paramedic retention is an issue of concern at the local Indiana fire department. Hygiene factors have affected not only the retention of lead status the department's paramedics, but as well paramedics' likelihood to seek lead status.

Interpretation of Findings

My interpretation of the research study findings supports the conclusion that Herzberg's hygiene factors are not being satisfied at the local Indiana fire department as evidenced by reported job dissatisfaction at varying employment-levels. Lack of satisfaction related to Herzberg's hygiene factors has caused lead paramedics to drop their lead status, or to consider dropping lead status, and it has further influenced qualified paramedics to not seek lead status designations.

Four overarching emerging themes were discerned, and each afforded substance for needed policy reviews and proposed changes purposed to improve paramedic job satisfaction and lead paramedic retention. The first thematic area involved problems within fire department administration, and included concerns such as perceived lack of support, poor relations/communication, and lack of accountability. A second emerging theme centered upon the ability to establish and maintain a sense of work–life balance

while working as paramedics and/or assigned to the ambulance. A third thematic area entailed a prevailing feeling of competing or conflicting fire- versus EMS-culture within the department. The fourth thematic area was related to the lead paramedic advancement process.

My results illustrated that, among those interviewed, the fire department was seen to have met the hygiene factors of "job security" and "interpersonal relations". In all three participant group surveys, "job security" was ranked as the single most important and influencing factor that contributed to job satisfaction.

Due to known prior departmental changes, I determined that my research perspective should span 10 years (2007 to 2017). The results of my interviews revealed two major departmental changes had, over time, affected department EMS operations. The first such change was the July 2007 retirement of the EMS chief. Upon this EMS chief's retirement, a paramedic captain was promoted to fill the EMS chief position, and he fulfilled this role for approximately five years before being promoted to the role of head fire chief in 2012. Study participants who had been employed in the department prior to the former EMS chief's retirement reported both a marked deterioration in the manner in which they were treated and numerous negative EMS policy alterations arisen following the 2007 appointment of the EMS chief's successor. Several lead paramedic study-participants reported this to have been the turning point for their considering and eventually dropping their lead paramedic status. Lead paramedic participants described feelings and beliefs that the new EMS chief had neither valued their input nor shown any esteem for the difficult work that paramedics perform.

With the 2012 advancement of the EMS chief to head fire chief, and despite the ensuing administrators being former fellow paramedics, participants verbalized that administrative relations did not improve. Participants consistently offered descriptive commentary related to lack of trust, poor interpersonal interactions, poor departmental communication, lack of support, and lack of accountability with leadership.

Simultaneously with these administrative changes, a second and significant departmental change arose with the promotion of a number of current lead paramedics to captain positions—meaning that these individuals would no longer be assigned to the ambulance. This promotional shift was subsequently shown to have lacked forethought and adequate planning in that the department had no personnel to fill vacant lead paramedic positions arising as a result of the promotions, and they had not developed a response plan through which to replace those lead paramedics in a timely manner. The fire department has continued to underfund educational opportunities aimed at increasing the pool of lead paramedics.

Participants reported that prior to 2007, there were plenty of opportunities for rotations off of ambulance duty to experience some relief, to recharge, and to restore emotional balance through (temporarily) escaping the grueling nature of ambulance work. Participants reported that, in 2007 and later, it had become increasingly difficult to schedule a rotation off of the ambulance, and even more difficult still to transfer to a fire truck when they determined that they no longer wanted to be assigned to the ambulance. Participants reported that transfer processes often took months to years to be fully executed. Out of the former lead paramedics interviewed, 80% reported having been

threatened by administration over requests for transfers, off-ambulance rotation-requests, or dropping their lead status.

Another prominent area of concern for both paramedics and lead paramedics is their overall workload. All of the study participants identified lead paramedic workload to be a personal issue of concern at the department. Commonly cited issues were related to call volume, length of calls, and training(s). Call volume has increased every year at the department. The county terminated the contract with one of the department's county ambulances in 2011, and the department moved that ambulance into the city in an attempt to alleviate the growing call volume. By the time this strategy was fully implemented, the newly located city ambulance was responding to a greater volume of calls than it had previously taken as a county ambulance. Simultaneously, there were no reductions in call volumes for any of the other city ambulances. Computerization of reports, double reporting, and the relocation of one of the county's hospitals increased overall durations of calls. The department has also increased the quantity and frequency of required training(s). Training is held five to six days per week, and when one ambulance is out of service for training, the remaining ambulances have to cover those calls. The department has attempted to decrease the amount of lead paramedics' work with the creation of the chase car policy, while a more distant goal of the policy is to have lead paramedics on every fire engine. To achieve this goal, the department would need 16 lead paramedics per shift, plus backups for vacant slots. The feasibility of this plan is questionable, as the number of lead medics is insufficient to cover the 16 leads needed per shift.

Not only were physical workload and lack of appropriate sleep identified as factors of distress; but posttraumatic stress disorder (PTSD) arose as an underlying emerging theme within “amount of work”. The department only recently established a peer support team to respond to stations and crews after they had experienced a tough or especially challenging call. While participants stated that that this provision was a good start, most employees refused talk to peer counselors because of their fear that such exchanges would be reported back to administration. Participants spoke of two widely known incidents wherein employees had been identified as potentially suffering PTSD and instead of being offered help, the employees were threatened with job termination. This circles back to and reiterates the previously mentioned lack of trust in administration concomitant with a lack of support from administration. Nationally, more firefighters die each year from suicide than they do in the line of duty (Dill, Douglas, & Heyman, 2018).

A third area that needs to be addressed is the perceived imbalance between fire and EMS priorities and interests within the department. Participants identified EMS calls as comprising 80% to 90% of the call volume for the department. Nevertheless, they felt that the department placed greater focus on firefighting and fire training than it did on EMS education and preparation. While fire training is important, thorough EMS training is paramount, as the department-wide number of medical calls far exceeds it number of fire calls. In addition to the participants’ expressed concerns for lack of education, there arose assertions that there was no accountability or follow-up when individuals were identified as needing EMS skills or knowledge remediation. Some of the participants stated that they were treated as lesser members of the department because they were

paramedics, especially if they were assigned to the ambulance. No matter their length of service, when paramedics transition off the ambulance, they are frequently assigned as "temps" who are expected to float to cover open positions. Rooted in administrative decision-making processes and value recognition, such fire department culture has been in place for decades.

The closing area that needs to be addressed to encourage more individuals to pursue lead medic status is the process through which one becomes a lead paramedic. Participants reported that the lead process: (a) was vague, (b) lacked uniformity, and (c) was lengthy (especially if the paramedic was not assigned to an ambulance). The lead process entails:

- meeting both medical directors;
- meeting both EMS coordinators;
- submitting Hepatitis B vaccination records;
- completing six successful IV starts and six successful endotracheal intubations;
- completing 16 hours of clinical time in the emergency room;
- completing a dialysis orientation;
- completing a megacode-, a guideline-, a 12-lead-ECG-, and disaster-test;
- and submitting 20 EMS patient care reports (PCRs) and two letters of recommendation from lead paramedics.

Completion of the outlined requirements does not guarantee conferral of lead status. The final decision is a subjective review of the PCRs by the medical directors and may result in approval, a request for submission of additional PCRs, a request for completion of

additional training, or denial. Participants stated that the process should be shorter and more concise, and they stated a need for clearly defined descriptions of requirements for successful process-completion. All participants reported that there should be some type of preceptorship for new paramedics and paramedics new to the system.

Limitations of the Study

There were several limitations to this study. The first limitation was the study's methodology. Phenomenological research is often viewed as less desirable because it is based on the participants' ability to communicate (Moustakas, 1994). I believe that the participants understood the demographic survey, workplace satisfaction activity, and semistructured interview questions. Participants were allowed to ask questions to ensure understanding of the type of information desired for the research study. Additionally, throughout each interview, I asked clarifying or probing questions to ensure that I had accurately understood the participants' responses to the interview questions.

Another limitation associated with the methodology was that the findings derived from this fire department may not be applicable to all other fire departments thereby limiting the generalizability of this study to fire departments nationwide. Although lead paramedic status is unique to this county, paramedic shortages are common issues for fire and EMS agencies (Snyder, 2019). The Bureau of Labor Statistics (BLS) cited paramedic and EMT job growth to be much higher than average compared with other job sectors (BLS, 2019).

Researcher bias was also a limitation because of my familiarity with the participants, though this proximity could be viewed as a benefit to this study rather than a

drawback. My previously established rapport with participants likely made them more comfortable sharing their experiences.

Additional limitations were the terms of the city and fire department union contracts. These contracts impacted the hygiene factor of "salary and benefits" because the union negotiates the pay scales and incentive bonuses for ambulance-personnel, and it governs financial negotiations for related services such as hazmat and water rescue. Such an arrangement positions the union-represented EMS staff members within the collective hands of the bargaining unit rather than a position of self-determination for individual negotiations.

The last limitation was based on participant demographics. Ninety percent of the participants had 11 or more years on the job. This may have contributed to significant skewing in reports of lived experiences by those with departmental longevity when examined against the reported lived experiences of new hires and with less tenure in their roles.

Recommendations

There are several recommendations for further research derived from the results of my study. Participants discussed several important areas that should be researched on their own, and these areas will be considered at a deeper level for postdoctoral research. The following recommendations for further research include:

- an evaluation of the chase car policy;
- an evaluation of the department's policies to prevent and treat PTSD among paramedics and other personnel;

- interviews with the significant others of the department paramedics to evaluate the impact of the job on home life;
- reinterviewing the participants six months after the departure of the current fire chief; and
- evaluation of the fire department's policies in connection with the department's cancer study.

The first recommendation for further research is an evaluation of the chase car policy at the 1-year mark. Throughout my research, participants were divergent in their thoughts about the policy: Some of the participants though that it was a good policy, some of the participants thought that it could be a good policy, and some thought that it was a poor policy. Those who considered it a poor policy expressed concerns over patient care, increased workloads for fire engines, and lack of pay for lead paramedics who still had to transport patients with the ambulance on certain calls even when assigned to fire engines. Two participants recounted witnessing instances wherein patients received a lowered standard of care because of the chase car policy. Evaluation of the chase car policy should include interviews with those assigned to the ambulances, the chase cars, and leads assigned to the fire engines. It should also investigate and include information about any adjustments that had to be made during the chase car's first year in operation.

A second recommendation for further research entails an independent evaluation by qualified health practitioners of department paramedics for PTSD. Unrecognized burnout coupled with a potentially ineffective critical incident response program may be career limiting for paramedics and unsustainable for the municipality due to qualified

staff turnover rates. Participants shared personal stories of suffering PTSD but reported being fearful of asking for help. The culture of retaliation and threats has permeated the department because of well-known stories of personnel requesting help only to be threatened with limited duty pending psychiatric evaluation. Such administrative tactics have resulted in employees being forced to leave the department on disability funded via the state's firefighter pension. A fire department employee related that in the last five years, four firefighters have left the department because of PTSD. Participants also reported that battalion chiefs had confided that they had been directed by administration to never force an employee to go home after a traumatic call because the department would have to pay the employee for time off instead of the pay being deducted from the employee's sick or compensation time. In 2015, according to the EMS chief, research related to PTSD was conducted for this fire department by a doctoral student. The results of said research are unknown to me.

Further research could be conducted to study the impact that the lead paramedic job has on the family members of lead paramedics. Three out of the five (60%) former lead paramedics reported that being a lead paramedic had had a negative impact on their personal life and had contributed to their divorces. Four out of five (80%) nonlead paramedics reported that the anticipated impact that lead paramedic jobs might have on their family members was a reason for not obtaining or not seeking their lead status. Participants reported that it was important to have a significant other who understood the demands of the job as well as the toll it could take on a person. Despite the limited sample, this was a profound finding worthy of significant review and investigation.

A fourth recommendation for related research would be to reinterview all of this study's participants six months after the departure of the present fire chief. The current fire chief announced his intended retirement via email in May of 2019 with an effective date of January 3, 2020 (see Appendix G). This email was obtained through a freedom of information request (see Appendix H). When previous head fire chiefs left their positions, there resulted substantial personnel turnover within most of the administrations. With new administration likely comes policy revision and new policy creation, the impacts of which would benefit from evaluations following their implementations.

My culminating recommendation for future research is an evaluation of the department's response to recommendations set forth in the Firefighter Cancer Action Plan, released October 13, 2016. The plan included a review of my selected local Indiana fire department's policies, equipment, and stations, coupled with recommendations to help reduce the risk of cancer for employees. I retrieved this document through a freedom of information request (see Appendix I). This cancer study was mentioned by three of the participants. These participants expressed concern about the heightened risk of cancer for firefighters, not only on fire scenes but also with chemical exposures at the fire stations. Just as concerning to these participants was the lack of response from the department to the recommendations outlined in the document. Recently, the department incurred two line-of-duty deaths attributed to brain cancer, highlighting the absolute necessity of these protective measures.

Implications

My research may contribute to positive social change related to job satisfaction in the emergency services field at the local level, the community level, and the national level. The local level includes my selected local northern Indiana fire department. The community level includes the citizens of and visitors to both the city and county that are served by the paramedics from the selected local Indiana fire department. The national level encompasses all fire and EMS agencies in the United States.

The first level of positive social change starts at the local fire department. Policy changes that address the challenges described by the participants could mitigate the paramedics' workloads. Policy changes and management style changes could prevent future undesirable experiences similar to those shared by this study's participants. These changes could have a constructive impact on paramedic burnout, PTSD incidence, patient care, training outcomes, and relationships with administration. These changes, in tandem with drafting and revising policies so as to place greater focus on employee wellbeing, could enhance the attractiveness of the fire department relative to other EMS agencies, thereby promoting both paramedic retention and recruitment. This positive social change could immediately impact over 270 current department personnel.

The second level of positive social change is the community level, which includes the citizens and visitors to the areas served by the department's ambulances. The decline in the number of lead paramedics has forced the fire department to operate nonlead and advanced level ambulances, which can result in a lowered standard of patient care and a lengthened response time for lead paramedic care. All citizens and visitors should be

receiving a best standard of care that includes the department's optimally trained care providers and its most expeditious response times. Addressing unmet hygiene factors could boost lead paramedic recruitment and retention, which in turn, could enable the department to ensure an equally robust and optimized level of care and response across all of its service areas.

The last level of positive social change is national and covers all fire and EMS agencies across the United States, as well as their respective national, state, and local EMS governing agencies. My study findings could be used as a foundation for research by other agencies wherein paramedic retention, job satisfaction, and recruitment have become compromised. For example, the state of Michigan, a state proximal to the geographic catchment area of my research, has experienced a greater than 70% decline in new paramedics during the last three years (Snyder, 2019). High turnover, work conditions, and low pay rates are contributing to this issue (Snyder, 2019).

Conclusions

When hygiene factors are not adequately addressed through policy changes by public safety agencies, job satisfaction suffers. The hygiene factors not being met at my selected local Indiana fire department are rooted in lead paramedic policy and cultural disrespect for this position. The most straightforward answer to the issue could be to simply eliminate the lead paramedic policy, but the results of this study have shown that the issue is far more complex than just a lead paramedic policy alone. The participants in this study have a multitude of propositions for policy creation purposed to eliminate the diminishing numbers of lead paramedics and bolster the level of care provided to the

citizens of this locale. The study participants wish to share their ideas and synthesize a solution. Paramedics may not leave the fire department because of their motivation to garner a government pension, but they will find other venues for personal job satisfaction when the department stops listening to them.

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Appendix A: Response to Request for Community Partnership Agreement

From: [redacted]
Subject: Response to request for community partnership agreement
Date: July 20, 2018 at 2:46:31 PM EDT
To: Christine E Peterson [redacted]

Dear Ms. Peterson,

Thank you for your continued interest in working with the [redacted] Fire Department (the "[redacted]FD"), and for sharing information regarding the research study that you have proposed to conduct using [redacted]FD personnel. Based on an email that you sent to Assistant Chief [redacted] on June 26, 2018, it is my understanding that you desire to complete a study to "research the decline in lead paramedics from 2007 to 2017 using the hygiene factors of Herzberg's Motivation Theory." In addition, you have requested that the [redacted]FD enter into a "community partnership agreement," which is required by Walden University's Institutional Review Board in order for your project to proceed.

As I stated to you by email on July 17, the [redacted]FD is not willing to enter into an agreement for this research project. In particular, the [redacted]FD disagrees with your thesis that there has been a decline in lead paramedics within the department over the past ten years. The [redacted]FD also recognizes that based on your thesis, your proposed study seems designed to identify and explore employee dissatisfaction within the [redacted]FD, which, even with the best intentions in mind, could have the adverse effect of actually promoting dissatisfaction where it doesn't now exist. More importantly, inquiring into employee morale is a function that is properly reserved for the department's administration and the City's Human Resources staff.

Finally, Mr. [redacted] has informed me that you reached out to him directly regarding this issue, and that you made the representations that: (1) the [redacted]FD was in full cooperation with this project until you received my response on Tuesday, (2) the City of [redacted] has an "open research policy," and (3) the department would remain anonymous throughout this process.

Please allow this response to speak to each of these points in turn: (1) the [redacted]FD did not manifest its cooperation with or approval of this project prior to my response to you on Tuesday; (2) the City has no such policy, but instead reviews and makes independent decisions on all proposals to collaborate on projects such as this one based, in part, on the potential impacts that such proposals may have on the City's internal operations and the residents of [redacted]; and (3) the City cannot remain anonymous in your research study while at the same time entering into a publicly-accessible community partnership agreement with you (or Walden University). Any such agreement would be subject to Indiana's public access laws.

The [redacted]FD greatly appreciates the work that you have provided in your role as [redacted], in furtherance of the Affiliation Agreement that the City maintains with [redacted], and for the personal time that you have spent working with firefighters in the department. However, I regret to inform you that the [redacted]FD remains firm in its decision not to enter into a

community partnership agreement for your research project.

Thank you for your understanding. I wish you well in your future endeavors.

[redacted]
Fire Chief
[redacted] Fire Department
[redacted]
[redacted]

[redacted]
[redacted]

Appendix B: Public Records Request 1

PUBLIC RECORDS (APRA) REQUEST
CITY OF [redacted]

Name of Requesting Party: Christine Peterson

Address: [redacted] | City: [redacted] | State: [redacted] | Zip: [redacted]

Telephone: [redacted] | Date of Request: 1/13/16 | Time of Request: 12:00 PM | Submitted: ☐ In Person ☑ Mail, Email or Facsimile

Email of Requesting Party: [redacted] | Signature of Requesting Party: Christine Peterson

Name of Department having records (if known) i.e. Police, Building, Fire/EMS, Public Works: Fire/EMS

Records Requested. Please be specific. Use the back of form if additional space is needed.

Full department budget 2005-2015

Overtime budget 2005-2015

EMS overtime budget 2005-2015

Check one: I request to ☐ INSPECT or ☒ BUY copies of the records requested.

********** DEPARTMENTS MUST SUBMIT REQUESTS TO THE **********
LEGAL DEPARTMENT [redacted] ON THE DAY OF RECEIPT

CITY OF [redacted] USE ONLY

Request Received By	Department	Date and Time Received

Acknowledged Receipt (Legal Department use only)
☐ Email ☐ Telephone

Department Comments

ATTORNEY DECISION

INFORMATION IS _____ DISCLOSABLE INFORMATION IS NOT DISCLOSABLE _____

Attorney Comments and Instructions _____

Attorney Signature _____ Date of Decision _____

Letter sent (Date) Decision Sent To Date By

Informed requesting Party that information is _____ DISCRETIONARY DISCLOSURE or _____ NON-DISCLOSABLE

Date Signature ☐ In Person ☐ By Telephone ☐ By Email

Appendix C: Recruitment Flyer

YOUR OPINION IS VALUABLE.

SHARE IT TO AID IN A RESEARCH STUDY.

Are you currently employed by XXFD and were you a paramedic for XXFD at anytime between 2007 and 2017?

Are you willing to share your experiences with a graduate student from Walden University during a 45-60 minute interview session?

If you answered **YES** to these questions, you may be eligible to participate in a lead paramedic research study.

Please contact Christine Peterson at (574) 876-0771 or Christine.young2@waldenu.edu for more information.

Title: Effects of Herzberg's Hygiene Factors on Fire Department Paramedics
Student Researcher: Christine Peterson, MPA
Walden University School of Public Policy and Administration
Dissertation Chair: Steven A. Matarelli, PhD

Appendix D: Letter of Cooperation

[redacted] M.D.
EMS Medical Director
[redacted]
Co-Medical Director
[redacted] County EMS Committee
[redacted]

October 9, 2018

Dear Christine Peterson,

Based on my review of your research proposal, I give permission for you to recruit for the study entitled *Effects of Herzberg's Hygiene Factors on Fire Department Paramedics* within the [redacted] EMS educational sessions. As part of this study, I authorize you to recruit for potential participants during six monthly quality improvement sessions over a 90-day period. An individual's participation will be voluntary and at his/her own discretion.

I reserve the right to immediately withdraw this authorization if circumstances change.

I understand that neither you nor anyone else involved in this project will name [redacted] County EMS Committee in the doctoral project report that is published in Proquest.

I confirm that I am authorized to approve recruitment for research in this setting. However, neither [redacted] nor the [redacted] County EMS Committee is participating in this research.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,

[redacted] MD
EMS Medical Director
[redacted]
Co-Medical Director
[redacted] County EMS Committee
[redacted]

Appendix E: Demographic Survey and Workplace Satisfaction Ranking Activity

Demographic Survey

How long have you been employed at the fire department?

0-5 years ☐ 6-10 years ☐ 11+years ☐ Prefer not to say ☐

Please check the box for **EACH** EMS certification, license, or designation that you currently hold or have help in the past (You may mark more than one option).

EMT ☐ Advanced ☐ Paramedic ☐ Lead Paramedic ☐

How long were you an EMT? Advanced? Paramedic? Lead Paramedic?

EMT	0-5 years ☐	6-10 years ☐	11+years ☐
Advanced	0-5 years ☐	6-10 years ☐	11+years ☐
Paramedic	0-5 years ☐	6-10 years ☐	11+years ☐
Lead	0-5 years ☐	6-10 years ☐	11+years ☐

Are you currently or have you ever been employed with another EMS agency?

Past ☐ Present ☐ None ☐ Prefer not to say ☐

How many head fire chiefs have been in charge during your employment with the fire department?

0-3 ☐ 4-6 ☐ 7+ ☐ Prefer not to say ☐

How many EMS chiefs have been in charge during your employment with the fire department?

0-2 ☐ 4-6 ☐ 7+ ☐ Prefer not to say ☐

How many paramedic shift captains have been in charge during your employment with the fire department?

0-2 ☐ 4-6 ☐ 7+ ☐ Prefer not to say ☐

Workplace Satisfaction Ranking Activity

Workplace satisfaction factors cannot make a person satisfied with their job but can make them dissatisfied with their job.

Rank each workplace satisfaction factor in order of importance to you. 1 being the most important to you and 8 being the least important to you.

___Salary & Benefits
___Work Conditions (Call Volume; Scope of Practice; and Station and Equipment Availability,
Quality, and Safety)
___Personal Life
___Policy and Administrative Practices (City and Department Policies)
___Supervision (Relationship with supervisors and communication)
___Interpersonal Relations
___Job Security
___Status (Status of being a paramedic)

Now rank each workplace satisfaction factor in the order that you feel are best met at your job to workplace satisfaction factors that you feel are least met at your job with the fire department. 1 being the best met and 8 being the least met.

___Salary & Benefits
___Work Conditions (Call Volume; Scope of Practice; and Station and Equipment Availability,
Quality, and Safety)
___Personal Life
___Policy and Administrative Practices (City and Department Policies)
___Supervision (Relationship with supervisors and communication)
___Interpersonal Relations
___Job Security
___Status (Status of being a paramedic)

Appendix F: Interview Questions

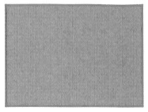
1. What, in your opinion, is the single biggest EMS change at the department since 2007 or since you joined the department if after 2007?
2. What, in your opinion, are the biggest challenges to EMS at the department?
3. Has your workload changed since you joined the department and, if so, how has it changed?
4. Has equipment availability, quality, and safety changed since you joined the department and, if so, how has it changed?
5. Has the scope of practice for your certification/licensure changed since you joined the department and, if so, how has it changed?
    a. How have those changes affected you?
6. Have city and department policies changed since you joined the department and, if so, how have these changes affected you?
7. Has your benefit package and salary changed since you joined the department and, if so, how have these changes affected you?
    a. Should benefit packages be changed and, if so, how?
8. Has your personal life changed since you joined the department and, if so, how has it changed?
9. How would you describe your relationship with your supervisors?
10. How would you describe your relationship with your coworkers?
11. Has your feeling of job security changed since you joined the department and, if so, how has it changed?

   a. What is your current feeling of job security?

12. Has the status of being a paramedic on the department changed since you joined the department and, if so, how has it changed?
    a. How has this change affected you?
    b. What is your current feeling of status as a paramedic for the department?
13. Have you considered dropping your lead status?
    a. Why have you considered dropping your lead status?
    b. Why have you not considered dropping your lead status?
    c. Why did you drop your lead status?
14. Have you ever felt dissatisfied with your job and, if so, when and why? Refer to hygiene ranking activity.
15. What policies do you feel need to be addressed/changed and how?
16. How do you believe the department can increase "Lead" medic retention?
17. What is your single biggest recommendation to improve "Lead" medic retention?

Thank you for your participation in this Interview. Is there anything else you would like to add?

Appendix G: Resignation Letter



From the Fire Chief's Desk
5/23/2019

All [redacted]FD personnel,

In the spirit of full transparency, I would like to inform all [redacted]FD members of some changes in Administration in the coming year. After 8 years of serving as your Fire Chief, I will be retiring from the department, with my last working day being January 3, 2020. This decision is personal, and much thought and consideration went into it.

Additionally, Assistant Chiefs [redacted] and [redacted] will be retiring on January 2nd and 3rd respectively. With the new Mayor and probably 5 new Common Council members in January, there will be a significant adjustment period for the Administration.

There is still a lot of work to be done. I appreciate the culture of continuous improvement that you have all embraced. It is important to me that there is a seamless transition over the next 7 months to set up the next Chief and Administration for success, so we will have a transition plan in place to make that happen.

Serving as the Fire Chief for our department has been the highlight of my career. I thank each and every one of you for the support that you have provided me in this role over the past 8 years and I look forward to making the next 7 months our best yet.

Best regards,

[redacted]
Fire Chief

Appendix H: Public Records Request 2

PUBLIC RECORDS (APRA) REQUEST
CITY OF [redacted]

Name of Requesting Party: Christine Peterson			
Address: [redacted]	**City:** [redacted]	**State:** [redacted]	**Zip:** [redacted]
Telephone: [redacted]	**Date of Request:** 8/17/19	**Time of Request:** 0930	**Submitted (check one):** ☐ In Person ☒ Mail, Email or Facsimile
Email of Requesting Party: christine.young2@waldenu.edu	**Signature of Requesting Party:** Christine Peterson		
Name of Department having records, if known (i.e. Police, Building, Fire/EMS, Public Works): Fire/EMS			
Records Requested. Please be specific. Use the back of form if additional space is needed. E-mail from Fire Chief [redacted] to members of [redacted] FD with attachment entitled from the Fire Chief's Desk May 23 2019 in which he announces his retirement.			
Check one: I request to ☑ INSPECT or ☐ BUY copies of the records requested.			
Check one: I request to receive my records by ☐ in-person pick-up; or ☐ REGULAR MAIL; or ☑ EMAIL; or ☐ FAX			

***** SUBMIT REQUESTS TO THE LEGAL DEPARTMENT [redacted] *****

CITY OF [redacted] USE ONLY

Request Received By:	Department:	Date and Time Received:
Acknowledged Receipt: ☐ Email ☐ Telephone ☐ In Person Acknowledgement Form		
Department Comments:		

ATTORNEY DECISION

INFORMATION IS _____ DISCLOSABLE **INFORMATION IS NOT DISCLOSABLE _____**

Attorney Comments and Instructions: _____

Attorney Signature: _____ **Date of Decision:** _____

Letter sent (Date): _____ **Decision Sent To:** _____ **Date:** _____ **By:** _____

Informed requesting Party that information is _____ DISCRETIONARY DISCLOSURE or _____ NON-DISCLOSABLE

Date: _____ **Signature:** _____ ☐ In Person ☐ By Telephone ☐ By Email

Appendix I: Public Records Request 3

PUBLIC RECORDS (APRA) REQUEST
CITY OF [redacted]

Name of Requesting Party: Christine Peterson			
Address: [redacted]	City: [redacted]	State: [redacted]	Zip: [redacted]
Telephone: [redacted]	Date of Request: 8/17/19	Time of Request: 1200	Submitted (check one): ☐ In Person ☑ Mail, Email or Facsimile
Email of Requesting Party: christine.young2@waldenu.edu	Signature of Requesting Party: Christine Peterson		
Name of Department having records, if known (i.e. Police, Building, Fire/EMS, Public Works): Fire/EMS			

Records Requested. Please be specific. Use the back of form if additional space is needed.

Copy of Firefighter Cancer Action Plan completed on October 13, 2016 by Firefighter Cancer Consultants.

Check one: I request to ☑ INSPECT or ☐ BUY copies of the records requested.

Check one: I request to receive my records by ☐ in-person pick-up; or ☐ REGULAR MAIL; or ☑ EMAIL; or ☐ FAX

*** SUBMIT REQUESTS TO THE LEGAL DEPARTMENT [redacted]) ***

CITY OF [redacted] USE ONLY

Request Received By:	Department:	Date and Time Received:

Acknowledged Receipt:
☐ Email ☐ Telephone ☐ In Person Acknowledgement Form

Department Comments:

ATTORNEY DECISION

INFORMATION IS _____DISCLOSABLE INFORMATION IS NOT DISCLOSABLE _____

Attorney Comments and Instructions: _____

Attorney Signature: _____ Date of Decision: _____

Letter sent (Date): Decision Sent To: Date: By:

Informed requesting Party that information is _____ DISCRETIONARY DISCLOSURE or _____ NON-DISCLOSABLE

Date: Signature: ☐ In Person ☐ By Telephone ☐ By Email