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AN EXAMINATION OF FACTORS INFLUENCING

RETENTION OF VOLUNTEER FIREFIGHTERS

IN THE COMMONWEALTH OF PENNSYLVANIA

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ABSTRACT

In the Commonwealth of Pennsylvania, nearly 90% of all firefighting personnel are volunteers. These volunteer emergency services organizations not only provide the invaluable service of public safety, but also produce a significant cost savings for local municipalities. The number of people who volunteer in Pennsylvania's fire companies has been on a steady decline for the past several decades. The Pennsylvania Department of Community and Economic Development (DCED) tracked the number of volunteer firefighters from the period of 1976 to 1995 and estimated that the number of volunteers dropped from 300,000 to 70,000. The State Fire Commissioner reports that the number is closer to 50,000 today. Literature on this subject is mostly oriented toward the causes of the volunteer decline. In the study reported here, the researcher utilized semi-structured interviews, observations, and document reviews to collect pertinent data. A qualitative research methodology was selected in order to obtain "thick, rich data" as compared to the previous data collected by surveys. The researcher examined if existing firefighter retention strategies are working, how they can be improved, and discusses possible new strategies to enhance the effort of volunteer fire company administrators. During the interview process, the researcher was able to reinforce some of the previous data regarding attrition, especially in the areas of time requirements, leadership, and internal conflict. Further, in relation to study's framework, it was identified that the vast majority of motivational techniques being employed by volunteer fire company leadership were extrinsic in nature. The researcher summarizes the data, makes conclusions, and offers recommendations at multiple levels of government.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE

INTRODUCTION

Every day across Pennsylvania, the fire siren blows and pagers activate calling volunteer fire companies into action. It may be to respond to a building fire, but more commonly for motor vehicle accidents and emergency medical incidents. The list of incidents that fire companies mitigate is ever expanding as is the training required to respond to these new types of incidents.

Over the past several decades a decrease in the number of volunteers has been conspicuously visible. Pennsylvania State Fire Commissioner Ed Mann reports that in 1970, there were over 300,000 volunteer firefighters in the state, but that number has dropped to below 50,000 today. Nationally, 70% of fire companies are staffed by volunteers (NVFC, 2012), but in Pennsylvania's roughly 2,300 fire companies, 95% are staffed by volunteers. In Pennsylvania, 61% of fire companies reported having problems with insufficient volunteer firefighters being available during the workday (D'Intinio, 2006).

In addition to the obvious public safety concerns that come from a lack of volunteers, such as delayed response to incidents and insufficient manpower to accomplish all required tasks, there is also a significant economic impact looming. Those municipalities that can no longer provide fire protection through the use of a volunteer force will have to begin supplementing or replacing the volunteers with career firefighters (Brudney & Duncombe, 1992). A recent economic consideration that has begun to be investigated is the economic implications of the reduced staffing caused by the lack of volunteers or career members arriving on the scene in a timely manner. Kreis (2013)

theorizes that the delay in putting sufficient members on the fire ground allows the fire to consume more of the structure than if an adequate force arrived in the same amount of time.

The volunteer fire service is a tight-knit organization. Rarely does an event go by where the topic of membership doesn't come up. Through the researcher's experience instructing fire service students across the Commonwealth, there is a set of repeating problems tagged to firefighter attrition. The problems that are identified below, are not an exhaustive list, but are the most common identified during observations and represent those problems identified by the United States Fire Administration (USFA, 2007), a section of the Federal Emergency Management Agency (FEMA).

The Problem

Time Demands

The most prominent reason provided by former volunteer firefighters for leaving the fire service is demands on their time. Many families are now considered "two-income", either due to both partners working or one of the partners working multiple jobs. In the case of both partners working, the possibilities of the lack of childcare and the need to share household chores arise. If one partner is required to be at home to provide for children, or increasingly the elderly, while the other partner is working – volunteering becomes a hardship (Atkinson & Wildermuth, 2013). In homes where both partners work, time must be found for household requirements to be completed. For those residences where the there is a sole earner working two jobs, there is little to no time for this individual to volunteer (NVFC, 2010). There is also a potential for family conflict brought on by the time requirement of volunteer emergency service providers. In addition

to the time demands taking volunteers away from their families, the additional issues of critical incident stress and poor leadership add to the stress that can cause family conflict (Cowlishaw, Evans, & McLennan, 2010).

As volunteers' available time decreases, unfortunately, the need to allot time for training is increasing. As the role of the fire service expands, so does the need to train to safely and efficiently to respond to new types of incidents. The National Fire Protection Association (NFPA) publishes standards which drive training requirements. In the Commonwealth of Pennsylvania, the Pennsylvania State Fire Academy builds training programs from the NFPA standards. Although, there is no legal requirement in Pennsylvania to serve as a volunteer firefighter, most fire departments adopt the fire academy's current training programs. At the current time, entry-level firefighter training is over 150 hours in length.

There has been a steady increase in the number of incidents that volunteer firefighters are dispatched to. Volunteer firefighters are no longer limited to just fire suppression activities, but are responding to a much wider array of emergencies across their jurisdictions. These calls include motor vehicle accidents, hazardous material incidents, confined space rescue, high-angle rescue, trench rescue, and structural collapse rescue. It is also common in Pennsylvania to also use the fire service to provide public service following significant weather events. Fire companies often find themselves pumping rain water from basements and cutting trees that are downed by wind across roadways.

In addition to time spent responding on incidents and training, there also needs to be time to complete administrative requirements and raise funds. There is an increasing

amount of mandatory reporting taking place. In order to participate in some grant programs, fire companies need to complete detailed reports for each incident they respond to. A house fire report may take over an hour to complete. Injuries and fatalities add a significant amount of time to complete the reports. Typically, monthly meetings take place at which minutes need to be written and later transcribed. During these meetings, financial disbursements are also approved, so a member must provide follow through on these items. Fund raising continues to be a large time commitment for the volunteers. Across the Commonwealth, fire companies are responsible for various expenditures based on the classification of municipality that they serve. For those departments that must purchase their own apparatus, it may take a significant number of years to save the hundreds of thousands of dollars that even basic fire apparatus cost.

Training Requirements

Although Pennsylvania does not have any legal training requirement to participate as a volunteer firefighter, the federal government does impose many training requirements upon both volunteer and career firefighters. The first federal mandate was imposed by the Environmental Protection Agency (EPA). These regulations required that those responding to confirmed or potential releases of hazardous materials had to be trained to a level specific to their response capacity. The majority of Pennsylvania's fire companies respond in a defensive fashion only. The subsequent training program recognized by the State Fire Academy to meet this federal regulation is 24 hours in length. The regulation also requires that the firefighter attend an annual refresher course that is six hours in length.

Following the events of September 11, 2001, the President issued a directive requiring all emergency responders to undergo training in the National Incident Management System (NIMS). The amount of training required is directly tied to the position that the person holds in the overall response structure. Every member who responds on an incident must be certified to the 100-level. This course is only a few hours in length and can be completed online or in a classroom. It is an introduction to NIMS and simply serves to get everyone to communicate using the same terminology. If a volunteer desires to serve as a company-level officer, they are required to obtain 200-level NIMS training. This class is also several hours in length and can be completed online or in a classroom setting. Volunteers wishing to serve as a chief or assistant chief, must complete levels 300 and 400 in a classroom. These classes are 24 hours and 16 hours, respectively.

As the public demand grows for their fire companies to provide a more diverse set of services, training requirements also grow. Hazardous materials technician training, which is the training required to respond to a leak or spill in an offensive fashion, is offered anywhere from 40 to 80 hours in length. Technical rescue capability is currently the buzz word in the fire service. To reach technician-level in any of the subspecialties of technical rescue at least 40 hours of training is typically required. For those fire companies who also provide Emergency Medical Services (EMS), the basic Emergency Medical Technician (EMT) course is over 150 hours in length. EMT certification also requires recertification every three years through continuing education credits.

There is also a small percentage of firefighters in the Commonwealth who feel that they do not need to participate in training. This small contingent do not believe that

volunteer firefighters need to be trained the same level as career firefighters. While volunteers may not respond to as many incidents as career departments, the same dangers exist for both volunteers and career members (Catino, 1994).

Increasing Call Volume

Pennsylvania's volunteers continue to prepare for and respond to an ever widening range of incidents. The fire department's roles are not usually as clearly defined as those of the police and public works departments of a municipality. As articulated above, the fire service has assumed the lead role in motor vehicle accidents, hazardous materials response, and technical rescue challenges. The Center for Rural Pennsylvania (2013) reported that both large and small fire companies experienced a statistically significant increase in incidents during the period 2001 to 2012.

The fire service is increasingly being requested to assist EMS with many types of incidents. Fire service assistance is often required when the patient is obese or located far from the street. In Pennsylvania, ambulances are only required to respond with a total of two personnel. When a medical emergency exceeds the ability of these two ambulance personnel, the fire service has become the "go to" agency.

As technology improves and building codes expand, many buildings are now being constructed or retrofitted with automatic fire alarm systems. As with any alarm system, false alarms will occur. Many of these alarm systems are tied directly to the dispatch-point for the emergency services and generate a fire service response immediately upon alarm receipt. This increase in call volume consumes additional volunteer time and provides for wear on the apparatus which consumes precious funds, which often need to be raised, to fund maintenance and repairs.

Changes in Nature of Service

Decades ago, the fire department responded to nothing but emergencies. They are increasingly being requested to non-emergency incidents by the general public. The possibilities are endless, but result in abuse of the volunteers' time and equipment.

The history of Pennsylvania's volunteer fire companies is rich with tradition. The local fire station was often a community's social hub. There were many social aspects that accompanied being a volunteer firefighter. This social aspect has been increasingly disappearing as time restraints and training requirements continue to chip away at the number of volunteers (Perkins, 1989).

Sociological Condition Changes

The issues of transience, loss of community pride, and employer support are all social changes that may play parts in volunteer attrition. The workforce has become more transient in recent years. They move where the work, and hence, the money is. If employees are apt to be transferred or are aware of a potential move for promotion, they are less likely to engage in volunteer firefighting or other community activities.

Fire companies have long served as an object of community pride. The provide community moral integration and territorial definition (Simpson, 1996). The global market is slowly eroding smaller communities and is also eroding their volunteer services such as volunteer fire companies.

The labor market has impacted the availability of volunteers. At one time, most employers allowed employees who served as firefighters to leave the workplace to respond to emergencies. Some even continued to compensate the volunteer for the time spent away from work. This generosity has nearly disappeared in the Commonwealth and

led to a law to protect volunteers who may be late to work due to responding to an incident.

Leadership Problems

Another of the "major" issues that volunteers who attrite report is the lack of leadership and intercompany politics in the fire company (Antonellis, 2014). The definition of poor leadership is poorly defined by the volunteers and ranges from true lack of leadership to simple inability to coordinate tasks.

It has been a long standing problem in the fire service that officers lack the necessary training to assume such roles. In the absence of proper leadership preparation, the new officers and chiefs frequently rely solely on authoritative power and management styles.

In several parts of the Commonwealth, fire companies have the same chief for several decades. As described in previous sections, the volunteer fire service is ever evolving to meet community demands. Chiefs who have been in power for long terms also need to be able to manage change, both from within and outside of the fire company.

Legislation and Regulations

At the federal level, volunteer firefighters continue to be legislated and regulated to the point that they no longer wish to serve. Aside from the regulations and Presidential Directive addressed in the training requirements section, there have been other federal regulations that continue to negatively impact the ability to retain volunteers.

The Occupational Safety and Health Administration (OSHA) created a ruling that in order for interior fire suppression to begin, there must be at least four firefighters on scene. Only two of these firefighters may engage in interior firefighting, while the

remaining two firefighters must stand-by in the event the first two require rescue. This has become known as the "2 in, 2 out" rule.

The EPA has promulgated regulations regarding the use of acquired structures to train firefighters. The amount of inspections and potential remediation of certain building materials, have made it very costly and preparation intensive. In Pennsylvania, Bucks County Community College, the largest provider of fire training, has elected to no longer participate in the burning of acquired structures for training.

Combination Departments

Across the Commonwealth, there are several combination fire departments. These are departments that have both career and volunteer firefighters. Inevitably, problems arise between the career and volunteer ranks (Silva, 2001). Historically, in Pennsylvania, combination departments don't survive long. The volunteers attrite and only career members remain. Unfortunately, many municipal leaders do not research the effect of combination departments on volunteer members.

Housing Costs

A growing problem in the volunteer fire service is the ability for people who wish to volunteer to afford to live in the community they wish to serve. This shortage of volunteers has been seen in municipalities that are home to a large college or university. In Pennsylvania, several fire companies who are facing this dilemma have started "live-in" programs where young people with the desire to serve may live for free in the fire station in return for a certain amount of service to the fire company.

Aging Communities

Certain areas of the Commonwealth, such as the "coal region", have become economically stagnant. Due to lack of jobs and economic growth, young people leave seeking better opportunities elsewhere. This creates less of a body of young people to recruit volunteers from. This exodus also drives the mean age higher and contributes directly to an increase in calls for EMS assistance.

Internal Conflict

Conflict between leadership and the rank and file was introduced above. There is also frequently conflict between peers at all levels of the organization. The creation of "cliques" is nothing new to a Pennsylvania firehouse. In many smaller communities, the same families have controlled individual stations for years. New members or new ways of doing things are not typically welcomed.

Significance of the Study

There are two significant issues that this study may contribute to reducing or eliminating. First, Pennsylvania has an increasing threat to public safety as our volunteer firefighter cadre continues to shrink. Many fire departments are finding it hard to field sufficient suppression forces for anything but minor incidents. The problem often becomes worse during the daylight hours when most volunteers are at their places of employment are unable to leave to respond to incidents.

The second significance of this study is the impact that the decline in volunteer firefighters will have on municipalities who must resort to combination or career fire departments. "If every local government in Pennsylvania had to convert to a paid

firefighting force, it would cost an estimated $6 billion," Senator Lisa Baker said in a statement.

Research Questions

This study will address two research questions which will guide the collection and analysis of data needed to satisfy the aforementioned problem being researched:

1. What procedures and processes are Pennsylvania fire companies using to reduce attrition of volunteer firefighters?

2. What intrinsic and extrinsic motivational factors can be adapted into fire company policies and procedures to curb attrition of volunteer firefighters in Pennsylvania?

Limitations

This study has several possible limitations. First, a limited number of research-based studies on the subject of volunteer firefighter attrition exist to inform this study. In these studies, retention was often coupled with the issue of volunteer recruitment. Although the terms *recruitment and retention* are often used together, and the former may impact the latter, the focus of this study is on retention alone. Further, existing literature has a national, rather than state specific, scope. The current study examined volunteer firefighter attrition in depth within one geographic area in Pennsylvania.

Secondly, the study participants that are being interviewed were knowledgeable only of the policies and procedures of their respective companies and maybe those immediately adjacent, which are not representative of the entire Commonwealth. Data is not generalizable to all 67 counties in Pennsylvania.

Thirdly, every effort will be made to insure confidentiality of the data collected so the participants are not likely to be identifiable. Many fire companies have developed retention tactics that are unique to their organization.

Finally, this study did not include the Emergency Medical Services (EMS) that may coexist with some volunteer fire companies. EMS requires significantly different training and responds to a much larger volume of incidents, the majority of which are not fire or rescue related.

As a last note in this section, the researcher has been a volunteer firefighter in several different fire companies, and he has observed a decline in volunteers. This experience influenced his decision to conduct research on this issue. Steps were taken throughout this study to keep this experience from influencing the results of the study. Further information is found in the Researcher Background section in Chapter 3.

Definition of Terms

Multiple terms may require clarification in respect to this study.

Competence: Seek to control the outcome and experience mastery (White, 1959).

Relatedness: The universal want to interact, be connected to, and experience caring for
   others (Baumeister & Leary, 1995).

Autonomy: The universal urge to be causal agents of one's own life and act in harmony
   with one's integrated self; however, this does not mean to be independent of
   others (Deci & Vansteenkiste, 2004).

Intrinsic motivation: The desire to participate without external inducement. (Malone &
   Lepper, 1987).

Extrinsic motivation: Motivated by external factors, as opposed to the internal drivers of

intrinsic motivation. Extrinsic motivation drives people to do things for tangible

rewards or pressures (Lepper, Greene, & Nisbett, 1973).

Assumptions

The researcher assumed that all of the volunteer fire service members interviewed

during this study provided proper characterization of their roles and the roles of their

affiliated fire companies in the retention of volunteer firefighters in the Commonwealth

of Pennsylvania. It is further assumed that they will answer all questions honestly and

are, indeed, are also committed to finding answers to their specific retention problems.

Lastly, the researcher selected the semi-structured interview process to provide for the

mining of data on the current state of retention practices in the Commonwealth of

Pennsylvania.

Theoretical Framework

This study utilizes the self-determination theory (SDT) as its framework. SDT is a

theory of motivation in regards to peoples' inherent tendencies and psychological needs

(Deci & Ryan, 2002). The theory was created by Edward L. Deci and Richard M. Ryan,

both of the University of Rochester. Their research began in the 1970s and originated

with comparing intrinsic and extrinsic motives and especially how intrinsic motivators

play a dominant role in an individual's behavior (Lepper, Greene, & Nesbit, 1973). SDT

was formally introduced in the mid-1980s and has been used increasingly in different

areas of social psychology.

SDT is described as a meta-theory designed to frame studies of motivation. It

contains a basic theory defining intrinsic and various extrinsic sources of motivation and

the roles they play in social development. The SDT also addresses how specific factors

can facilitate or undermine a person's motivation. The SDT contains five mini-theories: Cognitive Evaluation Theory (CET), Organismic Integration Theory (OIT), Causality Orientations Theory (COT), Basic Psychological Needs Theory (BPNT), and Goal Contents Theory (GCT). Each of these mini-theories are a result of phenomena observed during previous research of motivation.

Self Determination Theory

SDT is based on the belief that humans display ongoing positive features and repeat effort and commitment in their day-to-day lives. SDT refers to these features as "inherent growth tendencies". SDT lists three innate needs that facilitate optimum individual growth: Competence, relatedness, and autonomy (Figure 1).
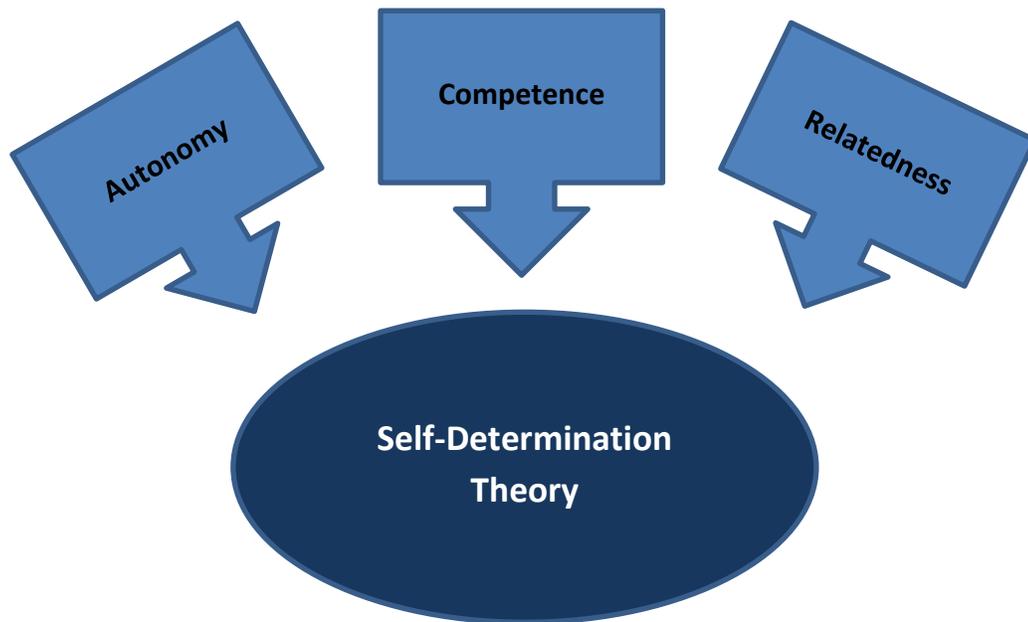
Figure 1. Three inherent growth tendencies identified in the self-determination theory. Adapted from "Differentiating Autonomy From Individualism and Independence: A Self-Determination Perspective on Internalization of Cultural Orientations, Gender, and Well Being," by V. Chirkov, R. Ryan, Y. Kim, and U. Kaplan, 2003, *Journal of Personality and Social Psychology, 84*, 97-110.

These needs are viewed as necessities that are innate to an individual. They are not learned. They are also universal across time, gender, and culture (Chirkov, Ryan, Kim, & Kaplan, 2003). Deci and Vanstennkiste (2004) identified three essential components of the basic theory component of the SDT:

1. Humans are inherently proactive with their drives and emotions.

2. Humans also have an inherent tendency toward growth.

3. Optimal development are inherent, but not automatic.

Deci and Ryan (2000) describe SDT as an organismic dialectical approach that begins by assuming people have tendencies toward growth, overcoming challenges, and incorporating new experiences into their sense of self. Ryan and Deci (2000) continue that these tendencies are not "automatic", but require social support. An individual's social environment can either help or hinder their engagement and growth, hence the dialectic moniker.

Mini-Theories

The SDT encompasses five mini-theories that have resulted from earlier research on the topic of motivation. Each mini-theory relates to a single facet of motivation or personality.

Cognitive evaluation theory (CET). The CET focuses on the autonomy and competence components of the larger SDT while examining how intrinsic motivation is impacted by external stimuli (Deci & Ryan, 1985). CET provides three proposals to explain how events affect internal motivation.

First, events that provide for greater competence (perceived or actual) will

increase intrinsic motivation, while events that diminish competence will decrease intrinsic motivation. Secondly, events that are relevant to initiation or regulation of behavior have three potential outcomes:

1. An amotivating aspect creates perceived incompetence, hinders intrinsic motivation, and causes disinterest.

2. Informational aspects provide for perceived competence and promote intrinsic motivation.

3. Controlling aspects creates a perceived causality which negatively impacts intrinsic motivation and may cause defiance.

The third proposal offers that events differ in personal significance and, therefore, have a different impact on individuals. Events that are informational support the self-determination function and increase intrinsic motivation. The pressure on an individual due to a perceived controlling event undermines intrinsic motivation as does amotivating events that create the perception of incompetence (Deci & Ryan, 1985).

Organismic integration theory (OIT). The OIT focuses on extrinsic motivation. OIT lists four types of extrinsic motivators as they relate to autonomy:

1. *Externally regulated behavior*, the least autonomous, is performed due to demand or reward (deCharms, 1968).

2. *Introjected behavior regulation* is described as accepting regulations although not fully personally accepting of those regulations.

3. *Regulation through identification* occurs when the individual values a regulation or goal and accepts it as important.

4. *Integrated regulation*, the most autonomous, occurs when the regulations are fully integrated with the individual and become part of the individual's self-evaluation or beliefs.

Causality orientations theory (COT). The COT describes how differences between individuals tend to cause them to migrate toward specific environments and situations. The theory proposes three orientations:

1. *Autonomous orientation* relates to the meeting of basic needs.

2. *Strong controlled orientation* relates to feelings of relatedness and competence, but not autonomy and decreases a person's well-being.

3. *Impersonal orientation* occurs when a person fails to meet the needs of autonomy, competence, and relatedness.

Basic psychological needs theory (BPNT). The BPNT states that autonomy, competence, and relatedness are all essential for an individual's psychological well-being. In the BPNT, Deci and Ryan categorize autonomy, competence, and relatedness as "psychological nutrients" and explain that a lack to fulfill any of those needs will result in a loss of motivation.

Goal contents theory (GCT). The GCT relates to the distinct difference between intrinsic and extrinsic goals and the impact of them those goals on motivation. Kasser and Ryan (1996) divided peoples' long term goals into two categories. Intrinsic aspirations are those goals that seek affiliation and personal development. Extrinsic aspirations are broad goals like beauty, money, and fame.

Chapter Summary

This chapter introduced us to the problems associated with the retention of volunteer firefighters in the Commonwealth of Pennsylvania. Pennsylvania's problem is no different than other states that rely on volunteers for the majority of its firefighting forces. Municipalities are having great difficulty recruiting and retaining volunteer firefighters and cannot financially support the alternative of a combination or career department.

There are nearly a dozen common causes that have been the basis of recruitment and retention efforts. Among them, time demands, training requirements, a changing social environment, and leadership problems figure prominently. Many of these problems are exacerbated by a lack of knowledge and training to overcome them by the fire company leadership. Precious training time is spent on providing emergency service and not necessarily leadership and management techniques.

This study is being conducted to address those problems that can be remedied by proper leadership using a recognized social theory. This study seeks to identify what procedures are currently being used to curb the attrition of volunteers and which of those procedures are meeting the intrinsic and extrinsic needs of the volunteers.

This study will utilize the Self-Determination Theory (SDT) as its theoretical framework. SDT is a meta-theory designed to frame studies of motivation. It contains a basic theory defining intrinsic and extrinsic sources of motivation and the roles they play in social development. The SDT also encompasses five mini-theories that have resulted from earlier research on the topic of motivation.

CHAPTER TWO

REVIEW OF THE LITERATURE

This chapter will review the relevant literature that exists on the national and state levels in regards to volunteer firefighter retention and its role in public safety and local economics.

United States Fire Administration

The most significant contribution of literature regarding the recruitment and retention of volunteer firefighters was prepared by the United States Fire Administration (USFA) in May 2007. The text addresses both challenges and solutions to recruitment and retention issues. Although the text is intended for a national audience, it does state that the northeast is experiencing the greatest decline in volunteers because of the high number of volunteer firefighters found there. Pennsylvania, New York, New Jersey, and Delaware have all experienced a significant decline.

Challenges

The challenges presented in the USFA text were previously introduced in Chapter One. Time demand has consistently been the largest challenge. Volunteers are often expected to train, attend meetings, fundraise, and maintain their quarters and apparatus, in addition to responded on emergency incidents. The increase in the number of two-income families has impacted the ability of wage earners to volunteer.

Many potential volunteers find that the initial training required simply does not allow for them to remain active in the fire company. There has been a steady increase in training demands placed on volunteers. The adoption of national consensus standards, such as the NFPA, and the increasing roles of fire companies in their communities are

creating increasing time demands. Because of the lack of volunteers in fire companies as compared to the past, companies are forced to have members take on more work than their predecessors.

The requirement for fire companies to participate in mandatory reporting, either at the federal or state level, takes considerable time. Because of the constant potential of litigation, documentation of mundane tasks also has to be undertaken. Many companies track both formal and informal training, complete with rosters and signature sheets.

In Chapter One, increased training requirements were discussed briefly. What used to be learned "on-the-job", is now taught to new members through a formal training program, usually using a commercially-prepared curriculum that meets NFPA standards. In Pennsylvania, the entry-level firefighter program is now over 150 hours in length and is delivered in four modules. Prohibiting new firefighters from participating until they complete this program has been listed as a cause of attrition.

For those fire companies who provide Emergency Medical Services (EMS), the additional training required by the United States Department of Transportation to serve as an Emergency Medical Technician (EMT) can exceed another 150 hours. Advanced EMT and Paramedics can take 250 to 1000 hours, respectively. EMS providers are also required to complete continuing education credits to maintain certification.

There has been a documented increase in the number of times that fire companies are being dispatched. The public has demonstrated a greater reliance on both the career and volunteer service. Some credit this to poor education of the public on when to dial 911 or other emergency numbers. Volunteers are dealing both with an increase in automatic fire alarms, due to technology issues and building code enforcement, and an

increase in requests for EMS. In urban areas, many people use EMS as their access point to medical care mainly because they cannot transport themselves to a medical facility.

Through the continued improper use of EMS, volunteers may feel they are being abused by the public. The same feeling may occur after responding on automatic fire alarms to the same address time and time again. This causes volunteers to become apathetic and lack the desire to respond to these type incidents.

The social aspect of the volunteer fire service is also in peril. It is the desire for the social interaction that drives many people to join the volunteer fire service. Because of economic hardships, companies that once housed social clubs or pool rooms, have been closing these perks. Time demand also plays a role in the social component of the firehouse. With extraordinary time being committed to incident response and training, less time is available to form friendships or socialize with the other members. If a firehouse still has a social club, members need to commit time to its operation. Often, it is the same members doing the majority of the work.

The USFA text brought another new public safety issue to light. The spread of "big box stores" has driven many small "main street" stores out of business. The net result of this replacement is an overall loss of employees and with a smaller workforce, the lack of willingness to allow any employees to leave to respond to incidents. The new stores are often not as engaged in community affairs as the smaller stores were.

Leadership issues continue to be one of the largest challenges to retention that volunteer fire companies face. Effective leaders directly and indirectly aid in retaining members. Leadership issues may be as simple as lack of given direction or as complex as failing to manage change. New members may become frustrated if they are not assigned

a mentor or given direction as to the company's expectations, especially in regards to training requirements. Many new fire officers rely solely on the authoritarian management style. These types of leaders are often cited as reasons for attrition. In theory, volunteers in general desire to have ownership and a sense of contribution to the fire company.

Fire companies, like any other public service, are going to experience change. In recent years, companies that have undergone consolidation that was not well-managed have lost a significant number of members. Members who attrite during change events report not having had open communication about the process.

Internal conflict continues to be an impediment to retention. This can occur between the company officers, between members, or between the leadership and members. When the company officers squabble, the resulting tension in the company often causes members to leave. Similar tension between members drives members away also. In combination departments, there is frequently tension between the career staffing and the volunteers.

Retention Strategies

The USFA (2007) provides several strategies to improve retention. The text lists four characteristics essential in volunteer retention strategy:

1. The program must meet the needs of the individual members.

2. The program must provide rewards and recognition.

3. The program must provide leadership.

4. The program must challenge members.

As previously stated, the lack of leadership is a frequent complaint among volunteers who attrite. It is the leadership's responsibility to make the volunteer experience constructive and satisfying. The text points out leadership skills are not simply acquired, but need to be learned and practiced. It is also discussed that the leadership is responsible for setting rules, regulations, and by-laws.

Among strategies suggested for leadership issues is to utilize all members of the department to their individual potential. For example, if a member is an accountant in their public life, they may be suited to serve in a financial capacity in the fire company. This division of labor allows for members to develop a sense of ownership. The leaders must be careful with strategy as some people join the volunteer fire service to escape their everyday job. This pitfall can be avoided by allowing members to choose what project they would like to be part of or what position they would like to hold in the company.

The USFA (2007) text provides for a brief introduction to management styles but is careful to differentiate between management on the fire ground and management in the station. On the fire ground there is no time to exercise any form of democratic management style due to immediate nature of the need to make decisions that will impact the outcome of the fire. Fire ground management can be likened to a military operation. It follows a strict chain of command. Management in the fire station is another story. Former volunteers have shared that they would have like to have been part of the decision making process. This does not, however, mean that there is no structure to the leadership. The USFA recommends operating similar to the NIMS in that projects can be assigned to

groups. The leader needs to remain in tune with these groups and provide guidance and coordination with other groups.

Effective leaders need to solicit feedback from the members. Many companies host roundtable-type meetings annually to air concerns. Without careful moderation, these meetings can turn into a forum for members to complain versus being constructive. An example provided in the USFA (2007) text describes one companies "Four C's" meeting where they discuss the following items:

1. Compliments – What are we doing right?

2. Convictions – What is our vision?

3. Concerns – What can we improve?

4. Comments – What else do we need to address?

Another frequent point of contention in the volunteer fire service is the tenure of the fire chief. Most volunteers feel that insufficient criteria exist for their selection and that many are elected purely based on popularity and not ability. Since leadership is a leading cause of attrition, former members felt that potential chiefs should have reached some minimum qualification such as NFPA 1021 Standard for Fire Officer Professional Qualifications.

Due to the decline in volunteers, it has been noted that members are reaching the rank of fire chief at a much earlier age than in the past. The knowledge and experience needed to be effective in this position cannot be learned in a short time. The USFA recommends that companies create minimum training and experience requirements and utilize an election process that is free from bias.

While much discussion takes place regarding the selection of the fire chief, it is equally important that the other officers of the company be similarly trained and experienced for the positions they desire. At this level (captain, lieutenant, etc.), these positions are often filled based on the members technical capabilities on the fire ground and not their administrative or managerial prowess.

The lack of training to become a chief or other company officer is a common problem. The same time demands discussed earlier apply to the officers also. There are opportunities provided by the National Fire Academy (NFA) to participate in the Volunteer Incentive Program (VIP).

Among the common management programs reported by former volunteers, the lack of communication is cited by the majority. Poor communication breeds the creation of wrong information and its dissemination. Quality communication will reduce the number of rumors being circulated. Former members also report quitting over policies and procedures that were never clearly defined. It is important the company information follow the reverse chain of command. The chief informs the officers and the officers inform the members. This communication does not need to be verbal. There are many means of passing it along such as newsletters and emails.

Communication must be two-way. Simply passing information down the chain of command is not adequate. Chiefs and officers need to be equally skilled as listeners. Chiefs need to be actively engaged in listening and demonstrate an interest in what is being shared.

Department or company image is another important role of the leadership. Companies with sound reputations find it easier to maintain members. On multiple

occasions, members have left organizations after their image has been tarnished. This typically happens from within and involves financial improprieties. The USFA makes several recommendations to promote a good image:

1. Instill pride in the company uniform.

2. Train in places visible to the public.

3. Provide fire prevention and other safety education.

4. Keep the fire apparatus clean and quarters squared away.

5. Promote the economic benefits of a volunteer firefighting force.

6. Promote the company through social media.

7. Improve the company's customer service ability.

8. Keep the municipal leadership informed and engaged.

Another possible solution to shrinking volunteers is to diversify the company's membership. This diversification can take on many faces. Companies that house both fire and EMS services may elect to cross-train members in order to supplement both sides of the roster. This cross-training should be voluntarily and only to levels desired by the participating members.

One of the biggest untapped resources for volunteer personnel is women. Women have demonstrated their ability to perform to the standards, but currently constitute only 4% of the total volunteer firefighting force in the nation. The USFA estimates that there is an estimated 32,000 women volunteers. With the exception of the need for different restroom and shower facilities, and properly cut protective clothing, female members should not be treated any differently than the male contingent.

It has been noted that fire companies often have a difficult time retaining minority members because of a lack of cultural or religious knowledge. In order to recruit and retain minority members, the leadership must become aware of the differences and sensitivities of these groups. The most prominent example of this issue is that of Mennonite volunteers insisting on retaining their beards while wearing breathing apparatus which is not compliant with many respiratory protection standards due to the inability to create an airtight seal between the mask and face. This has been tested in court and the Mennonites were permitted to keep their beards, but release and hold harmless the fire company from any injuries or deaths that occur from not following the standards.

Volunteer fire companies, especially those in close proximity to a metropolitan career fire department, may tap into the pool of retired firefighters. These members would not necessarily take on fire suppression duties, but may be of great assistance in administrative or training capacities. Similarly, non-firefighters could also be recruited to provide administrative support services such as accounting, fundraising, and station maintenance. This would be similar to the ladies' auxiliary of the past.

A current hot topic is that of consolidation. Consolidation is when two or more fire companies merge to some degree to help boost manpower and provide combined savings. The USFA references two consolidations that occurred in Pennsylvania. Both created financial savings and increased operational capacity. Consolidation, however, has also been voted down in many municipalities in Pennsylvania.

Of particular interest, or in this case dismay, to the researcher is the USFA (2007) section on motivation research in the fire service. It is provided on a single page and

contains only basic information. It is important that we understand each member's personal motivation for joining the volunteer service and that we have one-on-one conversations with members to remain contemporary of their needs. In addition to verbal discussions, the text also recommends written surveys or questionnaires.

Many volunteers seek to be appreciated for their service. This is especially prevalent in the younger generations. Former volunteers often cite a lack of recognition as part of the reason for their leaving. Recognition can take on many forms and need not be expensive. Recognition, however, on its own, will not satisfy all members.

Throughout the country, incentive programs have been put in place. Incentives can be monetary, such as direct stipends or tax credits. Many companies provide uniforms or clothing based on the number of incidents members respond to. This strategy also aids in improving company pride and promoting a sense of belonging. Length-of-service awards have also received favorable opinions. Something as simple as a lapel pin earned every few years helps serve the members need for recognition.

Lastly, the USFA (2007) discusses the "fun factor". In those companies who lack a social club, an alternate means of promoting the social aspect of the fire service needs to be provided. Regular parties, whether tied to specific holidays or historical events, offer opportunities for members and their families to gather and enjoy each other's company. Another way of introducing "fun" into the volunteer fire service is through the use of training. Scenarios used during training can easily be turned into friendly competition with small rewards. The use of training to introduce fun into the volunteer fire company is increasing important in companies with a large volume of incidents.

National Volunteer Fire Council

The National Volunteer Fire Council (NVFC) is a nonprofit membership

organizations that serves as an advocate for the volunteer fire service and its members.

The NVFC also maintains significant demographic data of volunteers.

Volunteer Profile

The NVFC (2012) released the Volunteer Fire Service Fact Sheet. This document

was intended to provide a general picture of the current state of the volunteer fire service

across the nation.

The Fact Sheet provides detailed data that supports other literature stating that the

average age of volunteer firefighters is increasing (Tables 1 and 2) and that the number of

volunteers is decreasing as their call volume is increasing (Table 3).

Table 1

Age of Volunteer Firefighters by Community Size in 1987

Community Size	Under Age 30	Age 30-39	Age 40-49	Age 50 and Up
10,000 - 24,999	33.00%	33.80%	20.60%	12.60%
5,000 - 9,999	35.80%	32.40%	19.10%	12.70%
2,500 -4,999	34.60%	32.50%	19.30%	13.60%
Under 2,500	29.70%	33.50%	20.90%	15.90%

Adapted from "Volunteer Fire Service Sheet," by the National Volunteer Fire Council (2012).

Table 2

Age of Volunteer Firefighters by Community Size in 2010

Community Size	Under Age 30	Age 30-39	Age 40-49	Age 50 and Up
10,000 - 24,999	27.40%	28.90%	25.00%	18.70%
5,000 - 9,999	31.50%	25.70%	22.70%	20.20%
2,500 -4,999	29.00%	26.50%	22.90%	21.60%
Under 2,500	23.70%	24.50%	23.10%	28.70%

Adapted from "Volunteer Fire Service Sheet," by the National Volunteer Fire Council (2012).

Table 3

Number of Volunteer Firefighters and Total Incidents from 1986 to 2010

Year	Number of Volunteers	Total Incidents
1986	808,200	11,890,000
1987	816,800	12,237,500
1988	788,250	13,308,000
1989	770,100	13,409,500
1990	772,650	13,707,500
1991	771,800	14,556,500
1992	805,300	14,684,500
1993	795,400	15,318,500
1994	807,900	16,127,000
1995	838,000	16,391,500
1996	815,500	17,503,000
1997	803,350	17,957,500
1998	804,200	18,753,000
1999	785,250	19,667,000
2000	777,350	20,520,000
2001	784,700	20,965,500
2002	816,600	21,303,500
2003	800,050	22,406,000
2004	795,600	22,616,500
2005	823,650	23,251,500
2006	823,950	24,470,000
2007	825,450	25,334,500
2008	827,150	25,252,500
2009	812,150	26,534,500
2010	768,150	28,205,000

Adapted from "Volunteer Fire Service Sheet," by the National Volunteer Fire Council (2012).

The National Volunteer Fire Council (2010) released a white paper regarding volunteer firefighter training. Training continues to be identified as a problem or challenge among the volunteer fire service. The NVFC identified three general areas that volunteer fire companies report as major challenges to training: Time constraints, resource constraints, and leadership.

Time Constraints

Using data from the United States Census, the NVFC has determined that in rural areas, where most volunteer fire companies are located, they are experiencing an increase in the average age. This is attributed to younger people moving to more urban areas, especially for employment opportunities. Of the younger people that remain, they are often impacted by longer commute times that take away from available training time.

More and more fire companies are adopting national consensus standards, such as those produced by the National Fire Protection Association (NFPA), as their training requirements. This adoption is also being undertaken to avoid liability in an ever increasing litigious society. In the absence of laws governing firefighter training, the courts have accepted NFPA standards as best practice.

This has created hardships for volunteers who do not have the time to engage in such lengthy programs. Most of these same volunteers hold full-time employment outside of the fire service. This leaves only nights and weekends available to attend training programs. In those communities with a high number of shift workers, the problem is exacerbated due to the need to provide training at multiple times in order to accommodate the entire membership.

The NVFC (2010) white paper also touches, however briefly, on the possibility of distance learning being incorporated into the training programs. This would allow more flexibility for members to obtain the classroom portions of courses at their convenience and reduce or eliminate travel time and expenses.

Resource Constraints

Needs assessments show that volunteer fire companies are having trouble purchasing contemporary equipment and meeting current training costs. Many fire companies do not have the financial means to train their members to the standards of the NFPA or other national consensus standards.

The NVFC advocates for fire companies to share in training expenses, similar to the relationships between companies for mutual aid during major incidents. Sharing the overhead costs reduces the per-member cost for training program tuition.

The NVFC also urges volunteer fire companies to participate in federal, state, and local grant programs to help defray training costs. At the national level, the largest source of funding for the fire service is through the Assistance to Firefighters Grant (AFG) program. This program offers competitive grants that are awarded directly to the individual fire companies. These grants are for the purchase of apparatus and related emergency equipment, but the grant criteria requires fire companies to train their personnel to NFPA standards.

The white paper is critical of format in which some states provide for firefighter certification. Many states, including Pennsylvania, do not allow the course instructor to serve as the certification evaluator also. The NVFC feels that the elimination of this requirement would provide easier access to certification to national standards.

Federal funding for firefighter training is typically dispersed to contractors or to state emergency management agencies (EMA). These agencies have demonstrated the ability to deliver programs to the volunteer fire companies in their respective states. This is how the National Incident Management System (NIMS) was delivered following the events of September 11, 2001 per Presidential Directive.

Leadership

The NVFC (2010) contends that although consensus standards are created at the national and state levels, it is the local leadership that ultimately decides on what standards and to what extent their members will undertake. If the leadership doesn't support the standard(s), it is unlikely that the fire company will adopt it.

Many of the fire service leaders today, both career and volunteer, joined the fire service when the majority of training was delivered informally through the local fire companies. This has led to many chiefs being opposed to the formality of consensus standards. Likewise, many of these same chiefs also resist being required to pursue professional certification at this point in their membership. The adoption of standards has also been worrisome for some chiefs who feel that the continued increase in training requirements makes it harder to recruit and retain firefighters.

The Center for Rural Pennsylvania

The Center for Rural Pennsylvania is a bipartisan legislative entity that serves the Pennsylvania General Assembly as a resource on rural policy. The Center was created in 1987 by the Rural Revitalization Act.

Recruitment and Retention

A report titled *Volunteer Firefighter Recruitment and Retention in Rural Pennsylvania* was prepared for the Center through a grant (D'Intinio, 2006). This report was prepared following literature review, interviews with fire officials and firefighters, and a survey of firefighters.

During the interviews of 41 state fire officials from 32 different states, there is overall agreement that the fire service is experiencing a decline in volunteer availability, especially on weekdays. Among the decreasing volunteerism, the officials also report issues regarding training, funding, and line-of-duty death benefits. Pennsylvania does provide a death benefit and many companies supplement the benefit.

All of the fire officials interviewed also confirmed that volunteer firefighters would like recognition. The officials also reported that financial incentives have not been as successful as non-financial perks in regards to motivating volunteer firefighters. These officials, however, feel that fire service-related costs may affect the desire to volunteer.

The interviewed officials reinforced that leadership issues continue to plague the volunteer fire service. In Pennsylvania, state fire officials reported that recruitment and retention are problems in rural areas across the entire Commonwealth. These state officials also state that volunteers are often spending more time fundraising than time spent training.

During the firefighter interviews, 90% reported that they would continue to volunteer. A majority also reported that they had the support of their family and tied this directly to the social activities of the fire company. Eighty one percent of those that took

the survey were satisfied with the leadership of their fire company. They added that communication is an important factor in determining leadership.

The report (D'Intinio, 2006) recommended the following policy considerations to the Pennsylvania General Assembly:

1. Establish a statewide fire service information management system. It was recommended that this system be administered by the State Fire Commissioner.

2. Consider the regionalization of Pennsylvania's volunteer fire companies.

3. Provide state coordination between fire companies and their municipalities.

4. Provide grant writing assistance to volunteer fire companies to receive more funding.

5. Provide funding to emergency services who serve limited access highways.

6. Make additional training opportunities available to firefighters and officers.

7. Establish a statewide recruitment effort.

8. Incentives should be determined by those receiving them.

Pennsylvania Firefighters

The Center for Rural Pennsylvania partnered with the Pennsylvania Fire and Emergency Services Institute (PFESI) to conduct a mail survey of fire chiefs across Pennsylvania. This survey focused on recruitment and retention issues and also to determine the ability of their companies to meet their municipality's needs.

The survey reinforced that Pennsylvania is experiencing the same volunteer shortage that is occurring across the country. The survey provided insight into the

differences between large, mid-size, and small fire companies in the Commonwealth. In particular, smaller companies experience more difficulty in responding to calls than larger companies. Similarly, larger companies are finding it easier to recruit and retain members than the smaller organizations. There was very little difference in the strategies used by the different size companies in regards to recruitment methods.

<div align="center">**Firemen's Association State of Pennsylvania**</div>

The Firemen's Association State of Pennsylvania (FASP) released a strategic plan for recruitment and retention in September 2013 (FASP, 2013). This plan was prepared by the Volunteer Fireman's Insurance Service (VFIS) as a proposal for federal grant money to research and improve recruitment and retention efforts in the Commonwealth.

This document relied heavily on the previously discussed documents from the United States Fire Administration (USFA, 2007) and the Center for Rural Pennsylvania (D'Intinio, 2006). The FASP (2013) document contains only three pages specific to the topic retention.

The FASP reported that there are three key reasons why Pennsylvania's volunteer firefighters attrite: Time issues, demographic changes, and lack of affordable housing. It is believed that volunteers leave because they move away or simply cannot commit to the time requirements. Decreasing populations and the inability to replace members who leave or pass away are noted in this section although they are more of a recruitment problem. The FASP recommends that leadership skills be improved and training requirements not be lowered. Financial incentive programs have been determined not to be a factor in the primary motivation of members.

Pennsylvania Emergency Management Agency

A study was conducted by the Pennsylvania Emergency Management Agency (PEMA) to examine the current status of volunteer emergency services in the Commonwealth (PEMA, 2002). The intent of this study was to provide a broad picture of the volunteer services to the House of Representatives Committee on Veterans Affairs and Emergency Preparedness.

The study reports that in the past 19 years, Pennsylvania has lost nearly 230,000 volunteer firefighters and EMS providers. It is stated that recruitment is "only half the challenge" and that retention is equally important. Not all members who join the volunteer fire service desire to actively participate in fire suppression or provide emergency medical care. Many people simply want to serve as administrators, apparatus operators, or other areas that they are specifically interested in.

There is a call for the State Fire Commissioner to collect and disseminate best practices to the volunteer organizations within the Commonwealth. It is also discussed to attach a cash reward and recognition to the five best practices each year as an incentive. The retention section of the study ends with a call for partnerships between fire companies and a host of state, county, and local governmental agencies.

Self-Determination Theory in the Volunteer Setting

While volunteer firefighters may be the largest group of volunteers in the Commonwealth, there are nonetheless, hundreds of other volunteer organizations that exist across Pennsylvania. Research applicable to volunteers in general, plays an equally important role in the volunteer fire service.

Millette and Gagne (2008) conducted a field study to determine if the job characteristics model (JCM) would apply to volunteer organizations as it does to salaried organizations. The study was also designed to determine if job characteristics play a role in volunteer motivation, satisfaction, and intent to attrite. In this study, the authors use Musick and Wilson's (1997) definition of volunteerism as organized unpaid help provided to a group whom the worker has no obligation.

The literature discusses how the JCM ties to the SDT and their joint role in the study. Deci and Ryan (1985) are credited with proposing that different types of motivation underlie human behavior. For this study, intrinsic motivation was simply defined as engaging in an activity due to volunteer interest and enjoyment. Extrinsic motivation was defined as engaging in the activity for its instrumental reasons, usually a reward.

The literature states that SDT expands on extrinsic motivation by theorizing certain types of extrinsic motivators can be aligned, therefore increasing internalization. The discussion continues by delineating the types of motivation from total extrinsic to total intrinsic:

1. External regulation – engagement based on external pressures or trying to obtain a reward (Ryan & Deci, 2000).

2. Introjected regulation – partly internalized extrinsic motivation due to ego-involvement or self-worth (Wuthnow & Hodgkinson, 1990).

3. Identified regulation – engagement because activity is meaningful and valued (Losier & Koestner, 1999).

4. Intrinsic motivation – engagement because activity is enjoyable and

   interesting (Csikszentmihalyi, 1997).

The method for this study was the distribution of questionnaires to 230 volunteers

and 24 supervisors from a community clinic in a metropolitan area that helped the local

citizens by assisting senior citizens, aiding new mothers, tutoring students, and

organizing related events. Additional samples were solicited from 70 volunteers from a

similar clinic in another community. Lastly, 15 samples were added from another clinic

where the participants worked as placement counselors or receptionists. One hundred

twenty four participants responded fully to the questionnaire.

Following analysis of the collected data, it was discussed that although job

characteristics were positively related to autonomous motivation, this motivation did not

impact many of the effects of job characteristics on outcomes. It was further determined

that only intrinsic motivation was tied significantly to most of the job characteristics. The

researchers conclude by proposing that although job characteristics can be redesigned it is

likely that the change will increase both the volunteers' enjoyment and interest, it is also

unlikely to increase the volunteers' assigned meaningfulness of the work.

It is further discussed that careful job design for volunteers enhances autonomous

motivation and job satisfaction. Hackman and Oldman (1976) guidelines to improve a

job's motivating potential is referenced. These guidelines suggest that increased task

variety which provides for less monotony and creating relationships between the

volunteers, their coworkers and clients, will improve both motivation and satisfaction.

The study calls for additional research in job design and volunteer performance in relation to organizational success.

CHAPTER THREE

METHODOLOGY

The purpose of this study was to explore what, if any, factors influencing the retention of volunteer firefighters, could be changed or improved to facilitate the maintaining of adequate volunteer manpower across the Commonwealth of Pennsylvania's nearly 2,500 volunteer fire companies. The study examined how current and former volunteer firefighters viewed the current state of retention in the volunteer system and sought more definitive answers than have been obtained up to the time of this research. The existing literature, introduced in Chapter Two, reflects vague reasons that former volunteers provided during quantitative studies and the extensive use of survey instruments.

In order to dissect the generalized reasons that have been previously identified, a qualitative research approach was selected. McNabb (2002) defines qualitative research as a set of nonstatistical inquiry techniques for gathering data about social phenomena, in this case the attrition of volunteer firefighters in Pennsylvania. A basic interpretative study design was chosen. This design is the most common type of qualitative study performed and is often applied to education, administration, health, social work, counseling, and business (Merriam, 2009).

Overview of Qualitative Research

Qualitative research has been a tradition in the study of social sciences and psychology specifically. It is not based on any specific methodology or theoretical concept. In fact, qualitative research utilizes various approaches to characterize discussions and drive research practice (Flick, 2002).

Qualitative research is less concerned with the determining the cause and effect or distribution of some attribute across the population, and is more interested in the research of the phenomena for those affected by the change (Merriam, 2009). The primary concern is the understanding of the phenomena from the perspective of the study participants and not the researcher themselves. Patton (1985) describes qualitative research:

> [Qualitative research] is an effort to understand situations in their uniqueness As part of a particular context and the interactions there. This understanding is an end in itself, so that it is not attempting to predict what may happen in the future necessarily, but to understand the nature of the setting – what it means for participants to be in that setting, what their lives are like, what's going on for them, what their meanings are, what the world looks like in that particular setting – and the analysis to be able to communicate that faithfully to others who are interested in that setting…. The analysis strives for depth of understanding. (p. 1)

The researcher is the primary instrument in the collection and analysis of data (Merriam, 2009). Merriam (2009) states that researcher as this instrument allows for immediate responsiveness and adaptation to the data collection.

Merriam (2002) lists several types of qualitative research: Basic interpretive research, phenomenological research, grounded theory research, case study, ethnography, narrative analysis, critical research, and postmodern research. Basic interpretive research is interested in how the participants make meaning of the phenomena being studied.

Phenomenological research, or phenomenology, concerns itself with the breaking down complex meanings into more simple units. Grounded theory research uses inductive reasoning to create a theory that is supported, or "grounded", in the data. Case studies are defined by the use of a bounded system and concentrating only on one phenomena. Ethnography has its roots in anthropology and was designed to study human cultures. It relies upon the "lens" through which the data is interpreted and not necessarily how the data is collected. Narrative analysis, especially those of lives, is currently a popular type of qualitative research (Merriam, 2002). It uses stories and experiences as data. Critical research is concerned more with the context of the phenomena than the participants. The goal of this type of research is to critically evaluate the phenomena without corruption by our social and cultural assumptions. Postmodern research is the most recent development in qualitative research (Merriam, 2002). This type of research challenges us to abandon our norms and look at the issue from a postmodern perspective.

In regards to the selection of qualitative research type for this study, Luton (2010) states that basic interpretive design is often used in the public administration arena due to the need to learn from the employees who serve and those they serve with.

Basic Interpretive Study Design

The basic interpretive design is probably the most common type of qualitative study performed. It is based on a constructionism and focuses on understanding the meaning of the phenomena being studied (Merriam, 2002). Crotty (1998) states that meaning is not discovered but constructed by human beings as they engage with the world.

Not only are basic interpretive studies probably the most common type in general, they are also probably the most common in the educational setting (Merriam, 2009). This type of study involves the collection of data through interviews, observations, and document analysis. The creation of interview questions, what to observe, and what documents to select for analysis are all driven by the researcher's theoretical framework. Analyzing the data focuses on identifying repeating patterns in that characterize the data and findings are defined as those repeating patterns supported by the data that they are derived from (Merriam, 2009).

Research Questions

This study addressed two research questions which guided the acquisition of data needed to address the overall problem being researched:

1. What procedures and processes are Pennsylvania fire companies using to reduce attrition of volunteer firefighters?

2. What intrinsic and extrinsic motivational factors can be adapted into fire company policies and procedures to curb attrition of volunteer firefighters in Pennsylvania?

Sample Selection

For the purposes of this study, the researcher sought out persons willing to freely participate in interview process and provide artifacts that their organization uses to recruit and retain volunteer firefighters. Currently active members who volunteered to be a participant must have been currently serving in a capacity that is responsible, wholly or in part, for the retention of members in their organization. This may be fire company administrative officers such as a president or membership secretary, a line officer such as

chief or captain, or members assigned to a recruitment or retention committee. The researcher also sought out former volunteer firefighters who severed ties with the volunteer fire service and who may provide a different perspective than those currently involved. Former members must have actively served for a period of no less than one year. All interviewees must be, currently or formerly, a member in a fire company located within the Commonwealth of Pennsylvania.

The researcher did not establish a predetermined number of interview participants, but instead provided for both sufficiency and saturation. Sufficiency relates to the number of participants that are necessary to reflect the range of participants needed to create the connection of the experience to those outside of the situation or phenomena (Seidman, 2013). Saturation, in its simplest form, is when the interviewer begins to hear the same information being shared. At this point, it is considered that the interviewer will not learn anything new (Seidman, 2013). Douglas (1985) went so far as to quantify the number of interviews before saturation is reached at 25. An interviewer should err on the side of excess participants to avoid the potential lack of data collection by interviewing an insufficient number of participants. The researcher needs to also consider their resources such as time and money.

Instrumentation

As previously stated in this chapter, basic interpretive studies involve the extensive use of interviews, documents and artifacts, and related observations. The interview process was the largest component of data collection in this study and required extensive preparation prior to the interview process.

Interviewing in quantitative research is more deliberate in design than, say, journalistic interviews (Luton, 2010). B.L. Berg (2004) described quantitative interviewing as "conversation with a purpose." In the case of qualitative interviews our purpose is "to learn about something in depth from another person's point of view" (Rubin & Rubin, 2005).

The researcher selected the use of a semi-structured interview process for this study. The researcher utilized an interview guide throughout the each interview. This guide started with general data used to verify that the participant did indeed meet the requirements to participate and to provide a general picture of the participant's involvement in the retention of volunteer firefighters. The remainder of the guide included a mix of more or less structured questions. The primary questions were numbered, while possible clarifying supplemental questions were lettered alphabetically. All primary questions were asked of all participants, while clarifying questions were only asked when the primary questions answer required further delineation. This allowed for flexibility during the interview process. All questions created for the semi-structured interviews were selected based on their relation to the reviewed literature.

In addition to the interview questions in Table 4, the following was asked in order to gather background information from the interview participants:

1. Brief background of participants experience as a volunteer.

2. Participant's current role in the retention of volunteer firefighters.

Table 4

Research Questions and Open-Ended, In-Depth Interview Questions

Research Questions	Related Question from Interview Guide (Appendix B)
Research question 1. What procedures and processes are Pennsylvania fire companies using to reduce attrition of volunteer firefighters?	3) Have you or your fire company noticed the decline in the number of active volunteer firefighters? 4) What general measures have you or your fire company taken to slow or stop the attrition of volunteers in your company? 5) Have you previously implemented a reward system (cash, gift cards, clothing)? 6) If a member decides to leave your fire company, is there any follow-up? 7) Have you noticed any change in the social aspect of volunteering? 8) What is your chief's management style? 9) Does your fire company recruit non-firefighting members? 10) What training have you received specific to the retention of volunteer firefighters?
Research question 2. What intrinsic and extrinsic motivational factors can be adapted into fire company policy and procedures to curb attrition of volunteer firefighters in Pennsylvania?	11) What leadership training is available to members of your fire company? 12) Have you ever received training on the motivational aspects of retention? 13) In your opinion, what is the current state of leadership in Pennsylvania's volunteer fire service? 14) Does your company assign projects to individual members or small groups? 15) Does your fire company provide insurance beyond the required Worker's Compensation? 16) Do new members participate in a training hierarchy to develop competence? 17) What type of induction process is in place for new members? 18) What types of events does your fire company employ to create and reinforce relationships between members?

Pilot Study

A pilot study was performed during the fall of 2014. While reviewing literature, the researcher selected one of the many reasons provided by former volunteers as problematic. Quantitative studies at both the federal and state levels determined training requirements as an often cited reason for volunteer attrition.

Purpose of the pilot study. The purpose of the pilot study was to qualitatively investigate the entry-level training requirements that fire companies have put in place and to determine if they have an impact on the recruitment and retention of new members.

Statement of the problem. If the issues facing the recruitment and retention of volunteer firefighters in Pennsylvania are not researched extensively and possible solutions to these issues are not identified, I fear the future of the volunteer fire service is in jeopardy. A significant reduction in volunteers could lead to the need to organize a paid firefighting force which would cause an economic burden on most municipalities.

Literature reviewed. Previous research by the Federal Emergency Management Agency (FEMA) identified 12 main issues with volunteer recruitment and retention (FEMA, 2007). Among those these issues, training may play a large part. The root causes of trainings impact on recruitment and retention where identified as higher training standards, more time demand, and greater public expectations.

The National Volunteer Fire Council (2010) introduced a white paper, which identified 3 broad areas of concern for volunteer fire companies: time constraints, resource constraints, and leadership. The National Volunteer Fire Council (NVFC) reported that volunteers have decreasing time available for training due to increasing demands on their time due to work. They further report that fire departments are suffering

from resource constraints accredited to poor tax bases or high poverty rates. The last concern the NVFC expressed was the lack of buy-in by chief officers who were the recipients of informal training that is not consistent with today's training.

Theoretical framework. The Self-Determination Theory (SDT) was used in the pilot study. The researcher selected this theory both because it is the theory used in the overall study and it was also pertinent to this particular aspect of volunteer retention.

Methodology. The researcher selected a qualitative approach to this situation. Using the theoretical framework previously described, it is his opinion that in order to draw down and isolate reasons that individual firefighters decisions regarding staying in the fire company, qualitative research was required.

The central ideas guiding qualitative research are different from those in quantitative research. The essential features of qualitative research are the correct choice of appropriate methods and theories; the recognition and analysis of different perspectives; the researchers' reflections on their research as part of the process of knowledge production; and the variety of approaches and methods (Flick, 2002).

Pilot Study Design. The design of the pilot study followed a basic interpretive format as this was the first venture, to the researcher's knowledge, into researching this topic qualitatively. Among the many methods of qualitative research, the basic interpretive study would be considered the most common (Merriam, 2009). Other types of qualitative studies would be: phenomenological, ethnological, grounded theory, or narrative. Data for basic interpretive studies are collected through interviews, observations, and document review.

Merriam also states qualitative research is interested in how meaning is constructed, how people make sense of their lives and worlds. The primary goal of a basic interpretive study is to uncover and interpret those meanings.

Participant Selection. The selection criteria for interview participants was designed to locate individuals who have taken an entry-level firefighting program at some point in time and holds a position in a fire department that is directly involved in the entry-level training of new members. One of the participants met not only the two listed criteria, but also served on the committee to select the upcoming entry-level curriculum. This participant is also a state-certified instructor who delivers the entry-level program. The participants of the pilot study were not selected as participants in the final study.

Data Collection. The data collection for this pilot study consisted of two semi-structured interviews with participants meeting the selection criteria. An observation was performed during the roll-out of the new IFSTA curriculum at an ETA. Multiple documents relating to both past and present entry-level training programs were reviewed.

The semi-structured interview was selected to allow some flexibility during the interview, but still ensure that the main topics were identified and discussed. Following the first interview, the list of absolute questions and potential questions was revisited and expanded to achieve richer, deeper data. The data regarding individual fire company training selection and training's impact on recruitment and retention was gathered in the two interviews.

The field observation at the ETA provided a broad introduction to the new entry-level curriculum and provided comparison to the Delmar program that it is replacing in

2014. The various documents also provided detailed information on the previous training programs.

Data Analysis. The interview data was used to perform a qualitative content analysis. Flick (2002) refers to this as a classical procedure for analyzing textual material. This type of analysis relies on the use of categories. These categories are not developed from the data; they were brought through the use of the semi-structured interview to identify specific information.

Dependability strategies. Of the many strategies available to promote a dependable study, the first one utilized in this situation was triangulation. Triangulation involved the use of interviews, observation, and document review to compare and cross-check data (Merriam, 2009, p. 216). Both of the participants in the interviews, was provided with type-written transcripts to verify that the data collected was indeed what they had intended. This technique is called a member check.

Findings. Using the data display created following the interviews, observation, and document reviews, I categorized the findings into three main topics: past and present entry-level training opportunities, determination of entry-level requirements by individual fire companies, and the impact that entry-level training has on the recruitment and retention of volunteers.

Past and Present Entry-Level Opportunities

- Fundamentals of Firefighting (45 hours)

- Essentials of Firefighting (88 hours)

- Delmar Entry-Level Program (144 hours)

- IFSTA Entry-Level Program (140 hours)

Determination of Entry-Level Requirements by Fire Company

- Rely on current PA State Fire Academy entry-level program

- Rely on alternate entry-level format (Bucks CCC, company-specific, etc.)

- Base entry-level training on types of responses encountered

Entry-Level Training Impact on Recruitment and Retention

- Decreasing number of volunteers across the Commonwealth

- New members do not understand the requirements prior to joining

- Existing members unable to complete lengthy programs (work, family, etc.)

It should be immediately noted that the Commonwealth of Pennsylvania does not have any requirement of law mandating entry-level training for fire service personnel. However, the Pennsylvania State Fire Academy has provided such training since the middle of the 1900s through their myriad of Educational Training Agencies (ETAs).

The Pennsylvania State Fire Academy is located in Lewistown, Pennsylvania. While the facility is home to many fire training programs, the entry-level courses are delivered by state-approved instructors who are contracted through an ETA. The ETAs are mostly community colleges located throughout the Commonwealth. By far, the busiest ETA is the Bucks County Community College. Bucks provides local-level fire training in all 67 Pennsylvania counties, throughout the county, and at military installations around the globe.

The instructor cadre consists of experienced firefighters from across the Commonwealth and in neighboring states. Each entry-level instructor must hold certification to the National Fire Protection Association (NFPA) Firefighter 2 and Fire

Instructor 1 standards. They must also have completed the first two courses in the Structural Firefighting series at the State Fire Academy or be a graduate of a career fire academy.

The Pennsylvania State Fire Academy has not always provided the curriculum for an entry-level program. The earliest program that either of my interviewees could recall was the Fundamentals of Firefighting course. This course was 45 hours in length and delivered at your local fire house. The State Fire Academy provided a short document called a Minimum Standard of Accreditation (MSA) for each program. It provided the expected learning outcomes, but contained no substantive curricula. The Fundamentals of Firefighting course was the entry-level program that was used in the early to mid-1980s. Because no comprehensive curriculum existed, the actual content that was delivered from fire company to fire company had the possibility of being very different. Also during the period of time, instructors where required to create their own audio-visual materials such as slides and overhead projections.

In the mid-1990s, the State Fire Academy rolled out the Essentials of Firefighting course. This course was 88 hours in length and was met with much push-back from fire companies across the Commonwealth. It nearly doubled the prior course requirements. While this course provided both increased breadth and depth to the prior course, it still lacked a unified curriculum. It was guided by an MSA only, so again, the possibility of different information being delivered was highly likely.

Following the September 11, 2001 tragedy, and using funds from the Department of Homeland Security (DHS) generated by this event, the Pennsylvania State Fire Commissioner saw an opportunity to provide a statewide curriculum for the first time. By

incorporating a curricular component on anti-terrorism, the Commissioner was able to use DHS funding to have Delmar publishing prepare a curriculum package and Pennsylvania-specific textbook. Every existing State Fire Instructor who was accredited to teach the entry-level program was given the opportunity to upgrade to the Delmar program. The Commissioner provided for roll-out sessions across the Commonwealth. Each instructor was provided an entire curriculum package, PowerPoint slides, textbook, and study guide. For the first time in Pennsylvania, instructors where teaching from the same page. When the Delmar program rolled-out, it was 144 hours in length.

All good things must come to an end. The Delmar publishing group decided that it was getting out of the emergency services business. It would no longer produce the materials needed to deliver the program beyond 2013. The State Fire Commissioner assembled a group of fire service instructors representing the various ETAs to review and select a new provider of an equal or superior curriculum. The review process took over one year. The committee eventually settled on the entry-level program curriculum available through the International Fire Service Training Association (IFSTA). This training organization is headquartered at the Oklahoma State University. The committee also took into consideration the ever present complaints of the program length. The IFSTA program comes in only 4 hours less than the Delmar program.

Determination of Entry-Level Requirements by Fire Companies

During the interviews and document review, it was found that fire companies select different entry-level training programs for new members. Most volunteer fire departments are utilizing whatever entry-level program that the PA State Fire Academy is providing via the ETA network.

Both of the interview participants' fire departments utilize the Delmar program and will be transitioning to the new IFSTA curriculum in 2014. During the interviews, the reason stated for selecting the fire academy program was that it meets NFPA 1001, Standard on Firefighting Professional Qualifications. In the absence of a law, this document would be considered the "standard of care".

Because of the outcry that resulted when the Essentials of Firefighting program (88 hours) ceased, and the Delmar program (144 hours) came into effect, some ETAs created their own entry-level curriculums. For example, Bucks County Community College responded with their Bucks Basic Fire Academy program. It was less than144 hours, but was still based on NFPA 1001. It is the most popular program in southeast Pennsylvania according to state-specific trade journals.

Other departments elect to custom make their own specific entry-level program. One department in south central Pennsylvania designed an entry-level program taking into account that because of the decline in volunteers, especially during the day, their members needed to perform tasks individually as compared to with a partner or team.

Entry-Level Training Impact on Recruitment and Retention

Both the previously cited resources and both interview participants, report that entry-level training has had a negative impact on their recruitment and retention efforts. Both interview participants reported that new members did not fully comprehend the amount of training required before they ever set foot on a fire apparatus. Once faced with this reality, some simply decided not to stay.

Both interview participants also reported that some new members, who were truly interested in remaining, could not complete the entry-level programs due to work, family, or other commitment.

Discussion. It appeared to this researcher that entry-level firefighter training in the Commonwealth of Pennsylvania is at the discretion of the individual fire company. These companies may choose to use the curriculums available from the PA State Fire Academy, an abbreviated program from one of the existing ETAs, or create a custom program specific to their needs.

Over the last half century, the Commonwealth has seen the length of the entry-level program coming out of the PA State Fire Academy increase dramatically. In 2014, the entry-level program will be over three times the length of the program in 1985. This increase in instructional hours has had a negative impact on the recruitment and retention of new volunteers, which is only exacerbating an already dire decline in volunteers. Of interest, and widely publicized at the end of year, the number of annual firefighter deaths and injuries in Pennsylvania has not changed dramatically with the increase in training hours.

It may be time that the Fire Academy and the ETAs work together to develop a curriculum that is realistic in length. Once that is achieved, they could further work to provide content in multiple ways. Approximately 40% of the entry-level curriculum is provided by direct delivery in the classroom. Maybe a trial of online learning is in order. Maybe new members need the flexibility to work on the didactic content at their leisure and only bring them together for clinical instruction.

Data Collection

The success of this study depended greatly on the quantity, and more importantly, the quality of data collected. As noted earlier in this chapter, basic interpretive studies rely on interviews, observations, and document reviews. The researcher expanded his search for documents to include online resources through routine search engines.

Interviews

A semi-structured interview process was utilized. Semi-structured interviews allowed for more flexibility during the interview process (Merriam, 2009). The majority of a semi-structured interview is guided by a list of prepared questions to be explored, but provides for the use of secondary or clarifying questions to provide for "deep" understanding of a particular issue.

Observations

Observations take place in the setting where the research topic or phenomena is actually occurring (Merriam, 2009). Observation also allows the researcher to observe first-hand how the phenomena occurs versus the second-hand description provided during interviews. Observers, like interviewers, need to be skilled. Patton (2002) lists observer training as learning to pay attention, learning how to write "descriptively", practicing the recording of field notes, and knowing how to separate detail from trivia.

Document Review

Documents are a ready-made source of data that is easily accessible to investigators (Merriam, 2009). Types of documents that were reviewed included public records such as fire company records and manuals, government documents, and mass

media. In the case of members who attrite from the volunteer fire service, they may be in possession of private or personal documents such as letters and scrapbooks.

Data Analysis

This section concentrates on the analysis of interview data as it is second-hand data not observed directly by the researcher. Following data checks for internal and external validity (discussed in the next section), the interview data was coded in order to identify characteristics.

Coding is the process used to identify components of the interview that describe an attribute that the researcher desires to learn and expand upon. This may be a word or short phrase that assigns a summative, salient, attribute to a portion of the transcript data (Saldana, 2013).

Coding took place in two cycles. The first cycle utilized descriptive coding, which is considered an elemental method of first cycle coding. Descriptive coding assigns a label to data based on its topic. Descriptive coding may also be referred to as topic coding. The process of descriptive coding provides for a word or phrase, most often a noun, to be assigned to a transcript passage. Tesch (1990) reports that it is important that the assigned codes identify a topic and not just an abbreviation of the content. The topic is what was talked about versus being the substance of the message. Descriptive coding can also be used to code field notes from observations, documents, and other artifacts collected.

The second cycle of coding provided for reorganization and reanalyzing the data coded during the first cycle. The goal of the second cycle was to provide for categorization of the first cycle codes. This study utilized pattern coding as the second

cycle. Pattern coding develops a "meta-code", or labels that identify similarly coded data from the first cycle (Saldana, 2013). Pattern coding is a method of grouping previous cycle into a smaller number of constructs (Miles & Huberman, 1994, p. 69).

Internal Validity and Reliability

The first step in providing for validity and reliability was to ensure that the study is completed ethically (Merriam, 2009). Firestone (1987) stated, "The quantitative study must convince the reader that procedures have been followed faithfully because very little concrete description of that anyone does is provided. The qualitative study provides the reader with a depiction in enough detail to show that the author's conclusion 'makes sense'" (p. 19).

Internal Validity

Merriam (2009) defines internal validity as to the degree that the research findings match reality or capture what is really occurring. Maxwell (2005) states that we can never really capture reality and that validity is a goal rather than a product. To that end, there are several research strategies that may be employed.

Triangulation. Probably the most known strategy to enhance internal validity of a study would be known as triangulation. Triangulation can take many forms. Denzin (1978) notes four types of triangulation: Multiple methods, multiple data sources, multiple investigators, and multiple theories. In this study, the researcher utilized multiple data points to reinforce specific findings. Data obtained from different interview participants was compared and cross-checked.

Member checks. Another common internal validity strategy is member checks or respondent validation. The goal of member checks are to have the participants review the

researcher's interpretation to determine if the researcher correctly captured the participant's experience. In the case of this study, participants were asked to review their respective interview transcript to verify that their experience was correctly transcribed and depicted. There were no instances of changes being required by any participant following their individual review.

Adequate engagement in data collection. In this strategy, the researcher must ensure that adequate time is spent during observations and sufficient participants are interviewed. As previously stated, interviews continued until sufficiency and saturation occur. This strategy also involves "looking for data that support alternative explanations" (Patton, 2002). Failure to find evidence supporting alternative explanations helps increase the confidence in the researcher's explanation.

Researcher's position. Also known as "reflexivity," this strategy involves the researcher himself critically reflecting on himself as the instrument. This reflection would take into account the researcher's assumptions, dispositions, and biases. Maxwell (2005, p. 108) reports that the reason for sharing the researcher's assumptions, dispositions, and biases to the reader is so the reader understands how that particular researcher's values may have influenced the study.

Peer review. Peer review or peer examination would be akin to the process that doctoral students experience with their doctoral committee. Each committee member reads and offers feedback on the study. This is also the same process that takes place when an article is submitted to a peer-reviewed journal for possible publication. In the case of this study, the findings were shared with other fire service professionals who are stakeholders in the retention of members and are familiar with the existing literature on

the subject. Five peer reviewers were selected from the Pennsylvania State Fire Academy instructor cadre due to their inherent exposure to multiple fire companies across the Commonwealth. These peer reviewers were required to be engaged in retention efforts at their respective fire companies. As interview transcripts were received back from the participants following individual member checks, the transcripts were shared with a peer reviewer meeting the above criteria. Every interview transcript was reviewed by a minimum of two peers. All peers reported that the transcript results were consistent with their current knowledge of the Pennsylvania fire service and its retention efforts.

Reliability

Reliability is simply the extent to which the researcher's findings could be replicated by another researcher. Reliability is more of a problem in qualitative research because of the research's dynamic nature. In qualitative research, we do not attempt to conduct research that isolates the laws of human behavior (Merriam, 2009). The researcher seeks to collect data from the views of the participants and how interpret and explain the phenomena being investigated.

External Validity or Transferability

External validity is the degree to which the findings of this study can be applied, or transferred, to other situations (Merriam, 2009). In the case of this study, can the results from interviews across Pennsylvania be applicable to all of the fire companies in the Commonwealth or fire companies in other states.

Researcher Background as Related to Topic

It is important to understand the researcher's background and motives for performing this study. The researcher has been a volunteer firefighter in the

Commonwealth of Pennsylvania since 1986. He began his volunteer career as a junior firefighter in a small city in Northeast Pennsylvania. At the age of 18, the researcher became an "A" member, or a member who is authorized to enter burning buildings. Now, several decades later, he has served as a company-level line officer and a chief officer. The researcher remains active as a company-level administrative officer overseeing administrative and financial operations, including recruitment and retention of members.

During the researcher's college years, he continued his role as a volunteer firefighter in the Commonwealth having joined two different fire companies during his undergraduate studies. The first was a small department located in the coal region and the second a large department serving a sprawling borough and an adjoining college campus in central Pennsylvania.

The researcher has also been previously employed as a full-time public safety instructor at a Career and Technical Center (CTC). In this capacity, he was often consulted as to the potential of his students joining a local volunteer fire company. The researcher is now employed as an educational administrator, but remains active in the training of both career and volunteer firefighters as adjunct faculty at a community college in central Pennsylvania.

The researcher has been an observer of the decline in volunteer firefighters that has taken place over the last 30 years. He has been able to view this situation from many angles, both as an officer trying to retain members and a volunteer struggling with reasons to continue.

Although the researcher has been a volunteer firefighter in several different fire companies, and observed a decline in volunteers, he must refrain from the assumption

that all volunteer fire companies in Pennsylvania are experiencing the same decline. He must also refrain from assuming that a solution will exist for all possible scenarios.

Chapter Summary

This study was completed using qualitative research. Merriam (2009) states that qualitative research is less concerned with the determining the cause and effect or distribution of some attribute across the population, and is more interested in the research of the phenomena for those affected by the change.

A basic interpretive design was used. It is probably the most common type of qualitative studies performed. It is based on constructionism and focuses on understanding the meaning of the phenomena being studied (Merriam, 2002). This type of study involves the collection of data through interviews, observations, and document analysis.

Sample selection consisted of current and former members of the Pennsylvania volunteer fire service. All participants must have played some part in the recruitment and retention of members. Efforts were made to engage participants that have decided to discontinue their volunteer participation.

The primary instrument of this study was a semi-structured interview of enough participants to insure sufficiency and saturation. The researcher also reviewed and analyzed artifacts provided by the participants' fire companies and participated in observations as the opportunities arose throughout the study period.

A pilot study was performed that examined one of the nearly a dozen previously identified issues relating to attrition of volunteer firefighters. The researcher's intent was to determine if a basic interpretive study using semi-structured interviewing would

provide sufficient findings in order to generate further discussion and possible solutions to the volunteer retention problem.

Data collected was subject to two cycles of coding. The first cycle used the elemental method of descriptive coding. Descriptive coding assigns a label to data based on its topic. The second cycle used pattern coding. Pattern coding is a method of grouping previous cycle data into a smaller number of constructs (Miles & Huberman, 1994, p. 69).

Several strategies were employed by the researcher to provide for improved internal validity. Triangulation, member checks, adequate engagement, researcher's position, and peer review are all strategies used by the researcher. External validity is the degree to which the findings of a study can be applied to similar situations outside of the study. Reliability is the extent to which the data can be replicated by another researcher.

The researcher in this study has an extensive background in the volunteer fire service which has served as the motivation for this study. Care was taken to bracket researcher preconceptions so as to limit influence on outcomes of the study.

CHAPTER FOUR

DATA COLLECTION & ANALYSIS

This chapter details the results of this study. The chapter begins with a review of

the study, including the purpose, research questions to be answered, and the

methodology. The pertinent results of the interviews, observations, and document

reviews are detailed with respect to the study framework and research questions. The

chapter concludes with a summary of the study and the data collected.

Review of the Study

The purpose of this study was to examine factors influencing retention of

volunteer firefighters in the Commonwealth of Pennsylvania. The study examined how

current and former volunteer firefighters view the current state of retention in the

volunteer system and sought more definitive answers than have been obtained up to the

time of this research.

In order to further explore the generalized reasons that have been previously

identified, a qualitative research approach was utilized. A basic interpretative study

design was chosen. This design is the most common type of qualitative study performed

and is often applied to education, administration, health, social work, counseling, and

business (Merriam, 2009).

This study utilized the self-determination theory (SDT) as its framework. SDT is

a theory of motivation in regards to peoples' inherent tendencies and psychological needs

(Deci & Ryan, 2002). SDT is based on the belief that humans display ongoing positive

features and repeat effort and commitment in their day-to-day lives. SDT refers to these

features as "inherent growth tendencies". SDT lists three innate needs that facilitate

optimum individual growth: Competence, relatedness, and autonomy.

This study addressed two research questions which guided the collection

and analysis of data needed to satisfy the aforementioned problem being researched:

1. What procedures and processes are Pennsylvania fire companies using to

    reduce attrition of volunteer firefighters?

2. What intrinsic and extrinsic motivational factors can be adapted into fire

    company policies and procedures to curb attrition of volunteer firefighters in

    Pennsylvania?

Research Findings

Three types of data collection were utilized in the study. The primary means of

data gathering occurred through semi-structured interviews with current and former

volunteer fire personnel. The researcher also performed two observations. One at the

state-level and the second on a municipal level. Several federal training documents were

reviewed to evaluate data collected during the interview phase of the study.

Interviews

The researcher conducted 15 semi-structured interviews. For the purposes of this

study, the researcher sought out persons willing to freely participate in interview process

and provide artifacts that their organization used to recruit and retain volunteer

firefighters. Active members who volunteered to participate were currently serving in a

capacity that was responsible, wholly or in part, for the retention of members in their

organization. The researcher also sought out former volunteer firefighters who severed

ties with the volunteer fire service and who might provide a different perspective than

those currently involved. Former members had actively served for a period of no less than one year. All interviewees were, currently or formerly, a member of a fire company located within the Commonwealth of Pennsylvania.

Demographics. Of the 15 semi-structured interviews that were performed, 10 were active volunteers and five were former volunteers. All participants had served in their current position for a minimum of one year. Their total years of service ranged from 5 to 30 years, with an average of 16.6 years of service. The ranks held by the participants spanned firefighter through chief of department. Of the 15 participants, 11 volunteers confirmed at least one certification through the National Professional Qualifications Board or the International Fire Service Accreditation Congress. All participants were of the male gender. Table 5 provides specific participant demographics.

Table 5

General Information Regarding Interview Participants

County of Fire Company	Membership Status	Position Currently or at Attrition	Years at Position	Years Total Service
Northumberland	Active	Deputy Chief	2	19
Snyder	Active	Chief	5	17
Union	Active	Chief	8	30
Columbia	Active	Captain	5	14
Lancaster	Active	Lieutenant	2	11
Lebanon	Active	Asst. Chief	3	17
Berks	Active	Captain	3	12
Lycoming	Active	Chief	4	22
Centre	Active	Asst. Chief	1	19
Dauphin	Active	Chief	5	16
Lancaster	Former	FF/EMT	5	5
Northumberland	Former	FF/EMT	7	7
Lycoming	Former	Chief	8	28
Dauphin	Former	Chief	4	21
Berks	Former	Training Officer	2	11

Results for Research Question One

What procedures and processes are Pennsylvania fire companies using to reduce

attrition of volunteer firefighters? Questions 3 to 10 of the Artifacts Request and

Interview Question Guide (Appendix B) were intended to identify the types of activities

that are taking place across Pennsylvania to curb attrition.

Observation of decline in volunteers. While the decline in volunteer firefighters

in Pennsylvania has been well documented, those currently involved in retention did not

provide a common period when they initially noticed the increased attrition. One

participant responded:

I didn't really pay attention until I became an officer, but looking back, I would

say we have been losing guys since I came on. I should say, we lose more than

we gain.

A second participant noted a similar observation:

I never really noticed until one of the chiefs made a comment about members

leaving. It's pretty much been happening ever since. It's really hard to get a feel

for some of them. You think they are going to hang around and the next thing

know, they are gone.

Of the 10 participants who are currently active, all commented that the decrease in

volunteers is causing concern. However, there was disagreement among the participants

as to the cause of this attrition. A participant commented:

I can't give one answer to that. A lot of guys don't have time, some guys don't

want to take the training, and some just get sick of the [politics].

Several participants provided more specific areas of concern. This participant focused on the increasing hours to complete the entry-level training program:

How do they expect us to keep guys when they keep increasing the number of hours just to get your Essentials certificate. When I joined, my class was something like 45 hours in length. When my kid took it, his was only 88. It's now over a hundred.

Four participants suggested that the time commitment has caused issues. One of former members interviewed reported:

I didn't mind the training nights or getting out of bed once in a while. That is what I signed up for. As the years went by, we had to keep spending more time raising money. If you have seen the cost of stuff today, we will never get ahead.

Two other former members referenced time needed for family. One former firefighter lamented:

I really didn't want to leave, but after I got married it got a little harder to spend one night a week at the firehouse. Once my first daughter came along, that was about it. I tried to keep it up for a few months, but my wife wanted me home.

Interestingly, the most reported retention issue was politics. Both internal and external political issues were shared by 9 of the participants. A former member commented:

I had enough of the Chief. He had his favorites. Most of the company officers are related to him. If you weren't in his clique, you didn't get to be a driver [of apparatus].

Another member added:

One of the guys that left recently just couldn't get along with the Chief. I didn't

have any issues with him, but they just didn't get along. They both bitched about

each other in front of other members.

Measures taken to reduce attrition. In interviewing all 15 participants, the only

action reported to have taken place is through incentive or reward programs. A current

member commented:

We give the active guys uniforms. The really active guys get Class A uniforms

[full dress style]. Some get Class B [uniform shirt and pants]. Everyone gets a

company tee shirt.

Another active member detailed a tiered system based on the number of incidents

the member responded to:

Members who respond to a least 100 calls get a tee shirt. You get a job shirt for

200 calls and a chore coat if you hit 300. It's pretty easy to get at least the tee

shirt. We run that many false alarms every year.

A former member spoke of social events that took place when he was still

volunteering:

We used to have all kind of things for the families. A picnic in the summer and a

party at Christmas. All the families would get together. Everyone knew each

others' kids. It was like our own little community.

A current chief officer added:

We started giving gift cards. Who says that the thanks has to be a blue tee shirt?

This way the member or his wife can use the card towards everyday things they

need. Not necessarily fire stuff. I don't think we have had any complaints.

Implementation of reward system. Seven of the fire departments that the active participants belong to have an existing reward system. Two of the former members also reported that their companies offered some type of reward. The types of incentives were established with the previous question due to being the only incentives known to the participants. The effectiveness of the reward system that is in place was questioned by the researcher. One of the current members responded:

I haven't heard any of the guys complaining. Everyone likes free stuff. I think it also helps build company pride. You always see the guys wearing their shirts at things not related to the company. I think it is money well spent.

Another active member disagreed:

I, personally, have at least 5 tee shirts in my drawer and 2 job shirts in addition to the one I have on now. I don't run calls, or call bingo, for more shirts. How many Dickie coats does one guy need? Maybe the new guys feel different, but I could care less if I get another piece of clothing.

Similar comments were made by other participants. The researcher noticed that the members who do not see a benefit to additional clothing, also happen to the members with the most years invested in the volunteer fire service.

Follow-up with members leaving. Of all the active members, not a single participant confirmed having a formalized follow-up procedure for members who leave the company. Only one member offered any semblance of a reason:

Most of them don't tell you they are leaving, they just stop showing up.

This same participant did report that if he "runs into them" (former members), he gives it a "shot." Similarly, all of the former members denied having been formally contacted or asked to provide any feedback.

Change in social aspects of firefighting. When questioned about social change in the fire department, all respondents answered in regard to specific types of social events that are currently or formerly held. One former member commented:

When I first joined, I remember going to all kinds of events at the "hosey." We had big Christmas parties each year. One of the guys would dress up as Santa and actually brought small gifts for all of the kids. At Easter time, we would run an Easter egg hunt for the kids too. I don't think they do any of that now. The kids that run the company couldn't be bothered. They think all there is to do is run calls.

An active chief officer remarked:

We used to have a monthly poker night on a Friday night. There was enough guys in the station to push both rigs out for calls. As a matter of fact, the first couple of poker nights, we actually had working fires. After a few months, It faded away. I guess everyone is busy with jobs and their families.

The researcher added a supplemental question to several of the interviews in regard to engaging socially outside of the fire station. Several members reported that they forged many of their friendships with men and women they met in the fire company. One of the former members added:

I used to have a huge picnic at my farm each summer. My wife and I supplied the hamburgers and hot dogs. We asked everyone to bring some sort of dessert. In

beginning, we had maybe 50 people show up. A few years later, we were lucky

if half that showed up.

Management style of chief. Participant answers varied widely in regards to the

management style of their chief. Some lower ranking respondents were very blunt about

their chief's abilities to lead both on and off the fire ground. An assistant chief noted:

[The chief] is a pretty good guy. He consults us [assistant chiefs] on most things

if time allows. I haven't served as the chief yet, so I don't know if I am in a

position to criticize how he does things.

On the other end of the spectrum, a captain shared that his chief has a "my way or

the highway" mentality. He shared an example of a dispute that took place during an

evening training:

We had just received some new hose, so we started to take the rolls out of the

boxes they came in. One of the guys suggested that we try a different way of

loading the hose on the pumper. The chief told us that it was going on the same

way that it always does. The guy suggested that we just try it tonight and see if

the others like it. The chief absolutely refused. An argument started, the curses

flew, and out he went. I saw him a few more times after that, but he faded away.

On supplemental questioning, it was learned that this company had a large

contingent of relatives sufficient to keep the chief in office consecutively for over the past

10 years.

Recruitment of non-firefighting members. Although several of the participants

reported trying to recruit non-firefighting members to reduce the burden of the

firefighting cadre, only one respondent clearly articulated a formal plan:

A few years back, we started to try to find some older people who wanted to help around the station. We were thinking maybe a retired accountant or banker to help with the financial end. We even thought about some people just to help keep the building clean. We ended up joining Fire Corps to help us find some through the internet. It came up dry also. In the end, we did get two older members who don't fight fires anymore to take over maintenance. One takes care of the building and the other takes care of the rigs.

Training specific to retention. Not a single participant could claim to have received any training, formal or informal, specific to retention. Any member, active or former, who took any program that involved retention, involved recruitment also. One of the active chief officers reported:

There is a 4-hour class on recruitment and retention on the books, but I don't know of any fire company that ever hosted one. Personally, if I can get enough guys together to hold a state class, I am doing something exciting.

Three of the chief officers also referenced a new recruitment and retention course that recently became available online. One of these chiefs offered criticism:

I took that new online course through VFIS [Volunteer Firemens Insurance Service]. One of the first things that the program says is that the decline in volunteers is a "local" problem. I am not sure how they came up with that when it is an issue across the whole country. I think the state is turning their backs on this issue. They show a map of the state divided up into several regions and say that each region has a set of problems that are different.

The researcher took advantage of this free program and completed the entire program in less than two hours. The problem was indeed described as a local issue and the regionalization of causes was also observed. The majority of the retention strategies presented revolved around material rewards (extrinsic motivation). At the conclusion of the short course, a computer-generated certificate was available for download.

Results for Research Question Two

What intrinsic and extrinsic motivational factors can be adapted into fire company policies and procedures to curb attrition of volunteer firefighters in Pennsylvania? Questions 11 to 18 of the Artifacts Request and Interview Question Guide (Appendix B) were intended to identify specific motivational factors being considered in retention across Pennsylvania.

Leadership training available. Again, the answers spanned a spectrum from not providing any leadership training through to obtaining various levels of national certification. A participant from a smaller department stated:

I don't ever remember any type of leadership class being held here and I have been around awhile. We had the mods [entry-level program] last year. It's hard to run classes now that we have to pay for them and get a set number of guys to attend.

This participant was referring to the current state of local level training taking place in the Commonwealth. Depending on the community college you schedule a class through, you are charged a fee and must have a minimum number of enrollments. If you do not meet the minimum enrollment number, there is an additional charge per student

that the class is under enrolled. A participating chief from a larger department offered the following:

> We received a FEMA grant a few years back. We were able to offer Firefighter I
> and II to the members and Fire Officer I and II to the members who met the
> prerequisites. I think we had 8 guys in Officer I and 6 in Officer II. The following
> year, we received another grant to put our drivers through certification on
> pumpers and aerials.

This chief was referring to Assistance to Firefighters Grant (AFG) that is available through FEMA each year. Although the grant program is a constant target of Federal budget cuts, the format has been retooled to allow "microgrants" of up to $25,000. This allows for more, but smaller, grants to be distributed.

Training specific to motivation. Overall, the participants reported a general lack of available training specific to motivation. Furthermore, of those who could recall some type of motivational component of a leadership or retention program, it was evident that the programs call for motivation of members, but do not provide any strategy to achieve this outside of the previously mentioned incentive programs. An assistant chief offered the following comment:

> All I can remember is being told that we have to continually motivate our firemen
> and that what works today may not work tomorrow. I got that, but tell me how to
> do it. I think we are all smart enough to know we got to keep them excited, but
> give me some ideas.

The researcher asked this participant specifically, if he could recall the training program that the motivation issue was contained in. This assistant holds national

certifications through to the Fire Officer IV level, but could not recall at which level the topic was introduced.

  Current state of leadership. This topic lead to lengthy and colorful discussions during the interview process and often required redirection back to the original interview question. The general issues discovered include the lack of leadership provided by the Commonwealth, the lack of help or training to improve leadership, and the intercompany politics that occurs at the local level. During the interviews, a chief from a progressive rural fire department commented:

> The state doesn't want to seem to get involved in the fire service. They offer all
> kinds of training, but don't mandate any of it. We require all of our firefighters to
> complete the Delmar program [entry-level program] before they can enter a
> a burning building. When we have a fire and some of our mutual aid companies
> show up, they can't even put up a ladder right. There is no consistency from
> company to company and there never will be unless the state mandates it.
> A second company-level officer reported:
> Without any type of minimum requirements, we keep getting guys in positions
> That they don't belong in. Think about it. Do you want some goof making
> decisions that truly could be life or death?

  One of the former members interviewed, who served as a training officer, offered his opinion about leadership at the company level:

> One of my biggest issues with the guys running the [fire company] was on a
> training night, they would walk through the truck room and into the office. They
> wouldn't participate with the younger guys. They [chiefs] would comment that

they already did that or that they have a certificate for that. I always operated on the idea that I wouldn't ask someone to do something that I wouldn't do myself.

When asked the supplemental question in regards to the duration that the current chief has been serving, the answers were mixed. The deputy chief, who serves in a larger volunteer department, reported a cyclical term structure:

We have four chiefs. Everyone comes in at the bottom which is battalion chief position. After 2 years, you move up to deputy chief. Then 2 years at assistant and finally 2 years as the chief. 8 years total.

The researcher asked a supplemental question regarding the deputy chief's opinion of the efficacy of this rotational format. The deputy added:

It's good and bad. We don't have to deal with the lack of progress that some of our neighboring companies do because they have had the same chief for years and years. On the other hand, if we get a [poor chief], we have him for 8 years until he gets through the rotation. A few years back, we had a really good chief who got a lot of new things rolling, but got screwed because 2 years just wasn't enough time. The guy that came in after him didn't really care about anything except running calls and letting everyone know he was in charge.

Of all the participants interviewed, none reported a company-wide initiative to improve the leadership abilities to existing officers or a formal program to prepare future members for promotion. The researcher questioned several of the participants, specifically those with long-serving chiefs, about succession planning. There was no planning occurring at any of those departments.

Member or group projects. The intent of this question was to determine if members were purposefully assigned projects, either individually or more likely in small groups or committees, in order to develop autonomy. While no participants felt this was the intent of any such projects, two participants did provide reasoning for assignment of projects to members. A former member reported being tasked with setting up a water rescue team for his department:

> I was the guy with all the training in water rescue [acquired at another fire company]. The chief gave me some parameters, mostly financial, and let me run with it. I don't think he really understood the training that would have to happen and really didn't get how much it would all cost. When he saw the price of the inflatable boat, I thought he was going to drop over.

One of the assistant chiefs reported that the use of rank and file members was necessitated by the volume of work required to keep their company functioning:

> We use regular members all the time to take care of things. Since the chiefs have to do PennFIRS [state-wide reporting], we have to find other guys to pick up the slack. We formed separate committees for recruitment, fund-raising, and apparatus. We do this part time and it just keeps getting harder and harder to find the time needed. If everyone doesn't chip in, something falls through the cracks.

Additional insurances provided. Firefighters in Pennsylvania are required by law to be covered by Worker Compensation insurance. Most frequently this is provided by the municipality that they serve, although several "well to do" companies are able to finance their own coverage. Additional insurances are an approved expenditure through the state's firemen's relief system.

Some of the additional benefits reported during the interview process were as large as $250,000 life insurance policies and as minor as a one-time replacement of eyewear damaged during emergency duties. Several reported that there was a relief-funded stipend for missed work due to injuries occurred during incidents.

Some non-insurance benefits also were brought forward during this line of questioning. A department provides for each member to receive a full physical and stress test annually. The chief cited that the leading cause of firefighter deaths is due to cardiac reasons, not dangers on the fire ground.

Training hierarchy and competence. The responses to this question were significantly varied. Not all fire companies represented in this study provide for any type of competency tracking, and those that do vary in scope. One participant noted:

New members are provided with a "rookie book". It's a binder that has a copy of our by-laws, SOPs [standard operating procedures], and their check sheets for the different riding positions.

After prompting, the same participant added:

When you complete the first check sheet, you are allowed to ride as the hook-up man on the wagon. Then you move through the other spots on the wagon. After you get signed off on all the positions on the wagon, you can start on the truck positions.

The "rookie books" are only visible to the new member and the officers of the company. There is no formal recognition for achieving any particular level of achievement. There are no identifiers on the members' personal protective clothing noting their current level of competence.

A more visible example was explained by another participant and is in use by multiple departments in that region. These companies issue small triangular decals of various colors that are adhered to the rear of each members' helmet. Each color identifies are particular skill. For example, the level of firefighter training is noted on a red triangle, emergency medical services on blue, and hazardous materials on green. Each triangle also contains a number from 1 to 3 denoting the level of achievement, with 3 being the highest designation.

A third company uses a large columned table that is prominently displayed on the wall in the standby room at their station. The names of the members are listed down the left and different training programs are labeled across the top. When a member completes a specific course and presents the captain with a certificate, a small star is placed in the appropriate location. All members and visitors can easily view the chart.

Induction of new members. The induction of new members ranged from simply completing a membership application to the assignment of a one-on-one mentor. The later was described by a chief officer:

> When a new member joins our company, we expect him to be at the meeting that evening. The new member sits in the truck room until his application is voted on. The next thing we do is ask for a member to serve as a mentor. We try to stay away from officers. We have found that it works better with just a fireman as the mentor. Once we have a mentor, we bring the new guy into the room and introduce him to the company and his assigned mentor.

This mentor is responsible to familiarize the new member with the constitution and by-laws of the company, familiarize them with the apparatus, and provide any other

help during the company's six month probation period. The mentor is asked for his recommendation as to the continuance of membership at the end of the probationary period.

> Another participant, from a self-described progressive company, reported:
> When a new members is accepted, he is assigned to a platoon. Either "A" or "B" platoon. Each platoon has a captain and lieutenant who are there to assist the firefighters assigned. The officers make sure that the members have functioning PPE, keep their haz mat certs up to date, and serve as the "go to" person with any questions.

All of the participants that reported using some form of mentorship during the interview process felt that it was beneficial. Additionally, all of the participants reported that they had received no training on mentoring.

Relationship reinforcement. Outside of training events and the social events that have been previously discussed, very little opportunity exists for the volunteers to forge or improve relationships among themselves. The only opportunity that was reported to bring the members together outside of training and holiday parties was the need to fund raise. One participant found it difficult to connect fund raising activities to improving friendships:

> I have a hard time calling our fund raising activities anything but a pain in the butt. The last thing anyone of us wants to do on the weekend is spend a day barbequing chickens to buy hose that our township should be buying in the first place. In all honesty, fund raising days are nothing more than a huge bitch session.

Observations

During the data collection phase of this study, the researcher attended two different meetings to observe discussion related to firefighter retention issues. The first, at the Pennsylvania State Fire Academy, was open to Pennsylvania-recognized fire instructors and discussed recommended training. The second observation took place at a county-level fire training facility and was held by emergency managers of a single municipality specifically focused on volunteer firefighter retention.

Pennsylvania State Fire Academy. The researcher performed this observation on October 19, 2014, at the fire academy facility in Lewistown, Pennsylvania. The meeting that was observed was held in the academy's classroom building. This is the newer of the two large buildings that house the administrative and classroom areas of the academy. The classroom building is simple in layout. There are four large classrooms across the back of the building. These classrooms can be used individually, or movable partitions can be opened to provide larger classrooms. During this particular observation, all of the partitions are open, creating one large classroom. There is a kitchen and storage area to the left of the classrooms and large-capacity restrooms to the right.

The classroom was set for 100 instructors. The seating was arranged to allow 50 instructors to sit on each side of the room, looking towards each other. The presenters would stand in an approximate 20' space between both front rows. The tables were arranged in five rows of tables each containing 10 molded plastic chairs. The tables were the narrow "training" style folding table. The classroom facility had vinyl flooring, concrete block walls, and a suspended ceiling. There are large podiums at each end of the combined classroom that house audio-visual technology. The wall that you enter the

classroom through is heavily decorated with fire helmets of all ages and conditions that have been donated to the academy.

The researcher was invited to this event through his affiliation as a suppression instructor with the fire academy. The researcher elected to refrain from asking questions or offering any type of input into the discussion. These instructor meetings have historically been scheduled twice each year, once in the fall and the other in the spring. Instructors are not obligated to attend, but attendance provides for the eight hours of annual continuing education required to remain an instructor.

Of particular interest to the researcher was the lengthy introduction to the most recent offering of the entry-level firefighter training program. The issue of training, specifically the time commitment, was shared by many of the participants in the semi-structured interviews described earlier in this chapter. It should be noted that at the time of this observation, Pennsylvania does not have a minimum training requirement, but simply recommends that fire departments participate in their program.

The most current program of study for entry-level was finalized in 2014 and has been assigned the moniker of "EL14." This program utilizes the textbook *Essentials of Fire Fighting and Fire Department Operations (6th Ed.)* by the International Fire Service Training Association (IFSTA). All of the instructors attending received a copy of the text and associated materials.

The presenter laid out the delivery model for the new program. The program was to be delivered in four modules, each building on the previous. The first module, *Introduction to the Fire Service*, was designed to be delivered in 16 hours over a single weekend. The second through fourth modules were significantly longer and focused on

additional skill sets such as support, exterior, and interior fire operations. It was during

the presentation of the time requirements that a noticeable concern was detected. The

most voiced concern was the total amount of time needed to complete the program,

which was presented as 140 hours (Table 6). The majority of the instructors in the room

took an entry-level program that was between 45 and 88 hours [OC].

Table 6

Pennsylvania State Fire Academy Entry-Level Training Program

Course Title	Total Hours	Lecture Hours	Lab Hours
Introduction to the Fire Service	16	10	6
Fire Ground Support	32	12	20
Exterior Firefighter	52	16	36
Interior Firefighter	40	12	28
Totals	140	50	90

An instructor sitting forward of the researcher, added that this program did not

provide all of the required training for new members. The instructor continued by adding

the hazardous materials and National Incident Management System (NIMS) training was

not included in the 140 hour total. The presenter stated that these are required by federal

regulations and are readily available.

Another instructor, sitting behind and left of the researcher, commented about the

additional training to be eligible for the Firefighter II exam. The presenter recommended

that students complete the new *Advanced Firefighter* course (24 hours) and would need

to complete 32 hours of vehicle rescue training. A sample of the suggested pathway from

a participating community college is included as Appendix D.

The remainder of the presentation described how to use the curriculum resources that were provided, such as online resources available through IFSTA. The Microsoft PowerPoint presentations that were provided with the curriculum package, bear simple pictures and brief comments. The presenter reported that this was intentional and designed so that the instructor required a high level of preparation and subject matter knowledge.

Municipal emergency management agency. The second observation performed by the researcher was at a county-wide public safety training center. The meeting was called by the emergency management agency of a small borough in Pennsylvania to address issues with volunteer firefighter retention specifically. The researcher became aware of the meeting and sought permission to attend as an observer only.

The meeting took place in the evening in one of the many classrooms at the facility. The classroom has training tables and tables arranged in typical classroom-type rows. There is a podium in the front of the room. An audio-visual console is located in the right corner of the room. A large dry-erase board is present in the front of the room and an easel stand with a pad was standing to the left of this board.

The flooring was vinyl, walls are painted concrete block, and the ceiling is of the suspended type. The classroom is well lit with fluorescent lighting fixtures. The room is set to accommodate 25 guests, but there is only six in attendance at this meeting. These six people represent the borough's emergency management agency (EMA), fire department, and borough government.

The organizer called the meeting to order and stated the reason for requesting the same. All six people in attendance agreed that their borough should be concerned about

the decreasing number of volunteer firefighters available. The organizer then asked for specific reasons why the attendees felt they were losing volunteers in their specific community.

The first person to speak, recommended the use of incentives. He continued with a short list of possible items that could be purchased for the firefighters. Another attendee voiced his opposition to continued material incentives. He did not feel that they were really aiding in retention.

The second topic brought forth was to continue with recruitment incentives longer into a new member's tenure. This suggestion was met with the same retort by the same individual who didn't feel that incentives were working. A borough official wanted to know how all of these incentives would be funded. No answers were provided.

The discussion moved to increasing the number of public events that the fire departments hosts. Currently, the fire department was holding one open house event annually. A suggestion was made to increase the number of open houses. A fire department representative replied that this may help in recruitment, but was not sure how retention would be affected.

A member of the emergency management agency suggested that the fire department create a set of standards or expectations for members to meet. One of the borough officials expressed he was not sure how holding members to a standard would help in keeping them from leaving. The originator of the topic stated that if everyone was meeting the same standards, no member would feel left out or different from the others.

The final idea immediately garnered the most discussion. The second borough official said he was familiar with former volunteers who left because they did not feel

that the fire department officers respected them. He gave a specific example of an

acquaintance who had served the fire department for nearly 20 years and was

disrespected by the incoming, and much younger, fire chief.

As these suggestions were being brought forward, the meeting organizer was

writing them on the easel pad in the front of the room. Subsequently, he asked that each

person in the room assign a number from 1 through 5 for each suggestion. The organizer

then tallied the votes on the easel pad for all to see. The results are provided in Table 7.

Table 7

Municipal Emergency Management Agency Retention Priorities

Retention Priority	Member 1	Member 2	Member 3	Member 4	Member 5	Member 6	Total
Incentive Program	1	3	1	1	1	3	10
Recruitment Initiatives	4	1	2	3	3	1	14
Common Standards	3	4	4	4	4	2	21
Public Events	2	5	3	2	2	4	18
Respect & Fairness	5	2	5	5	5	5	27

Note: 1 is the least important. 5 is the most important.

Following the display of the results, a short additional discussion took place in

regards to how to improve respect and fairness. One of the borough officials stated that

this has to come from the people that the volunteers "work" for [fire chiefs]. It was then

decided that the members of this committee would need to further explore how to bring

these priorities to fruition and reconvene at a later date.

Document Review

Based on remarks made by research participants during the semi-structured

interview process, the researcher reviewed several documents that were directly related to

leadership training in the fire service. Of those participants who reported having had attended leadership training, two sets of documents were consistently noted.

The Federal Emergency Management Agency (FEMA) provides training materials for a series of leadership courses that are available for delivery at local fire companies. Another referenced document is National Fire Protection Association (NFPA) Standard on Fire Officer Professional Qualifications because it the standard on which national certification as fire officer is based.

Federal Emergency Management Agency. FEMA provides course materials for many fire training programs that are offered throughout the Commonwealth of Pennsylvania and other states. The majority of these classes are delivered through the local-level training system and occur in fire stations across Pennsylvania. The researcher obtained copies of the three manuals that comprise the leadership series. These 16-hour courses are identified as:

- Leadership I for Fire and EMS: Strategies for Company Success

- Leadership II for Fire and EMS: Strategies for Personal Success

- Leadership III for Fire and EMS: Strategies for Supervisory Success

The Leadership I course was last updated in July of 2010. The student manual is divided into four modules: Problem-solving, decision making styles, planning skills, and communications. Each module begins with a list of objectives. The student manual is provides guided note taking pages followed by pages of text. Each module ends with a glossary of terms.

The module pertaining to problem-solving focuses on the use of Nominal Group Technique (NGT) to solve problems. The second module, about decision making styles,

is the largest at 35 pages. This module introduces new officers to the process of decision making, consequences of poor decisions, and describes the autocratic, consulting, and collaborative-style of decision making. There are also several instructor-led and role-playing activities supplementing the content.

The module on planning skills introduces officers to the planning processes commonly found in the emergency services, both administratively and operationally. The characteristics of good planners are listed and clarified. The module ends with a short section regarding monitoring and evaluating plans. The final module, on communications, discusses verbal, nonverbal, and written communications. A short section on the use of email and social networking sites concludes the module.

The second course in FEMA's leadership series is *Leadership II for Fire and EMS: Strategies for Personal Success*. The latest edition is the third and it underwent its fifth printing in 2013. Similar to the first course in this series, this program also contains four modules. The first module in the student manual is on managing multiple roles and involves personal role analysis, accountability, conflict, balancing strategies, and serving as a role model.

The second module, *Creativity*, begins with identifying the importance of creativity and innovation in the emergency services. The module breaks down the creative process into five manageable steps. The module concludes by offering ways to foster creativity in subordinates, selling new ideas, and developing strategies to enhance the leader's creative traits.

Enhancing your personal power base is the title of the third module. The five types of power are identified along with the differences, pros, and cons of each.

Strategies are provided to enhance the student's individual power base and formalize a Personal Power Enhancement Plan.

The final, and largest module of this course, involves ethics. The importance and impact of ethics on the delivery of emergency services was introduced. The role of the officer in establishing, modeling, and managing ethical behavior is detailed. The officers then are provided with the opportunity to analyze their own department's ethics and identify potential gaps.

The *Leadership III for Fire and EMS: Strategies for Supervisory Success* course is the final program in FEMA's leadership series. This manual is in its second edition and underwent its second printing in July of 2010. This course focuses on situational leadership, delegating, coaching, and discipline.

The first module identifies basic leader behaviors and leadership styles. Development levels of followers and their connection to leadership style are discussed. Detail is provided on how to identify the level of follower and correctly apply the appropriate leadership style. The second module provides an introduction to delegation. The benefits and principles of delegation are described. The module concludes with identification of barriers to effective delegation and the consequences of reverse delegation.

The module on coaching is short in relation to the other modules in this course. The module outlines the characteristics of effective coaches and draws similarities between effective coaches and effective leaders. Four critical coaching techniques are provided and aligned to match specific subordinate performance. The final module focused on discipline at the company level. An introduction to the value of positive

discipline was given. A lengthy section on the use of discipline to correct improper behavior consistently, fairly, and impartially is included. The module ended with the value of progressive discipline.

Nowhere in the series of leadership courses is a discussion of retention, or the use of career versus volunteer terminology. It appeared to assume that the same procedures outlined in the series could be applied across both volunteer and career fire departments similarly [IC].

National Fire Protection Association. NFPA 1021 (2014 Edition) lists the competencies required for a firefighter to meet one of the 4 levels of certification as a fire officer. The standard begins with a brief description of the process and committee that formalized the document. The standard contains seven chapters and 4 annexes. Chapter 1 provides for the scope, purpose, and general information of the standard. Chapter 2 lists referenced publications and Chapter 3 provides definitions for terms found in the standard. Chapters 4 through 7 are specific to the four levels of fire officer certification (I, II, III, and IV).

Each of the chapters regarding a specific certification level are subdivided into 7 sections that are common across all four levels. These sections are designated: General, human resources management, community and government relations, administration, inspection and investigation, emergency service delivery, and health and safety. The researcher focused his attention on the human resources management component found in all four levels of fire officer certification.

Under Fire Officer I, there are five competencies under human resources management. Those competencies are: Assign tasks at an emergency incident, condense

frequently used instructions, direct a training evolution, identification of stress and use of a member assistance program, apply human resource policies and procedures to a specific situation.

Fire Officer II competencies require the candidate to maximize a member's performance, evaluate a member's performance, and create a professional development plan for the purpose of promotion. Fire Officer III is higher-level administrative competencies. The first four of seven competencies at this level is the development of procedures for hiring, assigning, promoting, and delivering professional development activities. The fifth competency is improving employee benefits and the sixth is making an employee accommodation. The final competency is the organization of an ongoing education program.

Fire Officer IV, the highest level achievable, lists only five human resource competencies. A candidate needs to evaluate community demographic data and create a recruitment, selection, and placement program. The second competency requires the development of a program to improve member/management relations. Remaining competencies focus on the creation of position-specific job requirements, evaluate the member assistance program, and evaluate an incentive program.

The Fire Officer IV competencies are the only ones that apply directly to the research being conducted in this chapter. It should be noted that Fire Officer IV is not currently available through the Commonwealth of Pennsylvania, but may be obtained through a community college who participates in the International Fire Service Accreditation Congress (IFSAC), such as Bucks County Community College.

Chapter Summary

This chapter provided a broad overview of the data collected during interviews, observations, and documents reviews. Using a semi-structured question guide developed using the study's research questions and theoretical framework, 15 volunteer fire service officials were interviewed. Ten of these of officials were currently active in the volunteer fire service and 5 were former volunteers who have since left service.

The interview data were presented in a format that demonstrated a wide array of retention activities currently taking place in Pennsylvania but with unknown efficacy. Data indicate that retention strategies that were employed vary from department to department and from county to county. A high level of frustration was also shown to exist with regards to leadership in the Commonwealth.

The researcher performed two observations as part of this study. The first was at the Pennsylvania State Fire Academy and provided a better understanding of the commitment required to complete the entry-level firefighter training program. The time commitment is reported to be a retention problem both at the national- and state-levels. The second observation was conducted to observe the retention strategies determined by a municipal-level committee consisting of officials from the borough, fire department, and emergency management agency.

Several documents were reviewed after they were identified during the semi-structured interview process. These documents were leadership training manuals developed by FEMA for use in leadership training at the local-level and the NFPA standard regarding the qualifications of fire officers. Little to no evidence could be found that the topics of retention or motivation are substantially included in this literature.

CHAPTER FIVE

SUMMARY, DISCUSSION, & RECOMMENDATIONS

This chapter will provide a brief summary of the data collected, discuss these findings in relationship to both existing literature and the study's theoretical framework, and provide recommendations at the federal, state, and local levels to improve volunteer firefighter retention efforts. The chapter will conclude with a summary of the researcher's conclusions and recommendations proposed.

SUMMARY

The summary of the data will be limited to those points that are relevant to the researcher's discussion and recommendations. It should be noted that the data did not contradict previously obtained data through prior studies or the existing literature.

Results for Research Question One

This section provides a brief summary of responses to Questions 3 to 10 from the semi-structured interview guide (Appendix B). These questions were used to determine what procedures and processes are Pennsylvania fire companies using to reduce attrition of volunteer firefighters?

Observation of decline in volunteers. All of the study participants confirm having noticed the continued decline in volunteers, although data suggests that they become aware of the decline due to varying reasons and at different times during their tenure.

It was also specifically mentioned that time requirements, training requirements, and fire company politics played a significant role in attrition. In particular, the time required to attend all of the typical training regimens. Changes in the family structure was also noted as an increased demand on time.

Measures taken to reduce attrition. During the semi-structured interviews it was reported that there is a limited amount of measures being taken to curb attrition. Several respondents reported that there fire company doesn't have any plan or procedures in place to reduce attrition. Of those respondents that did confirm attrition reducing measures, they were limited to extrinsic factors such as clothing and gift cards. There was not a single participant that acknowledged a specific intrinsic motivational tactic.

Implementation of reward system. As previously mentioned, the reward systems identified through data collection was limited to extrinsic items. Company-logo clothing appears to be the most popular. One company reported issuing gift cards so that the members could purchase other items of their choice.

The data shows that the newer members enjoyed receiving fire company clothing, while the senior members reported having an overabundance of these items and expressed no desire to have more.

Follow-up with members leaving. The data collected demonstrated that follow-up with former members in nearly non-existent. Of all the interview respondents, not a single participant reported any type of formalized procedure to determine the reasons or causes that a member has left the company.

Change in social aspect of firefighting. All of the participants in the interviews reported an observable decline in the number of social events that took place at the fire company. Some of these events were for the firefighting members only, while several were designed to include the members' families. Examples provided during the interviews included: family picnics, member poker nights, Christmas parties, and Easter egg hunts for the members' children.

Management style of the chief. This line of questioning yielded a wide-array of responses. Based on the interviews, both democratic- and authoritarian-styles of leadership were described. Furthermore, some respondents directed attributed attrition to the authoritarian-style of their respective chief.

An additional issue, not previously identified in the literature reviewed, was that some of the chiefs labeled as authoritarian have been in office for a prolonged period of time. Several participants went on to clarify that these chiefs' longevity exists at least in part because of the large number of family relatives who are members of the fire company and who carry enough votes to repeatedly put the chief back in office.

Recruitment of non-firefighting members. Only one interview participant confirmed a formal attempt to recruit non-firefighter members to perform administrative functions to reduce the amount of time required by active firefighters. Non-firefighting members can assume roles in administration, finance, and maintenance, thereby reducing the number of hours that active members must spend on those functions.

Training specific to retention. Not a single participant could confirm having received any type of training specific to the topic of retention. In most instances, the issues of recruitment and retention are presented as one topic.

There is a 4-hour course *Recruitment and Retention for the Volunteer Fire Service* listed on the Pennsylvania's State Fire Academy's list of courses. It was reported that this is a seldom run program. The Volunteer Fireman's Insurance Service (VFIS) has recently rolled out an online program on recruitment and retention. Several respondents took offense to this program referring to recruitment and retention as a "local" problem when it is obviously plaguing the entire nation to some degree.

Results for Research Question Two

This section provides a brief summary of responses to Questions 11 to 18 from the semi-structured interview guide (Appendix B). These questions were used to determine what intrinsic and extrinsic motivational factors can be adapted into fire company policies and procedures to curb attrition of volunteer firefighters in Pennsylvania?

Leadership training available. Leadership training was another issue that provided varied data. Several chiefs reported having had little to no leadership training available at the local level. Two chiefs referred to the costs now required to host a state-approved course in your fire station.

Of the chiefs who reported that they had received significant leadership training were those who participated in the Fire Officer I through IV series offering national registration. One chief reported that he was able to provide leadership training through to Fire Officer II via an Assistance to Firefighters Grant (AFG) awarded through the Federal Emergency Management Agency (FEMA).

Training specific to motivation. At the completion of all 15 interviews, it noted that no participant could confirm receiving training specific to motivation. Of those who could recall motivation being part of a larger conversation, the members noted that they were told motivation was a necessity, but no motivational strategies were offered.

Current state of leadership. This topic lead to lengthy responses by the participants. Several long-serving chiefs reported that there is a lack of leadership by the Commonwealth. They were specific to and critical of minimum training standards. Without a statewide mandate, each company is charged with determining the minimal

level of training required to participate in firefighting activities. This has created

problems between neighboring companies who have vastly different levels of training

being expected to operate harmoniously on a fire ground.

Most of those interviewed report a general lack of leadership training being

available. Several also referenced the cost to host a program or to send members to a

community college for the same.

At the local-level, intercompany politics continues to be a large problem. More

than one respondent noted that members left solely because of the leadership style of the

long-serving chief. The topic of length of service of the current and past chiefs continues

to be a point of contention, especially where a perceived ineffective chief keeps being

reelected to the post by friends and family and not based on his training and experience in

the fire service. There is also a reported divide between senior and junior members within

individual companies.

Member or group projects. This question was asked to specifically identify if any

fire company was promoting autonomy through the assignment of individual or group

projects. Not a single participant felt that an assignment that have been tasked with or

tasked someone else with was done to promote autonomy.

Of the examples provided during the interviews, one member was assigned a

project based on his previously existing skill set and a second member was given an

assignment to that would reduce the amount of work placed on the existing company

administrators and officers.

Additional insurances provided. Because all volunteer firefighters in the

Commonwealth are considered public employees while in engaged in firefighting

activities, they are protected under the Worker's Compensation program. Several other non-required insurances were identified through the interview process. Four companies provide life insurance in addition to the Public Safety Officer benefit offered by the Commonwealth for line-of-duty deaths. One mid-state company provides for annual physicals and stress tests of their members.

Training hierarchy and competence. Participant responses to this question were greatly varied. Several of the respondents' fire companies have no identifiable means of tracking the competency level of its members, let alone provide for any public recognition of the same.

One example was a "rookie" book that closely followed a new member's progress though the steps necessary to earn the privilege of manning particular apparatus. Another company used a station-based wall chart that all members could readily access. Several fire companies collaborated on a system of helmet decals to recognize competence and assist the incident commander in assignment of appropriate personnel to a task.

Induction of new members. The answers received from this question were also very varied. Many companies do not use any type of mentoring program when a new member joins. Three companies reported utilizing some level of individual mentorship after joining. Another company assigns new members to a platoon of approximately 10 other members who are all to serve as mentors in some undefined capacity.

All of the participants that reported using some form of mentorship during the interview process felt that it was beneficial. Additionally, all of the participants reported that they had received no training on mentoring.

Relationship reinforcement. Outside of scheduled training events and the decreasing social events that have been previously listed, very little opportunity exists for the volunteers to forge or improve relationships among themselves. The only opportunity that was reported to bring the members together outside of training and holiday parties was the need to fund raise and the respondent did not feel that fund raising events contribute to building relationships.

Discussion

This section is organized into two parts. The first, a discussion of the study results in relationship to the previously reviewed literature in Chapter 2. Second, data gathered will be discussed in regards to theoretical framework of the study.

Discussion Reinforcing Existing Literature

During the interview process, several of the retention issues addressed by the United States Fire Administration (USFA, 2007), and addressed in Chapter 1, were reinforced. The researcher does not believe that all of the 11 retention problems identified by the USFA are able to be removed or reduced. Only those problems that the researcher feels can be improved are discussed here.

Time demands. Time continues to be problem in the prevention of firefighter attrition. The main reasons identified in this study were changes in the family structure requiring the involved spouse or parent to be at home more, the extensive time required for training, and time spent fund raising.

Changes in the family structure are beyond the control of the fire service. As a family grows, it undoubtedly requires increasing participation of its members. It is well

documented that volunteer fire service can introduce a large amount of strain into a family as well as an amount of pride (Atkinson & Wildermuth, 2013).

Time spent training, however, can be modified to benefit the volunteer. Using the current entry-level training program as an example, we can look at several possible solutions. Does the program need to be 140 hours in length? Can topics such as fire service history be reduced or tossed out all together? The majority of the participants in this study are now successful chief officers who took the entry-level program when it was than 100 hours in length. Can a particular amount of the didactic information be presented online? The 140 hour entry-level program contains 50 hours of classroom time that may be able to made available online allow for more flexibility to attend.

Fund raising continues to be a burden on the Pennsylvania Fire Service. Any particular volunteer has a limited number of hours available to tend to the fire company. These hours get split between responding to incidents, training, maintaining the apparatus and quarters, and raising money. Obviously, the former is more important than the latter, but without fundraising the ability to purchase and replace equipment is not available and ultimately the public is put at risk. Since the need for fundraising is more or less mandated, the time required to train most often becomes victim. Insufficient training has been noted in many firefighter fatality investigations.

Training requirements. The data suggests that those officers who hold responsibility for retention are concerned at the time required to complete the training necessary to reach the Firefighter II, or advanced firefighter level. If we follow the suggested pathway of a Pennsylvania community college that participates in firefighter training (Appendix D), we see not only are new firefighters looking at a 140 hour entry-

level training program, but actually much more. To be eligible to sit for the Firefighter I exam, a firefighter must have also completed both National Incident Management System (NIMS) 700 and 100 programs. These programs are delivered online via the National Fire Academy. Another perquisite for Firefighter I testing is the completion of hazardous material training totaling 28 hours. The Firefighter I exam takes no less than a full day to administer. For members moving on towards certification at the Firefighter II level, they must document 32 hours of vehicle rescue training. The Advanced Firefighting course, which covers the firefighting skills beyond Firefighter I is an additional 24 hours. In total, a member would need to take over 230 hours of training to reach Firefighter II.

Many of the chiefs interviewed questioned the need for such lengthy programs to achieve Firefighter II. There was discussion regarding the length of the entry-level program, duration of the hazardous materials training, and the need for vehicle rescue training. In particular, some chiefs do not understand why firefighters whose sole mission is to suppress fires need to learn such extensive hazardous materials and vehicle rescue techniques.

Leadership problems. Based on the interviews, it is very apparent that the current state of leadership in Pennsylvania's fire companies is greatly diverse. The researcher was told of leaders who demonstrated various leadership styles and depended on different bases of power.

The researcher also learned that when local fire companies are faced with limited training time and finances, that those resources are most often spent on supporting the overall mission – firefighting. Leadership training appears to have taken a back seat to the programs that support the majority of the firefighting force.

Anthony Kastros, a battalion chief in the Sacramento (CA) Metro Fire District, who writes extensively on fire service leadership, offered the following in a 2014 article addressing fire service leadership in America:

> Leadership is one of the most overused words in the fire service. There is no shortage of discussion, theory, books, articles, and philosophies on leadership. Unfortunately, there is a massive crevasse between all the information and true leadership in action across the American fire service landscape. Simply put, we are suffering a leadership pandemic.

The researcher, through interviews and document reviews, observed that leadership continues to be a considerable challenge to the fire service and firefighter retention. There is general lack of contemporary leadership training materials available at all levels of government. Private vendors, such as the International Fire Service Training Institute (IFSTA), produce the most up-to-date training materials and curriculum packages.

Internal conflict. Volunteer fire companies are home to a diverse population of members with wide ranging views of how the company should operate. It is not uncommon to have volunteers that operate their own businesses or manage a large number of employees in their regular occupation and feel that the fire company should operate similarly.

Frequently attrition is attributed to conflict between a chief or officer and the volunteer. Many volunteers state that they wouldn't deal with this amount of conflict at work, so why deal with it in the volunteer setting.

This conflict has actually taken on its own name - *firehouse politics*. This refers

not to the relationship between the fire company and the municipality that it serves, but

the internal relationships and conflict that exist within the confines of the volunteer fire

company. See Figure 2 for a depiction of negative issues within the fire service

considered as firehouse or fire department politics as described by Antonellis (2014).
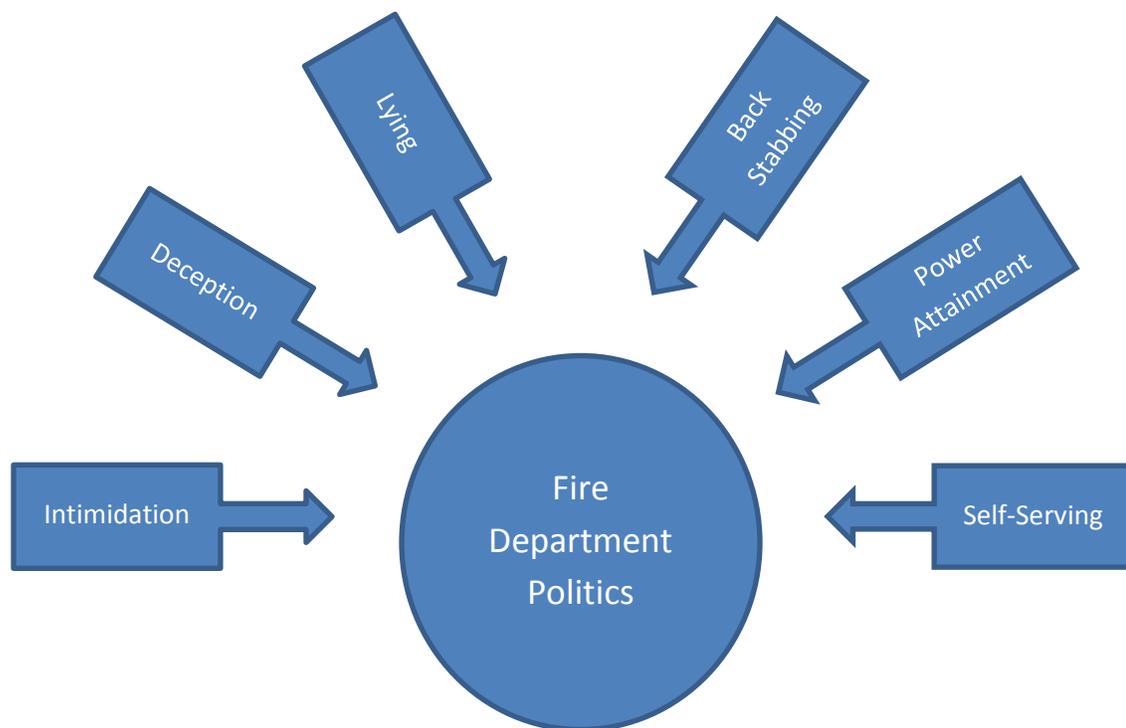

Figure 2. Negative aspects of fire department politics. Adapted from "How Politics and Ethics Can Affect Change Management," by P. Antonellis, 2014, *Fire Engineering, 39*(6), 81-89.

Discussion in Relation to Theoretical Framework

Autonomy. Autonomy has various definitions in the reference material, but the researcher simply defines it as acting independently. Based on the responses regarding autonomy in the volunteer fire service, it appears that any semblance of autonomy was incidental and not designed to satisfy or promote intrinsic motivation.

Researchers of the Self-Determination Theory (SDT) have found that not only autonomy in its strictest form provides for intrinsic motivation, but other related factors may negatively impact that motivation. Deci (1971) reported that using extrinsic rewards to reinforce an intrinsic behavior undermines intrinsic motivation. Another study by Zuckerman, Porac, Lathin, Smith, and Deci (1978), found that intrinsic motivation is decreased when people are not provided options or choices. Deadlines, such as those set for training of new firefighters, similarly decrease intrinsic motivation (Amabile, DeJong, & Lepper, 1976).

Competence. The fire service in Pennsylvania has partially achieved this facet of the SDT. The researcher feels that the need for competence recognition is being met on a private level, but not at the public or fire company level. When firefighters complete a state-approved training program, they are typically issued a certificate of attainment on parchment paper from the community college that supervised the course. Many fire companies also maintain some sort of tracking system, either paper-based or spreadsheet, for company-level skills.

Unfortunately, not all of Pennsylvania's fire companies provide for competence recognition among the body of members or the public. Some examples provided by the interview participants were a wall chart for all members to see, a plaque for members

achieving a professional qualification, and stickers affixed to helmets denoting different skill levels. Deci (1971) found that if people are provided with unexpected positive feedback, it increased their intrinsic motivation and decreased extrinsic motivation to complete the task.

With the capabilities of social media, recognizing competence has become easily achievable. Social media allows fire companies to not only recognize member and company achievements, but can serve as a recruitment tool and advertising for fundraising event.

Relatedness. Beumeister and Leary (1995) described the need for individuals to interact, be connected with, and care for others. Following the interview process, the researcher concluded that this aspect of the SDT, although met at various levels across the Commonwealth, appears to be declining.

Within the fire service, volunteer or career, there exists a unique brotherhood or sisterhood among members. It has been said that corporate America is jealous of the climate within the fire service. This relationship needs to be maintained and nurtured in the ever changing social circle of the fire company.

Many companies assign new members to a mentor, officer, or platoon to provide onboarding. These assignments may be voluntary or compulsory due to position within the company. Regardless, these assigned members play a pivotal role in not only smoothly transitioning the member into the company, but to foster relationships not only between the member and mentor, but across the entire organization.

Because of the tremendous demands often put upon volunteer firefighters, tension often occurs at home. Building relationships that encompass the members' immediate family may help ease that problem.

Recommendations for the Fire Service

In this section, the researcher provides recommendations related to the retention of volunteer firefighters at the federal-, state-, and local-levels. Although this study focuses on volunteer firefighters in Pennsylvania, the federal-level recommendations are designed to support retention efforts in the Commonwealth, but may be applicable to other states.

Federal-level Recommendations

The United States Fire Administration (USFA) provides a myriad of services to the American fire service. Among them are training and professional development, data publications and library, and grant funding. The USFA is based in Emmitsburg, Maryland and is an entity of the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA).

Training and professional development. The USFA produces training manuals and curriculum materials for an almost unlimited set of fire service topics. The USFA produced the training documents used during the leadership series that was reviewed in Chapter 4. The researcher recommends that the contents of the series manuals be revisited and updated to reflect contemporary leadership techniques. In particular, there is a need to address motivation, both extrinsic and intrinsic, and discuss how to integrate the different tactics of motivation into the operations of the fire company. Based on the interviews in this study, it would appear that a thorough discussion of contemporary

leadership styles needs to be included. Overwhelmingly, fire officers are relying on the authoritarian style during all fire company activities, not just during emergency incidents when it would be appropriate. Similarly, a discussion of the bases of power needs to be implemented. The researcher noted the overuse of *legitimate power* and suggests that students in the leadership series be exposed to other power bases such as *expert power* and consider the use multidimensional power.

Funding. The USFA provides multiple competitive grant programs. The Assistance to Firefighters Grant (AFG) is the requested fire service funding source at the federal level. These grants can be used to purchase equipment, up to and including fire apparatus, and cover expenditures for training projects. Recently, the AFG program introduced "microgrants" up to $25,000.

This invaluable financial resource needs to be augmented with federal funds. The funding has not kept up with inflation. This grant program provides much needed apparatus, equipment, and training to fire companies that would otherwise be unable to afford it. The monies provided by the grant program have undoubtedly reduced the need for fundraising at the local-level, which in turn allows for volunteers to concentrate on training and responding to incidents.

Additional research. FEMA and the USFA are active in a wide variety of research topics. Both organizations are blessed with a network of fire service professionals and unparalleled funding. It is recommended that these organizations enter into further research regarding volunteer attrition applicable across the nation. The creation of a best practices source based on this expanded research, either paper-bound or electronic, would be greatly beneficial.

State-level Recommendations

These recommendations are directed at the Pennsylvania State Fire Commissioners Office (SFCO) and the Pennsylvania State Fire Academy (PSFA) which the Commissioner oversees.

Evaluation of entry-level training. There has been great discussion regarding this topic among fire service leaders and municipal government, both of which are concerned with providing volunteer fire protection. The researcher suggests a review of the entry-level program curriculum and the other training programs that new members are encouraged to attend. The current entry-level curriculum is 140 hours in length.

A thorough review should be undertaken to determine what, if any, content could possibly be removed that does not decrease the safety or operational readiness of the firefighter. For example, there is significant time spent on the fire service history. While enjoyable, it would not jeopardize safety if it was excluded. The researcher also suggests that data be collected regarding firefighter injuries and deaths in relation to the length of the entry-level program the involved firefighter attended.

Online training consideration. At the current time, a volunteer wishing to attend the entry-level training program is required to be physically present at the fire station or other educational facility for the entire 140 hour curriculum. The current curriculum calls for 50 hours of classroom instruction and 90 hours of practical exercises. A mixed-delivery method should be explored. By moving the majority of the classroom instruction into the online world, it would allow for increased flexibility for members. It also allows for members to proceed at their own pace and review material that they feel the need to reinforce.

Educational incentives. The use of educational incentives in the volunteer fire service is in its infancy. It is recommended that the possibility be explored to create a program available through state-related institutions of higher learning. For example, a volunteer who has completed the entry-level program, participated in company functions, and responded on a predetermined number of incidents, could receive a specified amount of tuition assistance. This incentive serves both as an extrinsic motivator by providing a monetary reward and an intrinsic motivator by offering the ability to expands one knowledge and competence.

Funding. Several years ago, state legislators tied a proposed funding source for the volunteer fire service to the pending gambling legislation. The Volunteer Fire Company Volunteer Ambulance Service Grant Program, as it is known today, rode the coattails of the gambling bill through the Capital.

The SFCO has streamlined the application process. Simply, if a fire company or ambulance service fills out the online application, they receive funding. For fire companies, the average grant is approximately $12,500. The number of members certified at the Firefighter I level increases the award.

The Pennsylvania fire service finds itself having to reach out to legislators every few years to fight for continuation of this essential grant program. Like the federal AFG program, this program reduces the time needing to be spent on fundraising. It is suggested that this program funding be increased in relation to the increase in the gambling revenue it is connected with. The program has not had a significant increase since its inception, while gambling revenues soared. It is also recommended that this program be permanently funded.

Local-level Recommendations

Creation of autonomous tasks. Chief officers should carefully consider the creation or assignment of tasks designed to promote autonomy. The member needs to feel that they are self-governing, accountable, and responsible for the outcome. There are numerous assignments that could be given that have little to no costs involved. Some examples to consider would be to create a new company logo, maintain a particular piece of apparatus, or oversee a licensure or accreditation process.

Establishment of competence recognition. Those fire company members who are responsible for training functions are recommended to create an encompassing competence recognition mechanism. This should be available to all members, both in quarters and on the incident scene.

When a member completes a state-certified program and receives their certificate, it takes but a few moments to post it to your company's social media site. Similarly, post pictures of members during training. It both acknowledges their effort and supports recruitment.

In the fire station itself, it should be clearly discernable to all members what competencies they have achieved. Simply tracking it on a computer does not provide the recognition necessary. During the interview process, the researcher observed a wall chart that listed the members down the left side and dozens of training credentials across the top. As members obtained those certificates, a small star-shaped sticker was applied. Each member can easily track their progress and the progress of the other volunteers. Another station, at a cost, had a decorative plaque hung in the crew room. As members obtained Firefighter I, Firefighter II, etc. their name and certification type were added.

Even more importantly, and serving multiple purposes, is the need to provide skill recognition on an incident scene. For the individual member it serves as additional recognition of their achieved competence. For the incident commander it is a means to be able to allocate the appropriate human resource to the task at hand.

There has been research among personal protective equipment (PPE) manufacturers regarding the addition of patches and decals to their brand of protective clothing. For ease of use, and without modifying any PPE, the researcher suggests a helmet-based decal system. The sample decal system provided below (Figure 3) would be affixed to the helmet above the required reflective decals.

MEDICAL CARE
1 – EMR
2 – EMT
3 – Paramedic

HAZMAT
1 – Awareness
2 – Operations
3 - Technician

VEHICLE RESCUE
1 – Awareness
2 – Operations
3 - Technician

FIREFIGHTING
1 – Firefighter 1
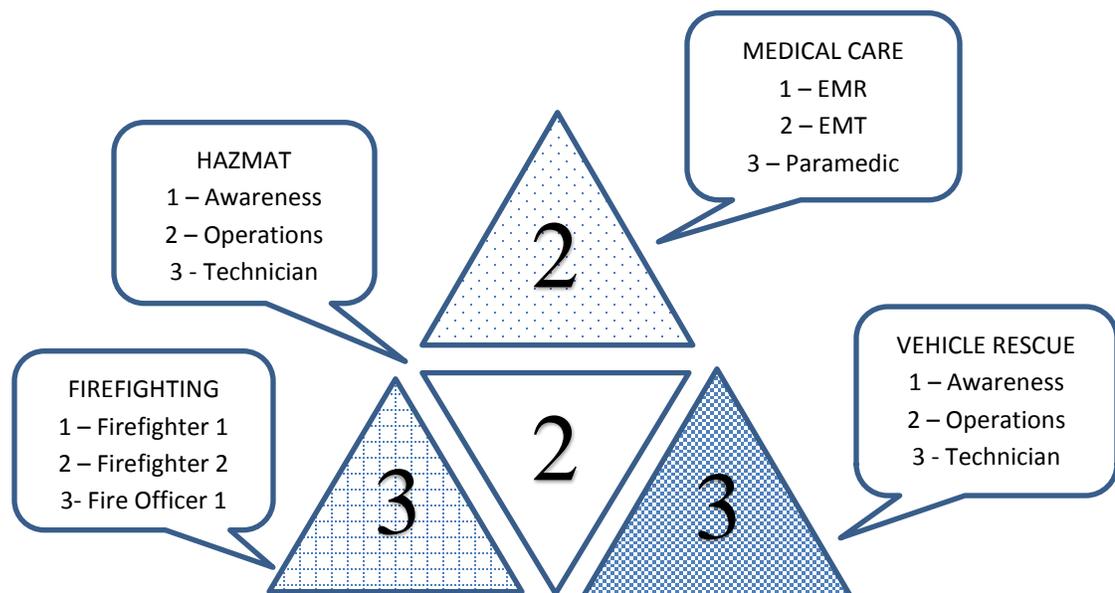2 – Firefighter 2
3- Fire Officer 1

2

2

3

3

Figure 3. Sample helmet-based competency identifier.

Promote positive relationships between members. The researcher recommends the use of mentors. The assigning officer needs to carefully and continually evaluate the relationship between the mentor and the new member. The mentor should be providing constructive feedback to the new member and keep the officers informed of the members progress. In a company that has more than one apparatus, it may be beneficial to assign a different mentor who is more familiar with the other apparatus when the new member is ready to begin training. This would not only promote better training, but creates the opportunity to forge an additional relationship.

It should be remembered that when a fire company takes on a new member, in a sense, they are also taking on his or her family. Officers should consider organizing events, or allowing a member the autonomy to organize an event, designed for the entire family. Christmas parties, Easter egg hunts, and picnics are all examples. In order to build comraderie among members, officers should strive to provide non-fire related opportunities for group activities. Examples would be card nights, paintball, and white water rafting.

Create instrument to obtain attrition data. During the interviews it was noted that no participant could confirm the use of a formal instrument to obtain data related to the reasons members were leaving. Recently, the Fireman's Association of the State of Pennsylvania (FASP) made such a form available on their website. The FASP was a recipient of a grant through FEMA for recruitment and retention research.

The researcher recommends using the FASP form as a guide, but that forms specific to individual fire companies be created due to the vast differences between training requirements, socioeconomics, and delivery model.

Recommendations for Future Research

Throughout this study, the researcher experienced several "what ifs." Three of those occurrences are shared here. The first evolved simply by curiosity regarding the effectiveness of the application of the Self-Determination Theory (SDT) and the others were issues identified during the interview process.

Results of Self-Determination Theory Application

The researcher is naturally curious if the application of the SDT to the volunteer fire service would yield measurable data. The experimental design would be troublesome. In order to locate both an experimental and a control group, painstaking effort would be required to identify identical or statistically similar fire companies. The researcher believes that such a study would best be conducted by a social researchers not affiliated with the fire service.

Brain Drain

Throughout the study it became evident that experienced fire service personnel are leaving the fire service faster than they can be replaced. It is suggested that additional research be undertaken to determine the effects, if any, this exodus is having on public safety.

The researcher considers this attrition to causing a domino effect. As highly trained, experienced members leave, the level of service available not only decreases, but the fire services loses a potential mentor. Without the wisdom of senior members being passed down, each successive generation of firefighters is likely to be less skilled than the previous.

Social Effect of Losing the Volunteer Fire Service

Earlier in the study, the researcher considered the public safety and economic impact of volunteer firefighters waning numbers. During the interviews, the researcher had the opportunity to visit fire stations across central Pennsylvania. It was observed that many of these fire companies housed a "social quarters" or "social club." The intent of these facilities is to provide financial support to the fire company through the sale of food and beverage. In conjunction with other fundraising activities, the social facility often becomes a social hub in the community. This was particularly evident at the more rural station locations.

Contributions of this Study

This study provided several contributions to the examination of factors relating to the retention of volunteer firefighters in the Commonwealth of Pennsylvania. The study reinforced existing studies and literature in regards to reasons for attrition. The study also identified that the motivational strategies being employed by fire service leaders today are largely extrinsic in nature. The recommendations listed above serve as an easily applicable start at slowing the attrition rate of volunteers.

Reinforcement of Existing Literature

This study reinforced many of the attrition issues identified previously by the United States Fire Administration (USFA). These factors were discussed in Chapter 2 of this study. The individual problems of time demands, training requirements, leadership problems, and internal conflict were reflected in the semi-structured interviews of this study.

This study provided deep, rich data that expanded upon the current literatures general categories of attrition causes. The topic of time demand was further divided into hours of training and changes in familial structure. The majority of training requirement complaints were directly related to entry-level training. Internal conflict in the fire company was not limited to poor leaders, but also between peers.

Identification of Current Motivational Strategies

Through the semi-structured interviews, it was apparent that motivational strategies that are currently in use across Pennsylvania are extrinsic in nature. It was also discovered that the existing leadership training materials support this purely financial incentive base as there was no clear discussion of intrinsic needs or motivational found in the USFA training manuals or listed as in the NFPA standards. It was further delineated motivational strategies that met any intrinsic needs were purely incidental to another task assigned.

Recommendations to Reduce Attrition

This study provided recommendations to reduce attrition at various levels of government. At the federal level, recommendations to update leadership training materials to reflect contemporary leadership bases and styles, conflict management, and motivation were suggested. It was recommended that the Pennsylvania State Fire Academy revisit the entry-level training program and the other classes involved in the early part of the volunteer membership. Most importantly, at the local level, where intrinsic motivation was more or less absent, this study recommended simple and cost effective means of increasing intrinsic motivational factors.

Chapter Summary

This chapter began with a brief summary of the data collected during the interview process. It was organized in the order that answers were obtained during the 15 semi-structured interviews. These interviews were purposefully designed to derive data in regard to the two research questions proposed in this study.

A brief discussion of the research in relation to both the existing literature and the study's theoretical framework was presented. The study findings did not contradict existing literature on volunteer firefighter retention. It was discovered that there was a generalized lack of intrinsic motivational factors being employed across the state.

Recommendations to improve firefighter retention were provided at the federal, state, and local-levels. The recommendations centered on the improvement of issues identified in this study and that the researcher felt were both easily employed and cost effective to implement.

The chapter included a brief discussion of additional research to be considered in the future. The researcher expressed interest in evaluating if the Self-Determination Theory was applicable to the volunteer fire service and expressed concerns over the experimental design. The effect of *brain drain*, or the attrition of senior members, and the loss of the volunteer fire service's impact on society were also recommended for further research.

The chapter concluded with a description of the contributions of this study. The study reinforced existing literature regarding volunteer firefighter attrition, identified the primary strategies being employed by Pennsylvania's fire service leaders to increase member motivation, and made recommendations, designed to be easily implemented, to

curb volunteer attrition using through the modification of existing practices and training

literature to more closely align with the study's theoretical framework.

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APPENDIX A

**An Examination of Factors Influencing
Retention of Volunteer Firefighters
in the Commonwealth of Pennsylvania**

Meeting Interview Agenda

1. Introduction to the Study

2. Informed Consent and Signature Sheet

3. Artifacts Request and Audio Tape Permission

4. Interview Question Guide Review

5. Perform Interview

6. Clarification of Interview Responses

7. Additional actions:
    a. Verification of Interview Transcript
    b. Corrections to Transcript (if required)
    c. Analyze the Data
    d. Forward Results of Study

APPENDIX B

Artifacts Request and Interview Question Guide

Title of Study: An Examination of Factors Influencing
Retention of Volunteer Firefighters
in the Commonwealth of Pennsylvania

Principal Investigator: James E. Catino
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Artifacts Request: A copy of the following from each
participant's fire company:
- Membership Criteria
- Membership Application
- Recruitment Materials (if available)
- Incentive Program Description (if available)

Interview: Initial questions are numbered. Potential questions are
lettered and may be used to further clarify the initial
response.

1) Can you please provide a brief background of your experience as a
volunteer firefighter in the Commonwealth of Pennsylvania?
   a. Have you ever served as a company line officer? How long?
   b. Have you ever served as a company administrative officer? How
   long?
   c. Do you hold any ProBoard or IFSAC certifications? If so, what
   specific certifications?

2) Would you please describe your current role in the retention of volunteer
firefighters?
   a. How long have you been in this role?

3) Have you or your fire company noticed the decline in the number of active volunteer firefighters?
    a. When did you or your fire company first notice a decline?
    b. To what do you attribute the decline?

4) What general measures have you or your fire company taken to slow or stop the attrition of volunteers in your company?
    a. Why did you select these measures?
    b. Do you believe these measures have been effective and why or why not?
    c. What data do you base their effectiveness on?

5) Have you previously implemented a reward system (cash, gift cards, clothing)?
    a. How do you feel this system has supported retention?

6) If a member decides to leave your fire company, is there any follow-up?
    a. Does a chief officer talk to the member?
    b. Is the member given a survey?
    c. Do you attempt to reenter the firefighter at a later date?

7) Have you noticed any change in the social aspect of volunteering?
    a. Does your company promote the social interaction of members?
    b. Do your fire station have a club or social quarters?

8) What is your chief's management style?
    a. Do you utilize the NIMS on the fire ground?
    b. Does your chief seek feedback from the membership?

9) Does your fire company recruit non-firefighting members?
    a. Do you feel that this eases the burden on the firefighting members?

10) What training have you received specific to the retention of volunteer firefighters?
    a. Where did you receive this training?
    b. Have you been able to implement retention strategies?

11) What leadership training is available to members of your fire company?
    a. Does the fire company pay for this training?
    b. Is the training required by the fire company?
    c. If you completed the training, was it helpful?

12) Have you ever received training on the motivational aspects of retention?
    a. Where did you receive this training?
    b. How long was the training?
    c. Was it stand-alone or part of a larger program?
    d. What is your understanding of the difference between allowing the member to run a project versus giving them a monetary reward?

13) In your opinion, what is the current state of leadership in Pennsylvania's volunteer fire service?
    a. Are you familiar with any leadership issues?
    b. What has your company done to correct leadership issues?
    c. How long has the current fire chief been in office?

14) Does your company assign projects to individual members or small groups?
    a. What degree of autonomy are the members provided?
    b. Must they seek final approval from a chief or other administrator?

15) Does your fire company provide insurance beyond the required Worker's Compensation?

16) Do new members participate in a training hierarchy to develop competence? For example: Engine rider, truck rider, rescue rider, etc…
    a. Does the member receive recognition for achieving each level (sticker, helmet color, assignments)?
    b. How does the member track his/her competency progress?
    c. Is the member's competency level measurable by both the member and the officers (rubric, checklist)?

17) What type of induction process is in place for new members?
    a. Do you assign new members a mentor?
    b. Does this improve the relationship between the new member and existing members?

18) What types of events does your fire company employ to create and reinforce relationships between members?

      a.   Outside of training events, when do members have the opportunity to forge friendships?

      b.   Are these events limited to active members or are their families included?
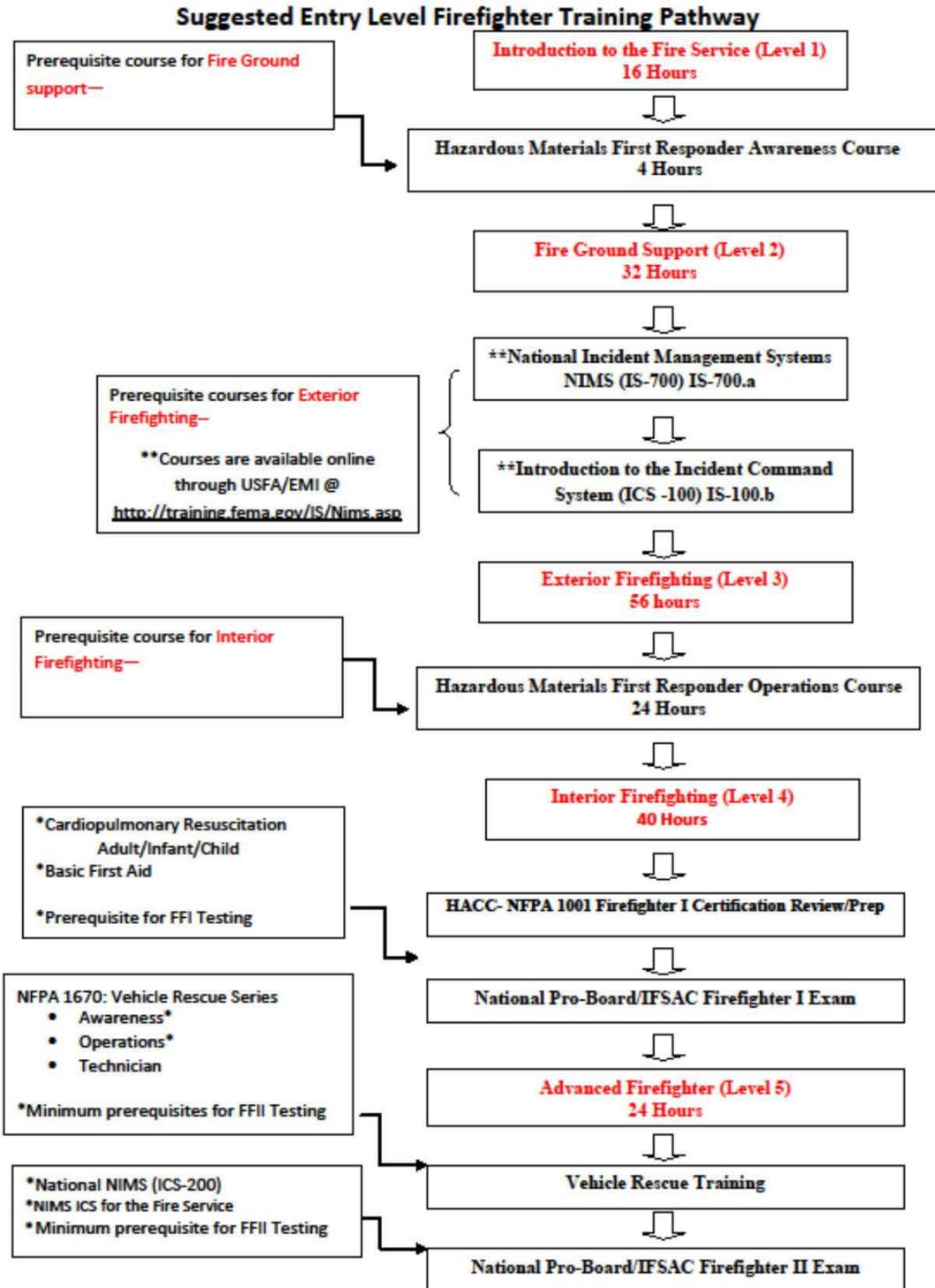
APPENDIX C

Sample of Transcript Coding

28	I:	To what do you attribute this decline to?		
29	P:	I can't give one answer to that. A lot of guys don't have	Time	Reasons
30		time, some guys don't want to take the training, and some	Training	Reasons
31		just get sick of the [politics].	Politics	Reasons
32	I:	What measures have you taken to slow the attrition of		
33		volunteers in your department?		
34	P:	We have given them rewards for running calls.	Reward	Extrinsic
35	I:	What types of rewards have you given to your members?		
36	P:	Mostly clothing. T-shirts, job shirts, chore coats.	Clothing	Extrinsic
37	I:	Why did your department select these rewards?		
38	P:	Everybody likes them. I guess it's a company pride thing.		
39	I:	Do you believe that these rewards are effective?		
40	P:	The young guys like them. The older members are like	Seniors	Instrinsic
41		"Another blue shirt?".		
42	I:	So why keep giving them the same rewards?		
43	P:	It's always been this way. Not sure why.		
44	I:	Do you feel that this system has supported retention?		
45	P:	Like I said, the young guys like the stuff.	Young	Extrinsic
46	I:	If a member does decide to leave your fire department,		
47		is there any follow-up?		
48	P:	Not really. Most of them don't tell you they are leaving,	None	Follow-up
49		they just stop showing up.		
50	I:	Do you ever reach out to former members at a later date?		
51	P:	If I run into them, I give it a shot.	None	Follow-up

Appendix D

Suggested Entry-Level Pathway from Community College

Suggested Entry Level Firefighter Training Pathway

Prerequisite course for Fire Ground support—

Introduction to the Fire Service (Level 1)
16 Hours

Hazardous Materials First Responder Awareness Course
4 Hours

Fire Ground Support (Level 2)
32 Hours

Prerequisite courses for Exterior Firefighting—

**Courses are available online through USFA/EMI @ http://training.fema.gov/IS/Nims.asp

National Incident Management Systems NIMS (IS-700) IS-700.a

Introduction to the Incident Command System (ICS -100) IS-100.b

Exterior Firefighting (Level 3)
56 hours

Prerequisite course for Interior Firefighting—

Hazardous Materials First Responder Operations Course
24 Hours

Interior Firefighting (Level 4)
40 Hours

*Cardiopulmonary Resuscitation Adult/Infant/Child
*Basic First Aid

*Prerequisite for FFI Testing

HACC- NFPA 1001 Firefighter I Certification Review/Prep

National Pro-Board/IFSAC Firefighter I Exam

NFPA 1670: Vehicle Rescue Series
  • Awareness*
  • Operations*
  • Technician

*Minimum prerequisites for FFII Testing

Advanced Firefighter (Level 5)
24 Hours

Vehicle Rescue Training

*National NIMS (ICS-200)
*NIMS ICS for the Fire Service
*Minimum prerequisite for FFII Testing

National Pro-Board/IFSAC Firefighter II Exam

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EDUCATION

The Pennsylvania State University, University Park, PA

> Ph.D., Workforce Education and Development - 2015
> M.S., Workforce Education and Development - 2007
> Vocational Administrative Director Certification - 2006
> Cooperative Education 7-12 Certification - 2006
> B.S., Biology -1999

Harrisburg Area Community College, Harrisburg, PA

> Emergency Medical Technician / Paramedic – 1993

CAREER AND TECHNICAL EDUCATION (CTE) EXPERIENCE

> 2011 – Present: Principal / Director
> Lancaster County Career & Technology Center- Mount Joy

> 2010 – 2011:   Assistant Principal / Cooperative Education Coordinator
> Lancaster County Career & Technology Center – Willow Street

> 1997 – 2010:   Protective Services Instructor
> Northumberland County Area Vocational Technical School

FIRE SERVICE EXPERIENCE

> 2010 – Present: Firefighter/Paramedic
> Rohrerstown (PA) Fire Company

> 1994 – Present: Suppression Instructor
> Pennsylvania State Fire Academy

> 1987 – Present: Firefighter, Company Officer, Chief Officer
> Shamokin (PA) Bureau of Fire