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Firefighters’ Perception of Leadership Behaviors on Their Psychological Well-being: A Case Study

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Firefighters’ Perception of Leadership Behaviors on Their Psychological Well-being: A Case Study

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Concordia University–Portland
College of Education

Dissertation submitted to the Faculty of the College of Education
in partial fulfillment of the requirements for the degree of
Doctor of Education in
Educational Leadership

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Concordia University—Portland

2019
Abstract

The psychological well-being of firefighters is an important aspect of fire service, along with the increased awareness of the psychological effects of fire service on firefighters. This study is necessary due to the lack of research exploring how firefighters perceive such influence on their psychological well-being. Understanding leadership’s influence on their psychological well-being is important, since a low level of well-being can lead to depression, anxiety, and suicides. This qualitative, exploratory, case study explores how firefighters in Florida perceive the influence of leader behaviors on their psychological well-being. Data was gathered through a qualitative questionnaire, semi-structured interviews and the Ryff Scales of Psychological Well-Being questionnaire. The results revealed that firefighters are influenced by leadership behaviors. The firefighters who participated in this research perceived positive leadership behaviors to have a positive effect on their psychological well-being, while negative leadership behaviors had a negative effect on the same. This research suggests that the incorporation of emotional intelligence screening as part of the promotional process may be beneficial, along with enhanced training in to strengthen positive leadership attributes.

Keywords: firefighter, leadership, psychological well-being
Dedication

This dissertation is dedicated to my family. The sacrifices made by my amazing wife Suzie as well as my kids supporting me through this journey, while I dealt with the long days, hours, and frustrations, are no less than the sacrifices I made. None of this would have been possible without them. I thank Suzie for keeping me on my path and nudging me on when I stalled. We were each other’s supporter even while finishing our doctorate theses. Kids, thanks for understanding every time dad said, “Not now, I’ve got schoolwork to do.” I tried hard to balance time with family, work, and school; however, I know that you pulled the short straw a few times too many. Cassie and Jake, you are so smart and talented. I cannot wait to see what the future holds for you. You can accomplish anything with some hard work and dedication.

To my Mom and Dad, you were able to see me complete most of this journey. You know that I am on my last leg. I had hoped immensely that I would finish this study before you died, but that was not to be. Losing both of you in April 2018 was so tough—it nearly derailed me. But the work ethic and the ability to overcome obstacles instilled by the two of you would never have allowed me to quit. I know you will be with me when I complete this journey. I love all of you.
Acknowledgements

I would like to thank my dissertation chair Dr. Nicholas Markette for his guidance, support mentorship and above all his patience with me during this journey. Moreover, I would like to thank Dr. Anne Grey and Dr. Yvette Ghormley, for the feedback and guidance provided to help this project be successful. I also want to thank my wife Susan and children for the support and their understanding of the sacrifices made during my educational pursuit. I love you guys and more dad time is coming.
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Chapter 1: Introduction

The psychological well-being of firefighters has become a topic of interest for the fire service because of the increasing rates of firefighter suicide (Henderson et al., 2016). This qualitative, exploratory case study addresses a portion of the gap in literature. Furthermore, it may serve as the catalyst to a much larger study by exploring how firefighters perceive the influence of leadership behaviors on their psychological well-being. In the fire service, the fire officer is the primary supervisor; however, this role extends much further than just being a boss. The relationship between a fire officer and their crew is complex (Gregersen, Vincent-Höper, & Nienhaus, 2014). There exists a possibility in the fire service that a fire officer who is a motivating, supportive person, with the positive aspects of their leadership, may provide positive workplace events and help offset the negative experiences encountered on calls (Gregersen, Vincent-Höper, & Nienhaus, 2014). However, if the leadership is negative, the firefighters would continue to have negative work experiences, which would further erode their subordinates’ psychological well-being.

Consequently, this research fills part of the gap through exploring how firefighters perceived the influence of leadership behaviors on their psychological well-being. Gilbert, Dagenais-Desmarais, and St-Hilaire (2017) found leaders who provided autonomy support and better psychological control behaviors had employees with better psychological well-being and less burnout. Exploring how fire officer leadership behaviors influence psychological well-being, specifically how firefighters perceive such leadership behaviors, may be of value to the fire service. Developing an understanding and educating fire officers on how their behaviors can influence firefighters’ well-being may provide opportunities to help reduce firefighter suicides by maintaining positive psychological well-being.
Background, Context, and History

Firefighters face some of the worst human sufferings under harsh environmental conditions (McMahon, 2010). The pain and suffering witnessed by firefighters thus has a negative impact on their psychological well-being (Henderson, Van Hasselt, LeDuc, & Couwels, 2016). This can lead to undesirable outcomes over time, including depression, anxiety, and suicides (Moffitt, Bostock, & Cave, 2014).

**Psychological well-being.** Psychological well-being is an “individual’s subjective perception of psychological health and life quality” (Landen & Wang, 2010, para. 3). Psychological well-being includes cognitive judgments and emotional responses to events and is connected to an individual’s overall physical health, mental health, and wellness (Singh, 2015). Psychological well-being is a multifaceted concept with six domains: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Seifert, 2005). These six concepts form the Ryff model of psychological well-being (Ryff, 1989). Positive psychological well-being is on the opposite spectrum to suicide (Slade, 2010). Moreover, based on studies by Streeb (2016) and Seppala (2012), a positive correlation exists between psychological well-being and social connectedness, thereby reducing suicidal ideation and suicides.

The absence of social connectedness is as much a detriment to human health as obesity, smoking, or high blood pressure (Seppala, 2012). Leaders can provide a strong influence on psychological well-being (Wethington & Kessler, 1986). This includes the perception of the leader being able and willing to help solve personal problems and making work life easier (Liden & Maslyn, 1998). Social connectedness and support are thus important for individuals working closely with their supervisors (Gelsema et al., 2006). This close connection is observed in the fire service because of the nature and amount of working time firefighters spend with their officers.
If lessons about leadership and leadership’s influence on firefighters’ psychological well-being can be learned, then perhaps ways for leaders to have a more positive affect on psychological well-being may be developed.

**Firefighter psychological well-being.** Poor psychological well-being can lead to increased depression, anxiety, suicidal ideation, and other problems (Moffitt, Bostock, & Cave, 2014). There are several contributing risk factors to increased suicidal ideation that occur in the fire service. The high risk, low control nature of the job; the repetitive exposure of firefighters to death and dying; and, especially, exposure to people who have attempted suicide or succeeded in committing suicide (Joiner et.al 2009). In a study conducted by Kimbrel, Pennington, Cammarata, Leto, Ostiguy, and Gulliver (2016), the researcher found suicidal behaviors to be elevated among firefighters exposed to suicides or suicidal action during their career. Those with the most exposure had the greatest increase in suicide risk. Additionally, Kimbrel et al. (2016) noted that “rates of exposure to suicide attempts and deaths appear to be substantially elevated among firefighters relative to the general population” (p. 675). Further, in 2014 the National Fallen Fighters Foundation reported that in 2013 there were three times more firefighters who committed suicide than had died in the line of duty. Thus, understanding how fire officers influence firefighters’ psychological well-being is important.

According to Arnold, Turner, Barling, Kelloway, and McKee (2007) supervisors have a crucial influence on the psychological and physical well-being of their subordinates. Leaders and their followers develop a didactic social exchange relationship predicated on trust which is provides social support and buffers demands and stress (Burnette, 2012). The support provide by a leader can be actual or perceived. The importance is the perception of the follower that the leader is able and willing to help solve personal problems and makes work life easier (Liden & Maslyn, 1998).
Daily job performance repeatedly subjects firefighters to conditions typical to an increase in suicidal ideation (Van Orden et al., 2008). This includes exposure to death and dying. The negative effect is more pronounced when the injury or the death of others is self-inflicted (Van Orden et al., 2008). As noted, leaders can provide a strong influence on psychological well-being (Wethington & Kessler, 1986). This includes the perception of the leader being able and willing to help solve personal problems and making work life easier (Liden & Maslyn, 1998).

Social connectedness and support are thus important for individuals working closely with their supervisors (Gelsema et al., 2006). Positive psychological well-being can significantly decrease suicidal ideation (Streeb, 2016). Yet, it remains unknown how firefighters perceive the influence of the fire officer on their psychological well-being. If lessons can be learned about leadership and firefighter psychological well-being, we may be able to be part of a solution that increases firefighters’ psychological well-being and reduces firefighter suicides.

**Conceptual Framework**

Firefighters and the fire service profession contribute several risk factors to negative psychological well-being. The abundance and the types of calls firefighters respond to creates both physical and emotional stress. The nature of the calls, high levels of stress, and low control nature of the job add to negative psychological effects (Carey et al., 2011). An example is noted in the post-traumatic stress disorder (PTSD) rates of firefighters. The National Institute for Mental Health (2018) states that “PTSD is a disorder that develops in some people who have experienced a shocking, scary, or dangerous event” (para. 1). Carey et al. (2011) state that the rates of PTSD and depression in the general population are 1.9% and 10%, respectively. Firefighters and rescue workers have rates of PTSD at 17% and depression at 22% (Carey et al., 2011) Left uncorrected, these negative psychological impacts on their mental health can lead to a
failure of coping mechanisms and may eventually lead to thoughts, planning, or actions of suicide (Jahnke, Poston, Haddock, & Murphy, 2016).

Firefighters tend to have close social bonds because of the nature of work and their work schedules. Social bonding plays an important role in preventing suicide and negative psychological well-being (Savia, 2008). The social bonding of firefighters occurs through several aspects of the job, from the typical 24-hour work schedule to the reliance on each other in performing dangerous tasks that imperil their own safety. Carey et al. (2011) determined social bonding, belongingness, and connection to impact on firefighters’ psychological well-being. Firefighters who felt a low level of social bonding had poor mental well-being. Yet, there was a gap and need in the literature to explore firefighters’ perceptions of the issue. What was known and what remained to be explored prompted the central argument in this study—the firefighters’ perceptions of leadership behaviors and their consequent psychological well-being.

This study thus focuses on firefighters’ psychological well-being through the leadership behaviors of fire officers, to determine if leadership styles influence firefighters’ perceptions of their own psychological well-being. There are theoretical lenses the research looks at research in this study through the leader-member exchange theory, affective events theory and social bonding. This conceptual framework has served as the basis for the primary research question for the study: “How do firefighters perceive the influence of leadership behaviors on their psychological well-being?”

This qualitative, exploratory case study thus aims to explore how firefighters in Florida perceive the influence of leadership behaviors on their own psychological well-being. Oowed to the close social bonding that fire officers have with their firefighters, understanding how peers perceive the influence of leadership behaviors on their well-being is important. This case study
advances a deeper understanding of the phenomenon of leadership and of psychological well-being in a firefighting setting.

Ravitch and Riggans (2019) noted the importance of including the research design, instrumentation, and the approach to address the research problem (p. 5). Therefore, this case study methodology may bring about a deep understanding to these complex issues, through detailed and contextualized events and relational impacts as applicable to real-life situations (Crowe, et al., 2011). Exploratory case studies allow for illuminating a situation and for the researcher to get close, in-depth information to create an understanding of the phenomenon not possible through other methods, while establishing a platform for more comprehensive further research (Yin, 2014).

The instrumentation for this research included a qualitative questionnaire, interviews, and the Ryff Psychological Well-Being Scales questionnaire. The interview questions focused on the participants’ perception of their fire officer’s leadership behaviors and provided an opportunity for participants to reflect on these interactions. The Ryff Psychological Well-Being Scale is designed to provide an understanding of the participant’s current level of psychological well-being. The psychological well-being scores of the participants were compared to the firefighter’s perceptions of leadership behaviors (Ryff, 1989; Seifert, 2005).

**Statement of the Problem**

There is a lack in research exploring how firefighters perceive the influence of leadership behaviors on their psychological well-being. This problem impacts firefighters because firefighters witness the worst of human suffering while performing their duties, often under physically uncomfortable conditions. The day-to-day exposure of firefighters to mentally traumatizing events caused by witnessing the pain and suffering of others can take a significant toll on their psychological well-being (Moffitt, Bostock, & Cave, 2014). This study focuses on
the leader-follower relationship, which has the potential to positively or negatively impact a follower’s psychological well-being (Ince, Jelley, & MacKinnon, 2016).

**Purpose of the Study**

This study aims to explore how firefighters in Florida perceive the influence of leadership behaviors on their own psychological well-being. This study is important since poor psychological well-being can lead to depression, anxiety, and suicide (Moffitt, Bostock, & Cave, 2014). The fire service is continuously seeking knowledge and solutions to reduce the negative psychological well-being effects caused by the profession (Jahnke, Gist, Poston, & Haddock, 2014). Additionally, fire officers, through the close social bonding shared with their firefighters, may have opportunities to create positive affective events, which may help offset some negative impacts to their psychological well-being, thus reducing or preventing the prevalence of negative outcomes (Demirbag, Findikli, & Yozgat, 2016). This case study advances a deeper understanding of how firefighters perceive the influence of leadership behaviors on their psychological well-being in a firefighting setting.

**Research Questions**

There were two primary research questions in this study. They are as follows:

RQ1: How do firefighters perceive the influence of leadership behaviors on their psychological well-being?

RQ2: What leadership behaviors do firefighters report to influence their psychological well-being?

**Rationale, Relevance, and Significance of the Study**

This study is important because of the lack of research exploring how firefighters perceive the influence of leadership behaviors on their psychological well-being. Understanding such influence is important to potentially reduce firefighter suicides. Streeb (2016) and Seppala
(2012) noted that a positive correlation exists between psychological well-being and social connectedness. A lack of social connectedness can result in a decrease psychological well-being and increase the occurrences of suicidal ideation. Whereas strong social connectedness can increase low psychological well-being and reduce suicidal ideation (Streeb 2016).

The estimates of the general adult population having attempted suicide once or more is between 1.9% and 8.9%, whereas 15.5% of firefighters have made at least one such attempt after beginning their career (Stanley et al., 2016). These alarming differences point to the rationale and significance to this study, since it may produce helpful insight to leaders in this field.

According to the NFFF (2014), a fire department is three times more likely to have a firefighter commit suicide than to have a firefighter die in the line-of-duty death within a given year.

Positive psychological well-being is a strong antithesis to suicide. Yet, it remains unknown how firefighters perceive the influence of the fire officer on their psychological well-being. If lessons about leadership and firefighters’ psychological well-being can be learned, more can be done to increase the positive psychological well-being of firefighters.

This research has used a qualitative methodology and case study design. The multiple data sources and data collected through case studies can facilitate an extensive understanding of complex issues, through detailed, contextualized events and relational impacts. Recognized as a research tool, particularly for educational and social science issues, case studies allow for the understanding of behavioral conditions “through the actor’s perspective” (Zaninal, 2007, para. 1); in this case, this connotes to how firefighters perceive the influence of leadership behaviors on their psychological well-being.

One of the biggest advantages of the case study methodology is its applicability to real-life, human situations (Soy, 2006). Case studies allow for data collection through multiple methods, including interviews, direct observation, documents, and focus groups (Yin, 2004). Yin
noted that this method allows for the illumination of a situation and for the researcher to gain in-depth information to create an understanding of the phenomenon being addressed.

Poor psychological well-being has been attributed to increased depression, anxiety, suicidal ideation, and other problems (Moffitt, Bostock, & Cave, 2014). Thus, understanding how fire officers influence firefighters’ psychological well-being is important. Providing the opportunity for firefighters to express their perspectives related to this phenomenon and the relationship between themselves and their officers in terms of influencing psychological well-being would be difficult through other means of research. The rich, in-depth information obtained via the case study methodology provides the best data to study how firefighters perceive the influence of leadership behaviors on their psychological well-being. Since each person’s experiences are unique, interviews allow participants to portray the conditions, situations, and context of their experiences, adding to more natural and holistic data being made available through qualitative research (Rubin & Rubin, 2005).

**Definition of Terms**

The ability to communicate clearly is important in everyday life. Misunderstandings can occur when the sender or receiver makes assumptions about the intent or the shared understanding of words or terms. This often occurs when one term or phrase either has or could have more than one meaning, has multiple definitions, or does not have a universally agreed upon definition. To reduce ambiguity, definitions of certain terms are included below.

**Environmental mastery.** This is the ability for someone to choose or create an environment suitable to them from a mental health standpoint and the ability to manipulate or control complex environments (Ryff, 1989).
Fire officer. This is a firefighter who has obtained a level of supervisor responsibility over other firefighters and holds a rank below the chief officer spectrum—typically, a lieutenant or captain who leads a team of two or more firefighters within a company (Carmel Fire, 2017).

Hot wash. This is a facilitated discussion held immediately following an incident among players from each functional area, designed to capture feedback about any issues, concerns, or proposed improvements players may have about an incident (FEMA, 2017).

Laissez-faire leadership. This is a leadership style that is more passive negative behaviors that occur through the leader’s lack of interest and disengagement (Kelloway et al., 2012).

Leadership. Is a process of social influence which maximizes the efforts of others toward the achievement of a greater good. (Bradberry, 2015)

Psychological well-being. This is defined as an “individual’s subjective perception of psychological health and life quality” (Landen & Wang, 2010, para. 3).

Suicidal ideation. This includes the thinking about, considering, or planning a suicide by an individual (CDC, 2017).

Assumptions, Delimitations, and Limitations

Acknowledging and understanding the limitations and delimitations of the research design are important. Limitations are external factors—those issues the researcher cannot fully control, such as financial and time constraints, participant drop out, and researcher bias. Ensuring the proper research design can reduce inherent limitations. Delimitations are internal situations and the choices of the research to set the study parameters and help establish the research scope.

The assumptions made herein were that participants would honestly self-report their feelings in answering the Ryff scales of psychological well-being and that the participants would
be honest and open in the self-reporting of their perspectives and experiences in their interview responses.

The delimitations included the use of purposeful sampling, the inclusion criteria of choosing to include only participants with three or more years of firefighting experience, limiting the research area to the State of Florida, and the number of participants for the in-depth interviews. Each of these decisions, while made with a strong research argument and the intent to provide the best research possible, still presented delimitations.

The limitations included researcher bias, despite steps being taken to reduce this to the greatest possible extent. Participants known to the researcher were excluded and the researcher’s background in relation to the study was acknowledged. Other limitations included the large geographic area of Florida, which required the use of online video to facilitate some interviews. Lastly, the instruments used for data collection and the participants’ interviews with the self-reporting of their perspectives and experiences were considered.

These limitations and delimitations may have affected the research process. By acknowledging them, the research can take steps to reduce the negative impact on the study. This includes confronting these inherent research bias possibilities in the expected findings and ethical issue in the following chapters.

Summary

Firefighters face numerous negative affective events in the day-to-day performance of their duties, which can result in their negative psychological well-being. Social bonding theories indicate that leaders can positively or negatively impact the psychological well-being of those who they lead. The applicability of this theory in fire officers is unknown. This qualitative, exploratory case study sought to understand how firefighters perceive the influence of leadership behaviors on their psychological well-being. This understanding can potentially improve
firefighter’s psychological well-being by identifying leadership behaviors causing negative psychological well-being in firefighters.

Chapter 2 provides a literature review and an in-depth background of the study problem. It includes a brief overview of the history of the fire service, suicide in the fire service, the affective events theory, psychological well-being, and social bonding. Chapter 3 describes the methodology. It discusses the research methods and design, the sampling procedure, data collection, data analysis, ethical considerations, and the validity and reliability. Chapter 4 discusses the results and how the data obtained answered the research questions. Chapter 5 provides a discussion on the implications of this study and suggestions for future research, concluding with recommendations to improve leadership behaviors and firefighters’ psychological well-being.
Chapter 2: Literature Review

Introduction to the Literature Review

The United States’ fire service is an expansive entity, with a fire station and often multiple stations in nearly every town. According to the National Fire Protection Association (NFPA, 2017), as of 2014, there were 29,980 fire departments in the U.S. and over 1.1 million firefighters, of which 346,150 were career, full-time, paid firefighters.

The name “fire department” is traditional, but antiquated, not nearly covering the entirety of fire services within the U.S. Typically, the fire service functions as an all-hazards emergency mitigation organization (NFPA, 2017). Most fire departments in the United States respond to fires, emergency medical calls ranging from chest pain to drowned infants; shootings; stabbings; suicides; electrical hazards; boating accidents; hazardous materials accidents; train derailments; and technical rescues involving caves, trenches, cliffs, as well as cats stuck in trees (NFPA, 2017). Furthermore, when people do not know whom to call, they generally call the fire department. The abundance and the types of calls firefighters respond to creates physical and emotional stress beyond what most people should ever experience. The nature of the calls, high levels of stress, and low control nature of the job add to the negative psychological effects (Carey et al., 2011).

While the effect of these experiences is known, it remains unknown how firefighters perceive the influence of leadership behaviors on their own psychological well-being. Most studies on firefighters’ mental health and psychological well-being focus on large-scale incidents such as the terrorist attacks of 9/11, an airliner crash, or other high loss of life incidents. These disasters are not the root cause of most negative psychological impacts on firefighters (McMahon, 2010). The daily, chronic, traumatic exposure that firefighters endure is more problematic than large-scale disasters, due to the ongoing frequency of exposure (McMahon,
Such daily experiences take a significant toll on psychological well-being. The most significant is PTSD; however, other negative mental health consequences including depression, anxiety, and suicidal ideation occur significantly more often than PTSD (Moffitt, Bostock, & Cave, 2014).

These negative psychological effects are profound. Carey et al. (2011) state that the rates of PTSD and depression in the general population are 1.9% and 10%, respectively. In the fire service, these rates are 17% and 22%, respectively. Left uncorrected, the negative psychological impacts on the mental health of firefighters can lead to a failure of coping mechanisms, possibly leading to thoughts, planning, or actions of suicide (Savia, 2008). The fire service has only recently begun to address this topic, which is considered taboo in the fire service culture (Henderson et al., 2016).

Little is known about the extent of the epidemic of negative psychological well-being of firefighter and firefighter suicides. Few studies (Antonellis & Thompson, 2012; Finney, et al., 2015; Henderson et al., 2016; Kimbrel, 2016; Savia, 2008; Stanley et al., 2016; Streeb, 2016) have attempted to quantify the statistics of firefighter suicides and psychological well-being. There is no consistent reporting mechanisms or classification system specifically for firefighters—the reported numbers are thus most likely artificially low (Streeb, 2016). The CDC, as cited by Stanley et al. (2016), note the general adult population to have attempted suicide once or more to be between 1.9% and 8.9%, whereas 15.5% of firefighters have attempted suicide at least once after beginning their career (Stanley et al., 2016).

A large body of research exists on law enforcement, military suicide, and the constructs of psychological well-being in employees in law enforcement; the military provides an even greater wealth of related literature. The researcher has discovered only a small number of literature articles pertaining to firefighter suicides and firefighters’ psychological well-being. The
issues with firefighters’ suicide and psychological well-being are severely understudied (Streeb, 2016). However, the researcher did discover studies on general firefighter suicide rates (Savia, 2008; Stanley et al., 2016).

The relationship of PTSD to firefighter suicidal ideation (Henderson et al., 2016), how firefighters witnessing suicidal events, and how they witness the death and dying of others can lead to them being more likely to commit suicide (Van Orden et al., 2008). The research by Finney et al. (2015) in the Houston Fire Department included fire department leadership to inform on how to recognize firefighters in a potential mental health crisis and refer them to counseling. No existing literature fills the gap as to the influence fire officers have on firefighters’ psychological well-being.

Social bonding plays an important role in preventing negative psychology well-being in general (Savia, 2008). Such bonding occurs through many aspects of the job, from the typical 24-hour work schedule to the reliance on each other while performing dangerous tasks that imperil the firefighters’ own safety (Landen & Wang, 2010). Carey et al. (2011) determined social bonding, belongingness, and connection to impact firefighters’ psychological well-being. Firefighters who felt a low level of social bonding had poor mental well-being. “Firefighters with poor mental well-being and poor social bonding deserve particular attention as they may place themselves and others at risk in the line of duty” (Carey et al., 2011, p. 7).

The fire officer is the primary supervisor of firefighters; however, this role is much deeper than that of merely being a boss. Leadership is a central aspect of the work environment; the relationship between a fire officer and their crew is complex—the influence they exert on their subordinates plays an important role in the fire station (Gregersen, Vincent-Höper, & Nienhaus, 2014).
Psychological well-being is a multifaceted concept with six domains: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Seifert, 2005). These are the basis for the Ryff model of psychological well-being. Psychology accepts the widely tested Ryff model as a leading model for psychological well-being (Sze, 2015). This study thus focuses on firefighters’ psychological well-being through job satisfaction, work cohesion, and the leadership traits of their officers, to determine if leadership styles influence the firefighters’ perceptions of their own psychological well-being.

Research Questions

RQ1: How do firefighters perceive the influence of leadership behaviors on their psychological well-being?

RQ2: What leadership behaviors do firefighters report to influence their psychological well-being?

Research Strategy

Peer-reviewed journals and applicable dissertations provided the literature used for this study. The studied articles and papers have focused on the fire service where possible, including an expansion into broader areas of emergency services, such as law enforcement and the military, as well as general employee behaviors. The Concordia University Library resources and Google Scholar were the two chief databases used to search for relevant literature.

The following databases from the Concordia University Library were used: ERIC (ProQuest), Dissertations & Theses Global (ProQuest), Taylor & Francis Online, Wiley Online Library, ProQuest Central (ProQuest), ABI/Inform, and JSTOR. The following key concepts or inquiry words and phrases provided a structured literature review: “firefighter suicide,” “fire officers’ effect on mental well-being,” “fire officer’s role in suicides,” “firefighter mental
health,” “leadership’s effect on mental health,” “fire service leadership,” and “employee suicides.”

Conceptual Framework

Ravitch and Riggan (2017) define a conceptual framework as “an argument about why the topic one wishes to study matters, and why the means proposed to study it are appropriate and rigorous” (p. 3). With over 25 years of involvement, my experiences and current position within the fire service have exposed me to the intimate nature of firefighter suicides and firefighters’ psychological well-being, providing a shared experience position (Berger, 2015). The researcher has thus experienced several negative affective events discussed herein. This close connection to the fire service and the affective events provides a deep understanding of many aspects of the fire service. However, there remain several unanswered questions about how firefighters perceive the influence of leadership behaviors on their psychological well-being.

This research uses a case study design. The multiple data sources and the volume of data collected through case studies can bring about an extensive understanding of complex issues through detailed and contextualized events and relational impacts (Zaninal, 2007) Providing firefighters the opportunity to express their perspectives of this phenomenon as well as the relationship between firefighters and their officers in terms of influencing psychological well-being would be difficult through other research methods. The rich, in-depth information obtained during case study methodology provides the best data to study how firefighters perceive the influence of leadership behaviors on their psychological well-being.

The theoretical framework of this research is guided by three primary theories that comprise portions of the research: the affective events theory, social bonding theory, and Ryff’s model on psychological well-being. The Ryff model and the associated questionnaire form the
theoretical framework of the well-being aspect through which to analyze firefighters’ psychological well-being.

**Affective events theory (AET).** The work of Weiss and Cropanzano (1996), this theory describes that work-related events cause an emotional response and alter behavior and attitudes. The authors note that an essential precept of AET is that following the occurrence of an important work event, there is an effect on an employee’s work-related affective experiences, attitudes, and behaviors. According to AET, each event encountered positively or negatively influences the individual’s emotions, which implies that “workplace events are proximal causes of an individual’s affective reactions that have direct influences on their attitudes and behaviors” (Demirbag, Findikli, & Yozgat, 2016, p. 6).

This positive/negative balance does not just occur on emergency incidents but may occur within the firehouse. The fire officer is the primary supervisor; however, this role extends beyond just being a boss. Leadership is a central aspect of the work environment. The relationship between a fire officer and their crew is complex. The influence they exert on their subordinates influences on creating an environment that encourages or discourages positive psychological and emotional opportunities in the fire station, playing an important role in the psychological well-being of firefighters (Gregersen, Vincent-Höper, & Nienhaus, 2014).

The types and the frequency of calls that firefighters respond to creates physical and emotional stress beyond those experienced by the average person (Carey et al., 2011). The day-to-day exposure of firefighters to mentally traumatizing events through witnessing the pain and suffering of others takes a significant toll on their psychological well-being. This negative impact can lead to undesirable outcomes over time, including depression, anxiety, and suicides (Moffitt, Bostock, & Cave, 2014).
Firefighters rely heavily on the social bonding between themselves, other firefighters, and their officers, to provide a protective barrier against long-term negative impacts to their psychological well-being (Savia, 2008). Those with low levels of social bonding have poor mental well-being. “Firefighters with poor mental well-being and poor social bonding deserve particular attention as they may place themselves and others at risk in the line of duty” (Carey et al., 2011, p. 7).

**Social bonding.** Social bonding is the binding ties or social bonding to the family. Social bond also includes social bonding to the school, to the workplace and to the community (Lin, 2016). Important to human beings, the need for close attachment to others is a central human motive. Once established, strong social connections are difficult to break (Lin, 2016). The absence of social connectedness is thus as much a detriment to human health as obesity, smoking, or high blood pressure (Seppala, 2012). People with strong connections to others show lower rates of anxiety and depression and are generally healthier than those with fewer connections. The bonding between peers and leaders generates the primary group cohesion (Siebold, 2007). This occurs within a squad or platoon in the military and is identified as “cooperative, holistic, supportive, face-to-face relationships” (Siebold, 2007, p. 289). These relationships develop over time through direct interactions to develop a level of knowledge, trust, and dependability between members of a unit.

Social connectedness and support are most important for individuals working closely with their supervisors (Gelsema et al., 2006). Perhaps firefighters need to develop close, primary social connections with their leaders, to rely on them in times of high risk and potentially life-threatening activities. This increased level of bonding creates an environment for firefighters to work through stressful events, reducing isolation and increasing belongingness ( McMahon, 2010). The field of psychology widely accepts Ryff’s model as a leading model for
psychological well-being (Sze, 2015). This model and the associated questionnaire form the theoretical framework for the well-being aspect of this study as well as the framework through which to analyze firefighters’ psychological well-being.

**Review of Literature and Methodological Literature**

Understanding the phenomenon of firefighters, firefighter leadership, firefighting organizations and suicide, requires an examination of each of the elements. Without knowing these components of the phenomenon, understanding the intricacies and the extent of the problem as it relates to the fire service may be hindered. The following sections provide contextual, historical, and background information relevant to contextualize fire service complexities to further assist the reader.

**Fire service background.** Attempts to tame and control fire have existed ever since humans tried to harness the power of fire. These attempts at control through time have often resulted in massive fires and the destruction of towns and entire cites. One of the most famous conflagrations was Rome, July 19, 64 AD: a massive fire inferno burned for six days and destroyed most of Rome (PBS, 2014). In the U.S., on October 8, 1871, a fire on the outskirts of Chicago spread to the city, killing 300 and destroying over a third of the city (National Geographic, 2011). However, it does not take massive conflagrations to cause great destruction. According to the NFPA (2015), there were 3,280 fire-related deaths in the U.S. In 2013, fires accounted for $7.2 billion in direct property damage (NFPA, 2017).

For centuries, control of escaped fires was unorganized. Organized firefighting began in Rome under Marcus Licinius Crassus, who organized a 500-person fire brigade. Caesar Augustus created the first fire department, with approximately 7,000 firefighters being entrusted to enforce fire laws and extinguish fires (Firefighter Foundation, 2017). In U.S.’s colonial period, unorganized and rudimentary attempts at fire control and prevention continued. Organized U.S.
fire services commenced in 1736, when the first organized volunteer fire department was formed under Benjamin Franklin (Firefighter Foundation, 2017). This first government-run fire departments formed around the end of the Civil War ushered in a new era of paid firefighters.

The U.S. fire service is massive, with a fire station and, often, multiple stations in nearly every town. According to the NFPA, as of 2015, there were 29,720 fire departments in the U.S. and over 1.1 million firefighters, of which 346,150 were career, full time, paid firefighters. Many recognize the fire services as the go-to organization in the event of needing help.

**U.S. fire service organization.** The composition of the fire service is a para-military structure, with a strict hierarchy and chain of command. The organizational structure is fluid and expands to the needs of the specific department; thus, not all positions occur in all departments. Furthermore, the intermediary titles may change from agency to agency; however, the roles and responsibilities do not differ much. A typical fire department’s organizational structure is comprised of eight levels with the position or rank of fire chief being at the top position, followed by the deputy chief, division chief, battalion chief, captain, lieutenant, driver engineer, and the firefighter.

The fire chief, deputy chief, and division chief ranks comprise the senior staff or management positions with limited direct contact with firefighters. Additionally, these positions may respond to major incidents, but are not in the position of daily response. Battalion chiefs, while having more contact with the firefighters than senior staff, still have less than company-level officers. The captain and lieutenant ranks are of the company officers—they deal directly with the firefighters and are usually a part of the crew configuration at the station (Fire Service Ranks and Organization, n.d.). The fire service considers all positions from lieutenants to fire chiefs as officers. This study focuses on the role of the company officer, owed to their close
contact and influence. From here forth, references to the fire officer, company officer, or officer is inclusive of the captain and lieutenant ranks and excludes all chief officer ranks.

The composition of a fire stations’ equipment and personnel can vary; however, typical setups may include an engine, ladder truck, rescue, grass truck tanker, or other specialty vehicles. Companies are a single resource. The personnel comprise the basic “unit” in a station. One or more companies form the station crew. Multiple stations falling under the same command officer from a battalion or district. The engines, ladder trucks, and rescues generally have assigned staffing. Other specialty vehicles may be housed in the station, but without a dedicated crew (NFPA, 1719). The standard for engine company staffing recommends four firefighters on an engine, five firefighters on a ladder truck, and two on a rescue (Kirby, 2012).

Firefighters. Firefighters generally work a 24-hour shift followed by 48 hours off. Variations include one-on-one offs (24 hours on, 24 hours off) with a four-day consecutive break every third such off rotation. Some agencies have moved away from a 24-hour shift and use a 10-hour day/14-hour night schedule. Regardless of the exact schedule, firefighters work long hours, under difficult conditions, tending to high stress situations with limited control. Firefighting is a very challenging and high-risk job (Malek, Mearns, & Flinn, 2010). On average, this schedule has firefighters working together 2,997 hours a year. This is just over a full third of their lives. This extensive time spent together allows for the formation of relationships. Those between crew members influence their psychological well-being. Positive social support from co-workers and officers enhances the ability of an individual to cope with stress and negative events in the workplace (Hunter, 2005).

The fire officer. In the firefighting structure, firefighters report to a fire officer. This is the primary supervisor of the individual companies and station; however, the role extends much deeper. The supervisory role of the officer is important, as their leadership is a central aspect of
the work environment. The relationship between a fire officer and the crew is complex and the influence they exert on their subordinates in creating an environment that either encourages or discourages positive psychological and emotional opportunities in the fire station plays an important role in the psychological well-being of firefighters (Gregersen, Vincent-Höper, & Nienhaus, 2014). If a fire officer is a motivating, supportive person, the positive aspects of their leadership provide for positive workplace events and help offset the negative events encountered on calls. However, if the fire officer’s leadership is negative, the firefighters continue to experience negative work events, which further erode their psychological well-being (Landen, 2008).

Fire officers, in their leadership positions, impact organizational culture, employee experiences, and employee perceptions. The culture that the fire officer creates in the station, through their actions and beliefs, spreads to others. Emotional contagion causes the tendency to subconsciously mimic and synchronize both verbal and non-verbal cues to those of another person, creating an emotional sync (Dasborough, Ashkanasay, Tee, & Tse, 2009).

When individuals witness others being treated negatively, there is a negative impact to them psychologically, emotionally, and behaviorally. If the officers’ attitude when dealing with difficult calls is negative, this may spread to the crew through emotional contagion. Additionally, emotional contagion spreads positive actions, thoughts, and feelings in the same manner, creating a positive emotional culture. Thus, having an officer who is positive and open tends to create a culture where firefighters are more likely to discuss issues (Dasborough, Ashkanasay, Tee, & Tse, 2009).

The fire officer’s role is complex. This role runs deep in regard to the relationships with firefighters and firefighter psychological well-being remains an important issue. Research demonstrates that supervisors have a crucial influence on the psychological and physical well-
being of their subordinates (Arnold, Turner, Barling, Kelloway, & McKee, 2007). The theory of leader-member exchange (LMX) (Burnette, 2012) holds that leaders and their followers develop a didactic social exchange relationship predicated on trust. Leadership social support provides a buffer to job demands and stress. This support may be either actual or perceived. The perception that the leader is able and willing to help solve personal problems and makes work life easier (Liden & Maslyn, 1998) can provide a stronger influence on psychological well-being than a leader who may provide support (Wethington & Kessler, 1986).

Leaders can provide a strong influence on psychological well-being (Wethington & Kessler, 1986). This includes the perception of the leader being able and willing to help solve personal problems and making work life easier (Liden & Maslyn, 1998). Social connectedness and support are thus important for individuals working closely with their supervisors (Gelsema et al., 2006).

The U.S. fire service is predominately comprised of middle-age white males. According to data from the U.S. Department of Labor, in 2015, 95% of firefighters were male and about 86% were between 25 and 54 (Schafer, Sutter, & Gibbons, 2015). Between 2011–2015, white males, on average, comprised 79.3% of career firefighters in the U.S. (NFPA, 2017). These statistics place firefighters in a high-risk category simply by demographics. Estimates of the general adult population having attempted suicide once or more is between 1.9% and 8.9%, whereas 15.5% of firefighters have made at least one suicide attempt since beginning their career (Stanley et al., 2016). Positive psychological well-being can significantly decrease suicidal ideation (Streeb, 2016).

Kimbrel et al. (2016) found suicidal behaviors elevated among those firefighters exposed to suicides or suicidal action during their career. Furthermore, this research noted that “rates of exposure to suicide attempts and deaths appear to be substantially elevated among firefighters
relative to the general population” (Kimbrel et al., 2016, p. 675). Poor psychological well-being increases the likelihood of suicidal ideation, whereas positive psychological well-being reduces suicidal ideation (Streeb, 2016). Yet, it remains unknown how firefighters perceive the influence of the fire officer on their psychological well-being and potential for suicidal ideation.

In 2012, a consortium of U.S. Fire Chiefs convened to begin addressing the issue of firefighter suicides. Understanding the influence of leadership on psychological well-being is important to potentially reduce firefighter suicides. According to Streeb (2016) and Seppala (2012), a positive correlation exists between psychological well-being and social connectedness, whereas a lack of social connectedness decreases psychological well-being and increases suicidal ideation.

For firefighters, there are several contributing risk factors to increased suicidal ideation that occur within the fire service (Henderson et al., 2016). The high risk, low control nature of the job, the repetitive exposure of firefighters to death and dying, and, especially, exposure to people who have attempted suicide or have succeeded in committing suicide (Van Orden et al., 2008) are contributing factors. The interpersonal-psychological theory of suicidal behavior (ITS) proposes that a person must have both the desire to die by suicide and the ability to do so (Joiner et al., 2009). This ability refers not to the means of carrying out the suicide, but rather the psychological ability to do so.

The ITS requires the presences of three conditions: thwarted belongingness, perceived burdensomeness, and the desire to commit suicide. Suicidal ideation itself is not enough to perform the action of harming oneself. Most individuals who experience suicidal ideation never act upon the thought. There is a natural fear of death and pain, particularly when self-inflicted, that prevents the act in most cases. Therefore, one must acquire the ability to overcome the habituation of self-injury (Van Orden et al., 2008). The capability to commit suicide increases
from repeated exposure to events that are physically painful or fear inducing as well as from exposure to the death and suffering of others. The negative effect is more pronounced when the injury or death of others is self-inflicted (Van Orden et al., 2008).

Kimbrel et al. (2016) found suicidal behaviors to be elevated among firefighters exposed to suicides or suicidal action during their career. Those with the most exposure had the most increased risk for suicide. Furthermore, “rates of exposure to suicide attempts and deaths appear to be substantially elevated among firefighters relative to the general population” (Kimbrel et al., 2016, p. 675). Being a firefighter requires exposing oneself to a high degree of danger, in situations where there is often little control. Emergencies expose firefighters to the risk of injury and even death to save the lives and property of others. Moreover, even those situations that do not directly endanger their lives are physically uncomfortable and often in physically painful conditions (Kimbrel et al., 2016). To accomplish their job, firefighters must learn to work through these conditions.

**Psychological Well-being.** The concept of psychological well-being has existed in some form throughout recorded history. As a modern concept, this appears in the ‘Principles of Psychology’ in 1890. In 1953, Jones further modernized the concept (Bradburn, 1969). In the simplest form, it can be a mere measure of how “happy” someone feels; however, the concept runs deeper into many models of mental health, providing a basis for a person’s mental state. People tend to use the term “happiness” to describe feelings of pleasure. Notwithstanding, an individual can lack the feeling of happiness and still maintain good psychological well-being (Bradbury, 1969). The description of one’s psychological well-being as good or poor is in itself not a diagnosis or framing of a mental disorder (Bradbury, 1969).

Psychological well-being is defined by Ryff (1989) as “self-acceptance, positive relations with others, personal growth, purpose in life environmental mastery and autonomy.” It is an
“individual’s subjective perception of psychological health and life quality” (Landen & Wang, 2010, para. 3). It is more than just being happy at work—it is a global judgment about one’s whole life. Psychological well-being culminates from all life events and not just a single event (Singh, 2015).

Ryff’s model shows psychological well-being is a multifaceted concept with six domains: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Seifert, 2005). Autonomy is described by Ryff (1989) as having self-determination and the ability to regulate one’s behavior from within, “whereby one does not look to others for approval but evaluates oneself by personal standards” (p. 1071). Environmental mastery is the ability for someone to choose or create an environment suitable to them from a mental health standpoint as well as the ability to manipulate or control complex environments (Ryff, 1989). Personal growth is the need for a person to continue to grow beyond previously established characteristics, to continue the development of one’s potential and establish continued growth (Ryff, 1989). Positive relations with others include a person’s ability to develop warm, trusting relationship with others, establish intimacy, and accept the guidance of others (Ryff, 1989). Purpose in life is the ability to make goals and have a sense of direction; it indicates the person believes their life is meaningful (Ryff, 1989). Self-acceptance is considered a central feature and is the ability of a person to hold a positive attitude about themselves, their life, and life choices (Ryff, 1989).

These six domains have two dimensions: positive affect and negative affect. These form the frame to measure a person’s psychological well-being. Such measure is the differential balance in positive and negative affective events. Someone with more positive than negative affects has good psychological well-being—the bigger the difference, the better or worse the
individual’s well-being is (Bradbury, 1969). The Ryff scales of psychological well-being provide a basis for measuring the participants’ psychological well-being.

Britton et al. (2014) describe autonomy, environmental mastery, and the relations with others as basic psychological needs that provide a direct indication of psychological well-being. When these basic psychological needs are undermined, a person’s psychological well-being is poor: “people have poorer physical and mental health, increasing their risk for negative outcomes such as suicide ideation and behavior” (Britton et al., 2014, p. 362). Britton et al. (2014) note in their research that the basic psychological needs of autonomy, relations with others, and environmental mastery are associated with an increased sense of well-being and that the support of ‘these basic needs provides protection against suicidal ideation, and suggest it may also protect against suicidal behavior’ (p. 365).

Most working adults in the U.S. spend about a third of their lives working; even more are dedicated to work. Until recently, both the field of psychology and employers have marginalized the psychological well-being of employees, despite the amount of time spent working (Bluestein, 2008). Workplace well-being connects to physical and mental health wellness. Trying to separate or isolate a person’s work life and private life is inconsistent with how people typically live their lives. There is no boundary around the workplace that switches to the psychological well-being of work or home to the other—they are interconnected and form a cohesive unit (Bluestein, 2008).

Several studies examining the role of leadership behaviors on psychological well-being, note a connection exists. Early research conducted by Day and Hamblin (1964) noted low-quality leadership behaviors (negative and unfair) resulted in poor employee psychological well-being. Several studies since have focused on these negative effects (Densten, 2005; Tepper, 2000). New research on leadership behaviors have continued to emerge. Kelloway, Turner,
Barling, and Loughlin (2012) provide an example. Their study showed certain positive leadership behaviors increase psychological well-being and negative behaviors negatively impact the same.

**Leadership behaviors.** Those which focus on creating healthy relationships have a positive effect on employees’ psychological well-being. Leaders who show care for followers’ personal factors and performance have followers with a higher psychological well-being than those leaders whose behaviors are negative or abusive (Ince, Jelley, & MacKinnon, 2016). Leadership styles focusing on the subordinate employee and demonstrating positive leader-follower relationships have been shown to have a positive impact on the subordinates’ psychological well-being (Coggins, 2012). Additionally, Gilbert, Dagenais-Desmarais, and St-Hilaire (2017) found leaders who provided autonomy support and better psychological control behaviors had employees with better psychological well-being and less burnout.

“Positive leader behaviors such as support, feedback, empowerment, integrity, and quality of communication are related to high levels of affective well-being and low stress levels in employees” (Perko, Kinnunen, Tolvanen, & Feldt, 2016, p. 105). Furthermore, a study by Kelloway et al. (2012), showed that trust in leadership had a positive effect on employees’ psychological well-being. This change in well-being was noted on an individual level rather than at a group level. This demonstrates that the perception of leadership behaviors by the individual is a determinant in the employee’s psychological well-being. (Kelloway et al., 2012). The specific leadership behaviors are the proximal cause of increased well-being. While transformational leaders typically exhibit these qualities, their absence would not support improved psychological well-being (Gilbert et al., 2017).

Kelloway et al. (2012) further studied negative leadership behaviors, examining aspects of management-by-exception (transactional) and laissez-faire leadership. The active negative
behaviors of management-by-exception focus on drawing attention to mistakes and the errors of employees, while laissez-faire leadership are more passive negative behaviors that occur through the leader’s lack of interest and disengagement (Kelloway et al., 2012). Such negative leadership behaviors have greater power to influence relationships and emotions than positive behaviors (Kelloway et al. 2012).

The leader-follower relationship has significant potential to impact a follower’s psychological well-being positively or negatively (Ince, Jelley, & MacKinnon, 2016). Leaders who develop the trust of their followers, are honest in intentions, are concerned with the goodwill of individuals, and who create a culture of employee value have employees with higher psychological well-being (Kelloway et al., 2012).

Firefighters prefer positive leadership behaviors. In a study by (Odom, 2011), conducted to determine the preferred leadership behaviors of firefighters in a generational grouping, transformational leadership consistently ranked as the preferred style by large margins by the baby boomers, Generation X, and millennials. Transactional leader behaviors were a distant second and laissez-faire fairied last. Odom (2011) concluded that firefighters from all generational groupings preferred a leader with transformational behaviors. While the research shows firefighters prefer the transformational style, it remains unknown how firefighters perceive the influence of leadership behaviors on their psychological well-being or which leadership behaviors influence psychological well-being.

Social bonding. Social bonding is important to human beings. The need for close attachment to others is a central human motive (Lin, 2016). Once established, strong social connections are difficult to break. Some cultures place a higher value on having established and known connections to others. Often, those with strong connections stigmatize those deemed
socially disconnected. This can further disrupt one’s ability to connect and diminish the feelings of belongingness (Milyavskaya, Reoch, Koestner, & Losier, 2010).

The absence of social connectedness is as much a detriment to human health as obesity, smoking, or high blood pressure (Seppala, 2012). People with strong connections to others show lower rates of anxiety and depression and are generally healthier than those with fewer connections. Strong social connections serve as a positive feedback loop for psychological and physical well-being (Seppala, 2012). When placed in a group, an individual with no social connection or limited social connection experiences an increase in negative self-feelings and a reduction in their positive psychological well-being (Kaplan & Lin, 2005). A lack of social connectedness creates an environment of thwarted belongingness, one of the two requirements for suicidal ideation as per the interpersonal theory of suicidal behavior. Strong social connections serve as protective factors against suicide-related events, including ideation and attempts (Opperman, Czyz, Gipson, & King, 2015).

The need for stronger social connections in the workplace through face-to-face and personal contact is increasing. The theory of leader-member exchange (LMX) holds that leaders and followers develop a didactic social exchange relationship predicated on trust (Burnette, 2012). Leadership social support provides a buffer to job demands and stress. This support may be actual or perceived, with the perception that social support is available providing a stronger influence on psychological well-being than a leader providing the support (Wethington & Kessler, 1986). This includes the perception of the leader being able and willing to help solve personal problems and making work life easier (Liden & Maslyn, 1998). Social connectedness and support are most important for individuals who work closely with their supervisors (Gelsema et al., 2006).
In the military, social connectedness consists of four related components based on the hierarchal structure: horizontal (peer to peer), vertical (peer to leader), organizational, and institutional. The bonding between peers and leaders generates the primary group cohesion (Siebold, 2007). Such bonding occurs within a squad or platoon in the military and is identified as “cooperative, holistic, supportive, face-to-face relationships” (Siebold, 2007, p. 289). These develop over time through direct interactions to develop a level of knowledge, trust, and dependability between unit members.

Firefighters are a close group, striving on social interaction and bonding (Carey et al., 2011). Firefighters need to develop close, primary social connections with their work partners to rely on them in times of high-risk and potentially life-threatening activities. The need for social connection is prevalent in post-incident discussions, following particularly stressful, emotionally challenging, or traumatizing incidents (Carey et al., 2011).

This increased level of bonding creates an environment for firefighters to work through stressful events, reducing isolation and increasing belongingness (McMahon, 2010). Such close work relationships are important. Firefighters are often not able to take their problems home to discuss them. While friends, family, and spousal support is extremely important, discussing details of the horrific scenes, events, smells, and sights dealt with on the job with individuals not in emergency services can create added stress outside work (McMahon, 2010). Furthermore, the same stress reactions seen in firefighters can develop in family and friends when discussing the graphic details of incidents (Menendez, Molly, & Magaldi, 2006).

Formal debriefings through critical incident stress management (CISM) programs are helpful and have been the long-standing accepted practice. However, recent research shows that these formalized debriefings may have paradoxical effects and could be doing harm (Jahnke, et al. 2014). The formal CISM model’s current design is intrusive on multiple planes. First, the
team concept and design places people external to those involved in the incident into critical central roles.

The individuals comprising the CISM team, while emergency responders themselves, are devoid of any social connection to the individuals attending the debriefing. Second, attendance at debriefings is mandatory once a need to activate the CISM team exists. Moreover, these debriefings only deal with major events. As discussed previously, the day-to-day events are those where the most damaging psychological events take place. These recent findings have called into question the tenet of “Primum no nocere”—“First, do no harm.” This new understanding has led the fire service to search for alternatives in mediating psychological stress (Jahnke, et al. 2014).

A newer model used by the fire services performs a military style “hot wash”, an on-scene or a discussion upon return to the fire station of the details of the incident. These occur in settings familiar to firefighters, where they tend to feel more comfortable, rather than in a sterile or medical-type setting often used for formal debriefings. Hot washes are informal, at times occurring spontaneously, and, most importantly, conducted by the firefighters’ officer and members of the crew (Jahnke, et al. 2014). These are individuals familiar to the firefighters and with whom a social connection most likely exists. The shift to the hot wash-style debriefings further enhances the need to understand how firefighters perceive the influence of their officers on their psychological well-being. This may lead to changes in the current model of critical incident stress debriefings and provide information to support a shift to immediate post incident debriefings being led by the crew’s officers, where a strong social connection exists.

Mental health stressors. Firefighters face difficult and often harsh conditions wherein they performed their duties (Dodd, 2008). The nature of the work requires firefighters to perform in some of the worst conditions, from searing heat to freezing cold (sometimes in the same call), facing the worst of human suffering. Most stimuli received during many calls is abnormal
exposure for people to witness (Streeb, 2016). Regardless of the cause, firefighters see and treat people who are suffering, dying, or dead. These incidents occur by accident, by natural aging, or sometimes through the intentional acts of persons on themselves or others (McMahon, 2010). Emergency personnel “consistently rate physical exhaustion, exposure to perilous conditions, witnessing terrible losses and the sight, smell and handling of broken and dead bodies as overwhelming” (McMahon, 2010, p. 7). Some of the worst exposures involve children, particularly when the injury or death comes at the hand of another.

**Review of Methodological Issues**

This research uses a qualitative methodology and case study design. The multiple data sources and volume of data collected through case studies can bring an extensive understanding of complex issues through detailed, contextualized events and relational impacts. Recognized as a research tool, particularly in educational and social science issues, case studies allow for the understanding of behavioral conditions “through the actor’s perspective” (Zaninal, 2007, para. 1). One of the biggest advantages to case study methodology is their applicability to real-life, human situations (Soy, 2006).

Yin (2004) notes the case study method is pertinent when the research addresses explanatory questions. In this research, both the research problem and the research questions are explanatory in nature. Furthermore, the case study allows for illumination of a situation to get close, in-depth information to create an understanding of the phenomenon. Case studies allow for data collection from multiple methods including interviews, direct observation, documents, and focus groups (Yin, 2004).

Providing the opportunity for firefighters to express their perspectives of this phenomenon and the relationship that exists between themselves and their officers in terms of influencing psychological well-being would be difficult through other methods of research. The
rich, in-depth information obtained during the case study methodology provides the best data to study how firefighters perceive the influence of leadership behaviors on their psychological well-being.

Most studies referenced in this literature review employed quantitative data collection through self-reporting instruments, using a Likert scale (Angleman, 2010; Barram, 1998; Bulala, 2013; Landen, 2008; Finney et al., 2015). Participation in the studies varied by the method used to distribute the surveys. Angleman (2010) had 94 out of 100 participants being approached to participate, who all (100%) completed the questionnaires. The principal investigator remained on site during completion of the forms. Landen (2008) followed a similar path, conducting onsite, monitored surveys. Of the 173 participants, all completed at least portions of the forms.

In Culver’s (2015) study, email solicitation carried the invitation. The actual survey instrument distribution was through Survey Monkey; of the 90 original participants, 15 failed to provide demographic data, resulting in exclusion. Significant data was missing for 11 participants and eight responses considered univariate outliers and resulted in exclusion. This left 61 participants. Subsequently, there is a strong premise for using qualitative research in this area of study. There remains a lack of qualitative research to provide rich, in-depth knowledge of how firefighters perceive the leadership behaviors to influence their own psychological well-being.

McMahon (2010) used a qualitative phenomenological study, with five participants. The sampling of five persons was large enough to reflect individual differences and small enough to manage the rich information obtained through the qualitative study. Additionally, Hunter (2005) used a qualitative approach, selecting 12 of 15 possible candidates through purposeful sampling, with pre-established inclusion criteria and the use of maximum variation sampling. Both McMahon (2010) and Hunter (2005) used in-depth, semistructured interviews.
Quantitative and qualitative research are both valuable forms of research; however, qualitative research provides richer and more in-depth examination in areas regarding human behavior and emotions, unlike a quantitative study (Madrigal & McClain, 2012). Qualitative research does not require rigidly defined variables and allows for including the subjective information of participants. Since each person’s experiences are unique, allowing them to portray the conditions, situations, and context of their experiences adds to the more natural and holistic data being made available through qualitative methods (Rubin & Rubin, 2005). Despite the suitability of such methods to study firefighters’ psychological well-being, most studies still make use of quantitative means. The use of the case study methodology provides an opportunity to fill this gap.

**Synthesis of Research Findings**

Research exists that explore leadership roles and the role of psychological well-being and the role that psychological well-being plays. Poor psychological well-being has been attributed to increased depression, anxiety, suicidal ideation, and other problems (Moffitt, Bostock, & Cave, 2014), whereas positive psychological well-being is a strong antithesis to suicide. Fire officers, in their leadership positions, impact organizational culture, employee experiences, and employee perceptions. The culture that the fire officer creates in the station, through their actions and beliefs, spreads to others. (Dasborough, Ashkanasay, Tee, & Tse, 2009).

Understanding how fire officers influence firefighters’ psychological well-being is important. The theory of leader-member exchange (LMX) (Burnette, 2012) holds that leaders and their followers develop a didactic social exchange relationship predicated on trust. Leadership social support provides a buffer to job demands and stress. This support may be either actual or perceived. The perception that the leader is able and willing to help solve personal problems and makes work life easier (Liden & Maslyn, 1998) can provide a stronger
influence on psychological well-being than a leader who may provide support (Wethington & Kessler, 1986). Leaders can provide a strong influence on psychological well-being (Wethington & Kessler, 1986).

Providing the opportunity for firefighters to express their perspectives related to this phenomenon and the relationship between themselves and their officers in terms of influencing psychological well-being would be difficult through other means of research. The rich, in-depth information obtained via the case study methodology provides the best data to study how firefighters perceive the influence of leadership behaviors on their psychological well-being.

**Critique of Previous Research**

Previous research on psychological well-being in relation to leadership behaviors is well studied. Kelloway, Turner, Barling, and Loughlin (2012) provide an example. Their study showed certain positive leadership behaviors increase psychological well-being and negative behaviors negatively impact the same. Additionally, Gilbert, Dagenais-Desmarais, and St-Hilaire (2017) found leaders who provided autonomy support and better psychological control behaviors had employees with better psychological well-being and less burnout. However, this previous research has focused on a variety of professions, not inclusive of the fire service. There is little research and literature on fire fighter psychological well-being. Further most of the research available relates directly to firefighter suicide and not to psychological well-being. Despite the suitability of qualitative methods into the research into firefighters’ psychological well-being, most studies continue to use quantitative methods. Therefore, a need exists to further research how firefighter perceive leadership effects on their psychological well-being.
**Summary**

This qualitative study aims to explore how firefighters in Florida perceive the influence of leadership behaviors on their psychological well-being. The reviewed literature on the role of firefighters and the emerging trend of firefighter suicides outlines the difficult situations that firefighters face daily as well as the repetitive traumatic exposure to some of the worst of human suffering. Ryff’s model of psychological well-being models and defines psychological well-being and the role of the same in firefighters. The Affective events theory frames how these repetitive traumatic exposures and high-risk, low-control job conditions that firefighters encounter, both on emergency scenes and at the fire station, affect their psychological well-being. The social bonding between fire officers and firefighters appears to have a significant role in the followers’ psychological well-being.

The research has two driving questions. Research question 1 (RQ1) is “How do firefighters perceive the influence of leadership behaviors on their psychological well-being?” There are sub-questions that explore the six constructs of Ryff’s psychological well-being model (Sze, 2015). This research question and its subcomponents provide the directions to fill the gap in knowledge and in constructing the study methodology.

Previous studies have explored the role of psychological well-being and the role of leadership behaviors in other high stress, low control occupations (law enforcement and military). However, there is an apparent absence of literature regarding firefighters’ perceptions of leadership behaviors on their psychological well-being. This study uses a qualitative methodology case study design to explore how firefighters perceive the influence of leadership behaviors on their psychological well-being, providing new insight and knowledge in an area where a clear knowledge gap exists. Chapter 3 provides the detailed description for using a qualitative methodology case study design to gather data.
Chapter 3: Methodology

Introduction

Firefighters face some of the worst human suffering, under harsh environmental conditions. This witnessed pain and suffering has a negative impact on their psychological well-being (Henderson, Van Hasselt, LeDuc, & Couwels, 2016). Over time, this negative impact on psychological well-being can lead to undesirable outcomes, including depression, anxiety, and suicides (Moffitt, Bostock, & Cave, 2014). With the increasing occurrence of firefighter suicides in recent years, their psychological well-being has become a topic of interest and exposed a gap in existing knowledge (Henderson et al., 2016). This qualitative, exploratory case study addresses a portion of the knowledge gap by developing an understanding of how firefighters perceive the influence of leadership behaviors on their psychological well-being.

This chapter includes the research questions, details the purpose and design of the study (including the setting, participants, instrumentation, data collection, and analysis procedures), and addresses the limitations of the research design, expected findings, and ethical issues. Furthermore, it explains and justifies the rationale for using a qualitative, exploratory case study as the research method.

Purpose and Design of the Study

The purpose of this qualitative, exploratory case study is to explore how firefighters in Florida perceive the influence of leadership behaviors on their psychological well-being. This single case study is bound by a particular point in time and specific place (Harling, 2002) through the inclusion criteria, place, using only firefighters in Florida, who attended a large fire training college in Florida and have never been officers. Owed to the nature of this exploratory study, this research may serve as the catalyst to a much larger study. This study is important, since poor psychological well-being in firefighters can lead to depression, anxiety, and suicides.
The fire service is continuously seeking knowledge and solutions to reduce the negative psychological well-being effects caused by the profession (Jahnke, et al. 2014). Yet, there exists a need to explore firefighters’ perceptions.

Fire officers, through the close social bonding with their firefighters, may have opportunities to create positive affective events, which may help offset some negative impacts to the psychological well-being of firefighters, preventing or reducing the prevalence of negative outcomes (Demirbag, Findikli, & Yozgat, 2016). The case study may thus advance a deeper understanding of the phenomenon of leadership and well-being in a firefighting setting.

**Research Questions**

The researcher has used two questions, which provide the framework for the study and guide the methodology used for data collection. They are as follows:

RQ1: How do firefighters perceive the influence of leadership behaviors on their psychological well-being?

RQ2: What leadership behaviors do firefighters report to influence their psychological well-being?

**Research Population and Sampling Method**

**Population.** In case study research, the researcher must determine who should be involved in the study and where it will take place while investigating the research question. These selections form the foundation for the study (Marshall & Rossman, 2011). The population herein is career firefighters, within the state of Florida. The sample includes eight career firefighters in Florida, who trained with a large fire training college in Florida.

**Sampling method.** The researcher used purposive sampling—eight Florida fire fighters who had trained with a large fire training organization in Florida. Purposive sampling is a non-probability sampling technique, which relies on the researcher’s judgment in selecting
participants (Laerd, 2012). The techniques focus on the characteristics of the population of interest best suited to answer the research questions and are not representative of the entire population (Laerd, 2012). Maxwell (2005, p. 88) describes purposeful selection as “a selection strategy in which particular settings, persons, or activities are selected deliberately in order to provide information that can’t be gotten as well from other choices.” Further considerations include the participant’s availability, willingness to participate, and those participants who can discuss their experiences with the phenomenon in an expressive, reflective manner (Bernard, 2002).

The researcher used the research questions to address how firefighters perceive leadership behaviors. The inclusion criteria was for participants to be full-time, paid firefighters with at least three years’ experience with a career agency, not holding or having held any rank above a driver engineer within their agency. Since rank titles vary from one department to another, this study defines the position of driver engineer in the organization as the promoted position above a firefighter and the immediate step below the station officer rank.

The three-year inclusion criteria increased the likely exposure of participants to leadership behaviors and affective events. The rank exclusion eliminated those in leadership positions, as the study sought to understand the fire officers’ influence on firefighter’s psychological well-being, since exposure to affective events increases the longer a firefighter is on the job, along with the exposure to leadership behaviors (Carey et al., 2011).

**Recruitment.** The qualitative questionnaire was distributed through a large fire training organization, which trains and educates a large population of firefighters throughout the State of Florida. The participants who completed the qualitative questionnaire were asked if they were willing to participate in interviews and complete the additional Ryff scales of psychological well-being.
The collection of contact data for those willing to participate occurred separately from the responses in the questionnaire, to maintain the anonymity of responses. The researcher selected potential candidates from a pool of candidates established through those indicating a willingness to participate. The target response for the qualitative questionnaire was 40, and 54 qualifying responses were received.

**Instrumentation**

This research consists of data collection occurring through three instruments. The first instrument was collection of data through a qualitative questionnaire. The second was the Ryff scales of psychological well-being questionnaire. The last instrument was the face to face interview process. These instruments assisted the research in obtaining the required data to address the research questions, as described below.

**Questionnaires.** A qualitative questionnaire, created in conjunction with the interview questions (see Appendix D), was sent to the firefighters who trained as current or former students of the selected college and who met the established inclusion criteria. Information gained was used to obtain the views from a large group, assist in qualitative inquiry in the interviews, add to data triangulation. The qualitative questionnaire was completed first and prior to the interviews.

The Ryff scales provides information on the current state of the participant’s psychological well-being across six dimensions: self-acceptance, environmental mastery, positive relations with others, personal growth, purpose in life, and autonomy (Seifert, 2005). These form the subsets of the first research question (RQ1). The Ryff scales is a device with 84-questions, using a six-point Likert scale (see Appendix B). Reversed scoring applies on approximately half the questions. The psychological well-being inventory, as measured by the Ryff questionnaire, “has been tested and validated on a nationally representative sample of English-speaking adults aged 25 and older” (Seifer, 2005, para. 15) and has been psychometrical
tested in several studies. Each of the six domains has a separated listed alpha. The Cronbach Alpha for internal validity were: Autonomy .83, Environmental Mastery .86, Personal Growth.85 Positive Relations with Other .88, Purpose in Life .88, Self-Acceptance .91 (Seifer, 2005). The researcher obtained permission, via e-mail, to use the Ryff psychological well-being from Dr. Ryff’s authorized representative. Appendix C contains a copy of the response granting permission.

**Interviews.** The researcher conducted semistructured interviews. Interviews are an important source of evidence for case studies (Yin, 2014). The interviews used herein are often “guided conversations rather than structured queries” (Yin, 2014, p. 110). The participant interviews were audio recorded, with participant approval. The semistructured open-ended nature of the questions allows for follow-up questions.

Open-ended questions enhance the dialogue between the interviewer and participant, which allows for richer data about the participant’s perceptions (Newton, 2010). A commercially available transcription service Rev.com transcribed the audio recordings to facilitate easier coding and prevented identification of the participants. Rev.com notes that their employees sign a confidentiality agreement. They deleted the original audio upon request. The interview questions (see Appendix A) focused on the participants’ perception of their fire officer’s leadership behaviors and provided an opportunity to reflect on leader-follower interactions.

**Data Collection**

This case study attempts to capture the most complete possible picture of the phenomenon (Bernard & Ryan, 2010). Qualitative research requires triangulation and information obtained from multiple sources, to provide a comprehensive understanding of the phenomenon and provide research validity (Patton, 2001). This study used a qualitative
questionnaire, which contained a Likert scale for response selection, the Ryff Scales of psychological well-being, and face to face interviews.

The Ryff scales were given to the participants, in the face-to-face interviews. The qualitative questionnaire was completed first. Those participating in the interviews completed the Ryff scales of psychological well-being and then participated in the interviews. The participants were not given the results of their Ryff Scales score prior to the interviews and none of the participants asked about their scores. The scores would have been provided post interview had they been requested.

![Diagram of triangulation](image)

**Figure 1.** The three data sources for triangulation.

**Qualitative questionnaire.** The questionnaire was created in Qualtrics and the link to the survey was emailed to firefighters and who met the initial inclusion criteria. The questionnaire took approximately 30 minutes to complete. The researcher developed this (see Appendix D) using questions from the interview protocol converted from open-ended interview style questions to Likert based questions and the shorter nine-item Ryff scales questionnaire. The qualitative questionnaire helped compare the perceptions of a larger group of firefighters of their officer’s
leadership behaviors and their level of psychological well-being. The researcher distributed the questionnaire to a large group of firefighters in the State of Florida. The collection of responses was anonymous and no identifying personal information was collected.

**The Ryff scale of psychological well-being questionnaire.** Each participant completed the Ryff scale prior to the interviews. The Ryff scale of psychological well-being questionnaire comes in three tested and approved formats. The longest version is a 14-item per domain questionnaire for 84 total questions. The participants received the long-format questionnaire.

**Individual interviews.** These were conducted through web-based video conferencing and lasted approximately one hour. The interviewer had the participant sign a consent for the interviews as well as their audio recording. During the initial questioning, the interviewer obtained verbal acknowledgement from participants for the interviews being recorded.

Research requires data collection. In qualitative research especially, data collection results in large amounts of data, which require coding and interpretation. The recording of data obtained through interviews allows the researcher to revisit the information collected and discern details and nuances of information not noticed during the initial process or missed while taking notes; this increases the research validity (Bernard & Ryan, 2010). With the consent of the participants, the individual, face-to-face interview sessions were audio recorded on a password-protected electronic device. The original audio files were deleted after transcription and the offer of member checking, the transcripts. None of the participants requested corrections.

The interview process was the same for all participants, with the same pre-structured questions being asked. The participant had the opportunity to review the section of the research data, analysis, and researcher interpretations derived from individual interviews, two of the participants requested to see the information and neither requested modifications. Lincoln and
Guba (1985) consider member checking as the process of taking the data back to the participants to confirm the information, as “the most crucial technique for establishing credibility” (p. 314).

**Data Analysis Procedures**

Qualitative data analysis moves the research from simple data collection to an understandable and organized structure that provides an explanation or interpretation of the phenomenon (Lewins, Taylor, & Gibbs, 2010). The data collected was organized and analyzed descriptively. Means, modes, and ratios may provide a high level of descriptive insight into the participants’ responses.

Coding data identifies groups of information to create and identify thematic ideas. This process helps break down the large data sets typical of qualitative research into manageable ideas, concurrently reducing the likelihood of missing important information (Lewins, Taylor, & Gibbs, 2010). Using computers, coding can be more efficiently accomplished. Computers help keep the data organized and the computer-aided qualitative data analysis software (CAQDAS) can reduce the time required by for the researcher for coding by allowing the software to search for terms and assist in data organization (Lewins, Taylor, & Gibbs, 2010). The researcher used the commercially available software ATLAS.ti to assist in organizing and analyzing the transcribed data.

Preliminary data analysis occurred during the interviews with the researcher taking field notes on the information provided by participants. This process allowed for initial coding with the identification of major themes, followed by the in-depth coding post data collection. A commercially available transcription service, Rev.com, was used to transcribe the audio recordings to facilitate easier coding. The data analysis occurred after the transcription was completed. The transcription service provided a non-disclosure agreement at the time of securing their services. The transcription itself facilitated coding using ATLAS.ti to identify themes and
other commonalities. Initial in-vivo coding yielded 525 codes, which were categorized using the interview questions as the initial category, resulting in 12 categories. This allowed the research to begin identifying patterns of shared perceptions by the participants for each question. The categories were further examined along with the in-vivo codes and classified into positive and negative perspectives of leadership behaviors. A comparison of the coding from the major themes noted by the researcher and ATLAS.ti helped ensure there were no significant gaps.

The Ryff scales scoring determined the participants’ current psychological well-being in each dimension as well as overall. The interviews were transcribed and analyzed. Any developing trends and themes were identified. After confirming the transcription was received intact, the participants were given the opportunity to review the transcript for accuracy and modify responses if desired; none of the participants requested changes. The information gathered from the interviews were sorted into two categories: participants who indicated their officers have positive leadership behaviors and those who indicated their leaders have negative leadership behaviors. A comparison of the information identified in the interview analysis from each individual participant and the responses to the Ryff scales was used, to examine the perception of leadership behaviors on psychological well-being.

**Limitations of the Research Design**

Acknowledging and understanding the limitations and delimitations of the research design is important. Limitations are external factors—those issues the researcher cannot fully control—such as financial and time constraints, participant drop out, and researcher bias. Ensuring the proper design for the research can reduce these inherent limitations (Willis, 2009). Delimitations are internal situations and choices of the research to set the parameters of the study and help establish the research scope (Gay, Mills, & Airasian, 2012).
The assumptions made herein were that participants would honestly self-report their feelings in answering the Ryff scales of psychological well-being and that they would be honest and open in self-reporting their perspectives and experiences in the interview responses. The limitations included researcher bias; despite steps being taken to reduce this to the greatest possible extent. This included excluding participants known to the researcher and acknowledging the researcher’s background in relation to the study. Other limitations include the large geographic area of Florida, which required the use of online video to facilitate some interviews. Lastly, the instruments used for data collection and the interviews of the participants self-reporting their perspectives and experiences were considered a limitation.

The delimitations included the use of purposeful sampling, the inclusion criteria of choosing to include only participants with three or more years of experience, limiting the research area to the State of Florida, and the number of participants for the in-depth interviews. Each of these decisions, while made with a strong research argument and the intent to provide the best research possible, still presented delimitations.

The limitations and delimitations may affect the research process. By acknowledging the same, the research can take steps to reduce the negative impact on the study. This includes confronting these inherent research bias possibilities in the expected findings and ethical issue sections which follow.

**Validation**

**Credibility and dependability.** Credibility is important to establish the results as believable. Credibility addresses how a researcher’s findings align with reality. Researchers must be able to show that they accurately recorded and interpreted the data to address the research problem (Shenton, 2004). There are methods to increase the credibility of a study, including researcher reflexivity, triangulation, member checks, thick rich descriptions, and peer debriefing.
Reflexivity in qualitative research has the potential to impact the research and change them on a personal level (Higgins, 2016). The interaction between the researcher and participants can influence both throughout the research process (Rallis, Gretchen, & Rossman, 2010). Understanding this potential and disclosing personal beliefs, assumptions, and biases that may impact the research and data interpretation thus adds to the credibility of the study (Rallis, Gretchen, & Rossman, 2010).

In the researcher’s position section that follows, the researcher addresses personal beliefs, assumptions, and potential biases. Triangulation uses multiple data sources to find common themes or categories and find a point of convergence in the data (Creswell, 2013). This research uses interviews and two questionnaires to triangulate collected data. The interview questions and the qualitative questionnaire were validated via a validation rubric for expert panel (VREP). This is a tool used to overcome validation shortcomings in the development of surveys and interviews. This rubric (see Appendix E) assists field experts in determining if the instrument will be valid (White & Simon, 2004). For this case study, the VREP focused on content validity, i.e., the extent to which a measurement identifies the specific domain being measured. The expert panel consisted of members of the research dissertation committee. They reviewed the interview questions, providing feedback to the researcher.

The Ryff scales of psychological well-being is a previously reviewed and validated instrument. Each of the six domains in the survey have a separated listed alpha for the domain’s internal consistency along with the comparison to the parent document. The Cronbach Alpha for internal validity is .87 (Seifer, 2005). Additionally, the interview responses were subject to member checking. The participant had the opportunity to review the section of the research data, analysis, and researcher interpretations derived from their individual interview. Lincoln and Guba (1985) consider member checking the process of taking the researchers interpretation of
the data back to the participants to confirm the researcher’s interpretation as “the most crucial technique for establishing credibility” (p. 314).

Thick rich descriptions are detailed accounts of the setting and participants. These vivid details help readers with the research credibility and with how the findings may apply to other settings. Shenton (2004) notes that providing detailed descriptions helps “convey the actual situations that have been investigated and, to an extent, the contexts that surround them” (p. 69).

Lastly, peer reviews can help support the researcher, challenge the made assumptions, ask difficult questions about the used methods, and act as a sounding board for the entire process. Creswell (2000, p. 129) states that “by seeking the assistance of peer debriefs, researchers add credibility to a study.” My dissertation chair and other committee members faithfully executed the role of being peer reviewers, asking difficult questions and helping guide me through this process, to ensure a credible and dependable study.

Expected Findings

The literature reviewed shows the strong influence leadership behaviors have on affecting the psychological well-being of followers, across different occupations. The fire service, at the researched level, is different than a typical occupation. Firefighters and their officers spend more time together, often under more extreme circumstances, than most other professions—this creates strong social bonding.

The researcher expects to discover that leadership behaviors may influence followers’ psychological well-being, similar to other occupations, if not stronger. However, the researcher expects that the perception of firefighters regarding their leaders’ influence on their psychological well-being may not be clear. The study results may help address an existing knowledge gap, regarding how firefighters and fire officers perceive the effects of leadership
behaviors on psychological well-being. This may further enhance the dialog of ways leaders can work towards increasing the psychological well-being of those they lead.

Ethical Issues

This section discusses the potential ethical issues involved herein. Addressing ethics is important—Ellis (2011) states that qualitative researchers may be more likely to have the quality of their work questioned and thus need to be able to defend their research. The use of mentors can help new researchers avoid ethical pitfalls as the mentor helps the researcher select appropriate methodology and participant interaction (Horner & Minifie., 2011). Additionally, having the research peer reviewed can reduce ethical questions about the research (Horner & Minifie., 2011). The research is guided by a mentor and then reviewed by a dissertation committee, which among other roles acts as peer reviewers.

The conflicts of interest and the researcher’s position statements follow and provide the transparency of the research interests, beliefs, and associated relationships that occur within the context of the case study (Yin, 2014). The goal of this transparency is the maintenance of the credibility of data collection, findings, conclusions, and recommendations of data analysis. Case study research is prone to researcher bias, owed to the need to understand the phenomenon prior to conducting research. Case study research requires diligence in ensuring collection of research data, reducing the likelihood of accommodating preconceived viewpoints (Yin, 2014).

The researcher committed to maintaining the highest levels of ethical conduct and the responsibility to scholarship, following established ethical guidelines for research involving human subject and abiding by the directions of Concordia Universities Institutional Review board. Steps taken to reach this objective include having the participants complete an informed consent documentation and being made aware of their rights in writing. The participants were fully informed about the study and allowed to ask questions. Confidentiality was maintained by
using non-identifying information in place of names and other information that could identify the participant or their department. The audio files were destroyed in accordance with the IRB requirements. The participants were given the name and phone number of a fire service-related mental health resource that could assist them, should any negative feelings arise after participation.

**Conflict of Interest Assessment**

The researcher has an extensive background in the fire service and currently holds a high-ranking position within a fire service agency. When a researcher has a deep knowledge of the field of study, a shared experience position can occur (Berger 2015). This position occurs when the research has had similar experiences, but must understand that the experiences of each individual are unique. Researchers having shared experiences must be careful not to create a feeling of “comparison and competition” (Berger, 2015, P. 6) with the research subject. The researcher has no financial interest in the research outcomes. To avoid any potential influence or conflict of interest, participants from the researcher’s home agency were not used in this study. The sole motivating factor of this research is to develop a deeper understanding of the perception firefighters have of leadership behaviors on their psychological well-being, to further aid in reducing firefighter suicides.

**Researcher’s Position**

As noted by Yin (2014), case studies are susceptible to the researcher having a preconceived position on the phenomenon. In describing the researcher’s background related to the study, the research addresses the values, experiences, and potential biases that can affect the qualitative research. Owed to the close nature of the researcher in qualitative studies, the researcher must be cognizant of personal assumptions and preconceptions. Reflexivity in
qualitative research helps the research accomplish this. Reflexivity is “the process of examining both oneself as a researcher and the research relationship” (Hsiung, 2010, para. 1).

With over 25 years of involvement in the fire service, my experiences, as well as my current position within the fire service have exposed me to the intimate nature of the issue of firefighter suicides and firefighters’ psychological well-being, providing a shared experience position (Berger, 2015). The researcher has experienced several negative affective events discussed herein. This close connection to the fire service and affective events provides a deep understanding of many fire service aspects, though there remain several unanswered questions about how firefighters perceive the influence of leader behaviors on their psychological well-being.

My interest in this study stems from a personal desire to further understand this phenomenon. While bringing personal experiences into a case study, my familiarity with the potential candidates could result in unintended bias. To reduce potential bias or influence with the participants, a third party has conducted the interviews and transcribed the audio. This has helped ensure that only the data collected from the study participants factored into providing a deeper understanding of the phenomenon of leadership behaviors and their effect on well-being in a firefighting setting.

**Summary**

This chapter describes the planned use of a case study methodology to explore how firefighters perceive the influence of leadership behaviors on their psychological well-being. The study involves 8 participants from Florida who meet the inclusion criteria. Permission to conduct the study from the participants prior to participation.

The instrumentation involves the use of a qualitative questionnaire given to a large group of firefighters, participant interviews, and the Ryff Psychological well-being scales.
questionnaire. The use of Qualtrics to electronically distribute the questionnaires has helped to ensure the delivery, ease of completion, and ease of data analysis. Audio recordings of the interviews, with participant permission, were used to facilitate review and coding. Data analysis occurred through the transcription of audio recordings obtained during interviews, the researcher’s field coding, and the use of CAQDAS. Analysis of the Ryff scales occurred as per the directions of the questionnaire.

Moreover, this chapter has addressed the ethical issues and conflict of interests. There are no noted ethical issues. The researcher complied with the IRB policies of Concordia University; likewise, the researcher has no financial interest in the research and the motivation of the research is to reduce firefighter suicides by better understanding the perception firefighters have of leadership behaviors on their psychological well-being.

Chapter 4 explores in detail the data collection, analysis, and results of the study. While Chapter 3 serves to outline the justification for the methodology to collect data and how, Chapter 4 builds on this framework, detailing the specifics of how the methodology and instrumentation served to collect the data and provides specifics on the participants, data coding, and theme-building. Furthermore, it discusses the findings and results.
Chapter 4: Data Analysis and Results

Introduction

This chapter is divided into four main sections: the description of the sample, research methodology and analysis, summary of findings, and presentation of data and results. The purpose of the case study methodology was to gather rich descriptive data, to better understand how firefighters perceive leadership behaviors on their psychological well-being and to identify what leadership behaviors influence firefighters’ psychological well-being. Firefighters from Florida were purposively selected to participate based on the participant inclusion criteria.

The data collection consisted of three parts: a qualitative questionnaire, a semistructured interview, and the completion of the Ryff scales of psychological well-being. There are two research questions guiding this study. The primary question is “How do firefighters perceive the influence of leadership behaviors on their psychological well-being?” The secondary question is “What leadership behaviors do firefighters report to influence their psychological well-being?”

Description of the Sample

A qualitative questionnaire was distributed to a group of approximately 4,300 firefighters throughout Florida who are registered with the Florida State Fire College. The end of this questionnaire contained an invitation to participate further in the research study by participating in an interview and completing the Ryff scales of psychological well-being questionnaire. There were 54 qualifying responses to the qualitative questionnaire, with 43 completing all questions and 11 completing 90% of the questions. Those who completed the qualitative questionnaire yielded a mix of demographics (Table 2), where 26% (14) were aged between 21–30, 44% (24) between 30–40, 25% (14) between 40–50, and .03% (2) over 50. Years of experience ranged from three to over 20 years with 55% (30) having three to 10 years of experience, 37% (20) having 10 to 20 years, and 4% having over 20 years. There were 48 males and six females, of
which 51 self-reported as white, two as Native Hawaiian, one as African American, and three as Hispanic.

Table 1

*Qualitative Questionnaire Demographics*

<table>
<thead>
<tr>
<th>Demographics</th>
<th>N = 54</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>48</td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>21–30</td>
<td>14</td>
</tr>
<tr>
<td>30–40</td>
<td>24</td>
</tr>
<tr>
<td>40–50</td>
<td>14</td>
</tr>
<tr>
<td>50 or older</td>
<td>2</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>51</td>
</tr>
<tr>
<td>African American</td>
<td>2</td>
</tr>
<tr>
<td>Native American</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3</td>
</tr>
<tr>
<td>Experience (years)</td>
<td></td>
</tr>
<tr>
<td>3–10</td>
<td>30</td>
</tr>
<tr>
<td>10–20</td>
<td>20</td>
</tr>
<tr>
<td>20 or more</td>
<td>4</td>
</tr>
</tbody>
</table>

From the 54 qualifying respondents, 13 initially agreed to participate further in the research study. Three of these respondents did not return contact with the researcher after multiple attempts to contact them and two withdrew. The remaining eight participated fully in the semistructured interview and completed the Ryff scales questionnaire. All eight participants were males and only one of the six females who completed the initial survey left contact information. However, the researcher was unable to establish contact with her after numerous attempts. Table 1 shows the demographic break down for the eight participants. Seven of them
identified as white, while one identified as Native Hawaiian. Two participants identified as Hispanic. There is representation from each of the defined age groups with three in the 21–30 range, three in the 30–40 range, one in the 40–50 range, and one over 50. Furthermore, each service category years range is represented, with six in the 3–10 years range, one in the 10–20 range, and one with more than 20 years of service.

Table 2

*Interview Participant Demographics*

<table>
<thead>
<tr>
<th>Firefighter</th>
<th>Age</th>
<th>Years of experience</th>
<th>Ethnicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF1</td>
<td>30–40</td>
<td>3–10</td>
<td>White</td>
</tr>
<tr>
<td>FF2</td>
<td>30–40</td>
<td>10–20</td>
<td>White</td>
</tr>
<tr>
<td>FF3</td>
<td>40–50</td>
<td>3–10</td>
<td>Native Hawaiian/Hispanic</td>
</tr>
<tr>
<td>FF4</td>
<td>50 plus</td>
<td>20 plus</td>
<td>White</td>
</tr>
<tr>
<td>FF5</td>
<td>21–30</td>
<td>3–10</td>
<td>White</td>
</tr>
<tr>
<td>FF6</td>
<td>30–40</td>
<td>3–10</td>
<td>White</td>
</tr>
<tr>
<td>FF7</td>
<td>21–30</td>
<td>3–10</td>
<td>White/Hispanic</td>
</tr>
<tr>
<td>FF8</td>
<td>21–30</td>
<td>3–10</td>
<td>White</td>
</tr>
</tbody>
</table>

**Research Methodology and Analysis**

The purpose was to explore how firefighters in Florida perceive the influence of leadership behaviors on their psychological well-being. Prior to recruitment and data collection, permission to conduct human subject research was obtained from Concordia University’s Institutional Review Board (IRB). A qualitative, exploratory case study was used for this research. It used three methods of data collection to assist with triangulation: a qualitative questionnaire, semistructured interviews, and the Ryff scales of psychological well-being.

Participation was voluntary. The participants read, filled out, and signed the IRB-required consent form and were given an opportunity to ask questions before the interview began. They were not provided with advance information about the questions. The semistructured interviews
occurred chiefly in the online environment using real-time video enabled programs. Online videos were the preferred method of the participants. This allowed the researcher to schedule interviews more easily and added comfort for the participants by completing the interviews from home and in a more confidential manner. While video chat was used, interviews had no video recorded and only the audio was recorded for later transcription. Two of the participants opted for sit-down, face-to-face interviews. The research took notes during the interviews to key in on specific thoughts or comments.

The audio was recorded after obtaining permission from the participant. The transcription was performed by REV.com. After confirming the transcription was received intact, the participant was given the opportunity to review the transcript for accuracy and modify responses if desired; none of the participants requested changes. As per the IRB requirement, the original audio files were destroyed.

**Case study’s methodological approach.** The word files were imported into ATLAS.ti, a qualitative data analysis software that allowed for the easier coding and organization of data. The researcher used in-vivo coding for interviews to capture the participants’ own thoughts. This was further examined to determine categories and similarities that developed during the in-vivo coding. The qualitative questionnaire was open coded, using coding features in ATLAS.ti to assist in the organization of data. Data were reduced and grouped into categories to allow data patterns to emerge and further coded to develop themes.

**Initial analysis.** This was a methodical approach identifying key phrases through in-vivo coding. There were 525 in-vivo codes developed from the interview questions. Examples include, “He’s kind of hands off,” “Needs to be more direct,” “Style does affect my morale,” “He’s willing to train with you,” “He’s open to anything we want,” “Pretty much has an open range”, “Very fortunate to be assigned to him,” “He would accept input,” “He comes at it full
force and addresses it head on, “He’s about structure,” “My lieutenant asks for input from me,” and “Very, very up forward in talking to you.” These 525 in-vivo codes were further reduced into 12 categories.

**Twelve categories.** The 525 in-vivo codes were categorized by using the interview questions as the initial category, resulting in 12 categories. This allowed the research to begin identifying patterns of shared perceptions by the participants for each question. The categories were further examined along with the in-vivo codes and divided into positive and negative perspectives of the leadership behaviors experienced. These were divided using leadership behaviors discussed in Chapter 2. Positive leadership behaviors are those that provide support, feedback, empowerment, integrity, and quality communication, establishing trust between the leader and followers (Perko, Kinnunen, Tolvanen, & Feldt, 2016). Negative leadership behaviors are identified as, management-by-exception, which focuses on drawing attention to the mistakes and errors of employees and laissez-faire leadership, which is more passive and wherein negative behaviors occur through a lack of interest, poor involvement, low accountability, and disengagement by the leader (Kelloway et al., 2012)—behaviors that fail to support and empower the subordinate and fail to build trust between the leader and follower.

**Two perspectives.** This resulted in the identification of three participants with perspectives that were mostly or highly negative, one participant who was more negative than positive, three participants who were mostly or highly positive, and one who was slightly more positive than negative. The list of the participants in the positive/negative separation was used to compare with their Ryff scales’ scores. Table 4 shows the participants’ view of the leadership behavior and their Ryff scale score of psychological well-Being. Using the identified positive and negative leadership behaviors, the in-vivo codes of the participants taken for each of the 12 categories were further sub-categorized and labeled as either positive or negative. If there were
more positive codes, the category was labeled positive, and vice versa. Figure 2 helps the reader understand how the two final perspectives flowed from the raw data.

After categorizing in Table 4, the total of the positive and negative perspectives for each participant tallied. Where the total of positive codes was higher than the negative codes, the participant was included as a positive perceptive on leadership behaviors. Likewise, where the negative total was higher, the participant was included in the negative perception segment. This data was then used to develop themes 1 and sub themes 1a and 2.

![Diagram](image)

*Figure 2. In-vivo codes process flow*

More specifically, Table 3 demonstrates how the 12 categories—from the original 525—crossed with each participant and the ultimate perspectives: positive and negative. The participant’s Ryff scores are included at the bottom showing the interaction of the positive/negative perception to their psychological well-being.

**Summary of Findings**

Two primary themes emerged from the data analysis. These pertain to RQ1 and RQ2, providing a list of leadership qualities. The following is a summary of the findings. Table 5 outlines the emergent themes along with examples of interview responses related to the theme.

RQ1. How do firefighters perceive the influence of leadership behaviors on their psychological well-being?

1. Theme 1. Firefighter’s perceptions of leadership behavior influenced their psychological well-being.
a. Subtheme 1a: Firefighters who perceive their officer’s leadership behaviors positively, related higher psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey.

b. Subtheme 2. Firefighters who perceive their officer’s leadership behaviors negatively, related lower psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey.

RQ2. What leadership behaviors do firefighters report to influence their psychological well-being? Positive behaviors were identified as leading by example, open communication, and honest, empathetic, consistent, and continued learning. Negative behaviors were identified as closed off (emotionally), uncaring, disengaged, judgmental, isolates themselves from crew, and self-centered.
Table 3

Emergent Themes After Coding

<table>
<thead>
<tr>
<th>Emergent Themes</th>
<th>Research Question(s)</th>
<th>Firefighter Perspective Quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theme 1. Firefighters perceptions of leadership behavior influenced their psychological well-being.</td>
<td>RQ1</td>
<td>Pretty ecstatic to be assigned to him. FF2</td>
</tr>
<tr>
<td>Subtheme 1a: Firefighters who perceive their officer’s leadership behaviors positively, related higher psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey</td>
<td></td>
<td>He’s not there for himself whatsoever; he enables the crew to be human beings and helps each employee grow. FF2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Makes me feel good about being a firefighter, and he’s supportive of the other guys. FF4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>He’s pretty direct, but will have your back too; and he’s always out there working with us and not just hiding behind a desk. FF4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not micro-managed; has very good leadership. FF6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Very, very up and forward in talking to you. FF6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>He’s not going to make us do something that he won’t do. So, if he’s going to expect us to do something, he’s going to also do it himself, if not do it first. FF6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I’m honored to work for them. FF7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Our lieutenant has our backs and he makes sure that we do the right thing. FF7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>He definitely makes me feel better about myself because you know if we have that communication, we have this bond. FF7</td>
</tr>
</tbody>
</table>

151
Table 3 Continued

<table>
<thead>
<tr>
<th>Sub Theme 2.</th>
<th>Research Question(s)</th>
<th>Firefighter Perspective Quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firefighters who perceive their officer’s leadership behaviors negatively, related lower psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey</td>
<td>RQ1</td>
<td>Officer is mild mannered and hands off and thinks he needs to be more direct. FF1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Does not motivate the crew to train or to take advanced courses. FF1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I’ve got almost full rein. FF3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>He lets us do what we want to. FF3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>His officer has a lackadaisical attitude and gives them pretty much open range. FF5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I’ve given my opinion before and it has been shot down. FF5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Keeps me within arm’s reach, but without keeping me any closer. FF5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>It’s more so he just kinda tells us hey, this is what I’m doing. This is what we’re doing. And sometimes, um, when we’re in the middle of doing something or we just come back from a call and we’re getting ready to eat, we get told hey, we're doing it right now. FF8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>We had a crew who . . . uh . . . everyone kinda split up and did their own thing because we didn’t want to be all together because of the individual in charge. FF8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Well he didn’t really have a backbone much, unfortunately. His officer would break the rules for himself but not others. We never felt like he had our backs. FF8</td>
</tr>
</tbody>
</table>

Presentation of the Data and Results

Table 7 shows the scoring of each individual participant in the six domains as well as the aggregate score. The 14 item scales have a possible maximum high score of 504 and a low score of 84. Each of the individual domains—Autonomy, Environmental, Purpose in Life, Positive
Relations, Personal Growth, and Self-Acceptance—has a maximum score of 84 and a low score of 14. The mean overall score is 384. This number has been used to determine the average psychological well-being of the participant group. For this study, the mean is used as the divider between high and low psychological well-being. The range above and below the mean is further divided into eight subcategories: very high, high, above average, average, below average, low, very low, and poor. Table 6 outlines these score ranges and cutoffs for the scoring rubric. The individual domain scores are classified as 80–84 for “very high,” 76–79 for “high,” 70–75 for “moderate,” 65–69 for “low,” 60–65 for “very low,” and lower than 60 for “poor.”

Table 4

<table>
<thead>
<tr>
<th>Range</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>407 and above</td>
</tr>
<tr>
<td>High</td>
<td>396–406</td>
</tr>
<tr>
<td>Above Average</td>
<td>385–395</td>
</tr>
<tr>
<td>Average</td>
<td>374–384</td>
</tr>
<tr>
<td>Below Average</td>
<td>373–363</td>
</tr>
<tr>
<td>Low</td>
<td>362–352</td>
</tr>
<tr>
<td>Very Low</td>
<td>351–341</td>
</tr>
<tr>
<td>Poor</td>
<td>340 and under</td>
</tr>
</tbody>
</table>

The individual Ryff scores for the participants are showed in Table 5. This lists the overall score and the individual domain scores. The overall Ryff scores for Participants 3, 5, and 8 were in the “poor” range and that of Participant 1 was “below average.” Participants 2, 6, and 7 scored “very high” or “high” and Participant 4 was in the “average” range. Autonomy was the lowest overall domain with a mean score of 58. Participants 1, 3, 5, 7, and 8 scoring lower than 60 (poor). The highest score was of Participant 6 at 74. Personal growth had the highest mean score of 71 with all participants scoring 68 or higher. Participant 1 scored a 69, Participant 2
scored a 72, Participants 3 and 4 both scored 68, Participant 5 scored 74, Participant 6 scored 77, and Participants 7 and 8 both scored 70.

Purpose in life had an overall score of 64.25 and was widespread between high and low. Participants 3, 5, and 8 scored in the “poor” range scoring with Participants 3 and 5 scoring 49 and Participant 8 scoring 57. Participants 2, 6, and 7 scored “moderate” or higher, with Participant 2 scoring an 81, the single highest score in any domain. Positive relations had a mean score of 61, with five participants scoring in the “poor” range. Participant 1 scored a 53, Participant 3 scored a 43, Participant 4 scored a 57, Participant 5 a 54, and Participant 8 scored a 56. Participants 2 and 7 scored “moderate” with 71 and 74, respectively, while Participant 6 scored “very high” with an 80.

The self-acceptance domain had a mean score of 62.62 with four participants scoring “moderate” or higher. Participant 1 scored a 69, Participant 2 scored an 80, Participant 6 scored a 76, and Participant 7 scored a 73. Participant 2 scored a 36, the lowest single score in any domain. Participant 5 scored a 55 and Participant 8 a 49, both scoring in the “poor” range. The environmental domain had a mean score of 61.37. Participants 2 scored a 78 and Participant 6 scored an 80 both in the “Moderate,” range. Participant 1 scored a 66, Participant 4 scored a 62, and Participant 7 scored a 65. All these scores fell into the “low” range. Participant 3 scored a 41, Participant 5 scored a 47, and Participant 8 scored a 52, all falling in the “poor” range.
Table 5

_Participants’ Ryff Scales Score_

<table>
<thead>
<tr>
<th>Firefighter</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autonomy</td>
<td>52</td>
<td>61</td>
<td>56</td>
<td>66</td>
<td>59</td>
<td>74</td>
<td>51</td>
<td>45</td>
<td>58</td>
</tr>
<tr>
<td>Environmental</td>
<td>66</td>
<td>78</td>
<td>41</td>
<td>62</td>
<td>47</td>
<td>80</td>
<td>65</td>
<td>52</td>
<td>61.37</td>
</tr>
<tr>
<td>Purpose in Life</td>
<td>64</td>
<td>81</td>
<td>49</td>
<td>67</td>
<td>49</td>
<td>76</td>
<td>71</td>
<td>57</td>
<td>64.25</td>
</tr>
<tr>
<td>Positive Relations</td>
<td>53</td>
<td>71</td>
<td>43</td>
<td>57</td>
<td>54</td>
<td>80</td>
<td>74</td>
<td>56</td>
<td>61</td>
</tr>
<tr>
<td>Personal Growth</td>
<td>69</td>
<td>72</td>
<td>68</td>
<td>68</td>
<td>74</td>
<td>77</td>
<td>70</td>
<td>70</td>
<td>71</td>
</tr>
<tr>
<td>Self-Acceptance</td>
<td>69</td>
<td>80</td>
<td>36</td>
<td>63</td>
<td>55</td>
<td>76</td>
<td>73</td>
<td>49</td>
<td>62.62</td>
</tr>
<tr>
<td>Total Score</td>
<td>373</td>
<td>443</td>
<td>293</td>
<td>383</td>
<td>338</td>
<td>463</td>
<td>404</td>
<td>329</td>
<td></td>
</tr>
</tbody>
</table>

**Qualitative questionnaire.** All 53 respondents answered the question “how do you feel about your ability to decide what you are doing during the shift?” as excellent (34%), good (45%), or acceptable (20%). The question “how do you feel about your ability to provide input to your officer on calls”, showed similar responses with one respondent ranking “poor” and one ranking “very poor.” The responses as excellent was 32%, good as 36%, and acceptable as 28%. In response to the question “how do you feel about your ability to form relationships with other in the station”, 4 scored it poor 7%, 1 very poor, 45% said it was excellent, 37% good and 7% acceptable. The question “how do you feel about your ability to be successful in this department”, had 10% ranking “very poor,” 13% as “poor,” 17% as “acceptable,” 40% as “good,” and 20% as “excellent.” The question “how do you feel about coming to work each day”, recorded responses with 9% scoring it “very poor,” 9 % scoring it “poor,” 18 % saying it was “acceptable,” 35% scoring it “good,” and 28% scoring it “excellent.” The question “how do you feel the opportunities for growth and development are at your department”, did not score nearly as high as the previous questions with 17% ranking it “very poor,” 15% ranking it “poor,” 22% as “acceptable,” 32% as “good,” and 13% as “excellent.”
When asked “do you feel that you can talk openly with your officer about issues affecting you at work or home”, the responses were “definitely not” (15%), “probably not” (9%), “possible” (20%), “probably” (24%), and “definitely” (30%). Of the respondents, 96% (51 of 53) said it was “very important” or “important” to have a good relationship with their officer. One scored it “fairly important” and one as “not important.” The question “how important is it to you to have an officer that supports your emotional need”, had 55% (29) scoring it “very important” or “important,” 40% (21) scored it “fairly important” or “slightly important,” and 2 scoring it as “not important.” “how frequently does your officer support you emotionally” fared with 15% responding “never,” 23% as “rarely,” 25% as “occasionally,” 17% as “frequently,” and 19% as “always.” “my officer is supportive of my needs following an emotionally taxing call” received the following responses: 12% as “strongly disagree,” 8% as “disagree,” 20% as “undecided,” 33% as “agree,” and 27% as “strongly agree.”

The chief ideal leadership qualities identified in the questionnaire are as follows: “Leads and leads by example,” “knowledgeable and fair,” “consistent,” “honest,” “good communication,” “judgment free,” “empathetic,” and “open minded.” Conversely, when asked to describe their current officer, only 13 (28%) of the 45 respondents answered in positive terms, including “humble,” “hardworking,” “open minded,” and “knowledgeable.” The other 32 answered in negative terms including “does not lead by example,” “biased,” “closed off,” “poor leader,” “controversial,” “autocratic and unfriendly,” “lost touch,” “does bare minimum,” and “doesn’t want to hear input from crew and is a difficult person to work for.” One response succinctly put their perspective as “I wish I was kidding, but he couldn’t lead a pack of wolves to fresh meat with a pork chop tied around his neck.”
Interview data. This section presents the responses from the participants of the semistructured interviews and describes their responses in relation to their Ryff scales questionnaire.

Participant 1. Participant 1 is a 30–40-year-old white male with seven years of fire service experience. The responses were mixed positive and negative with more positive responses. He noted that he enjoys working for his department and that a strong “alpha mentality” is present. He notes his decision-making ability for daily activities is good and that the crew has morning briefings and eats meals together when possible. His officer “give us a choice” and “options” about what to do and when, using a more democratic method of leadership.

His officers’ leadership guidance is negative, with the participant reporting it as “mild mannered” and “hands off.” His officer’s acceptance of input is positive, “democratic” and, on calls, “a little more direct”. With regard to his officers’ approach to education and learning, he noted that his “officer does not motivate the crew to train or to take advanced courses.” His leader’s support of the crew emotional needs was positive: the officer “sits down and talks,” “offers crisis intervention,” and the “chaplain.” For leader’s support of individual emotional needs, Participant 1 stated “I could speak to him about any emotional matters,” he is “approachable.” Their view of potential success was positive—“quite easy to progress” and “I can definitely be successful.” In regard to the leaders’ view of the firefighters’ abilities, Participant 1 stated “he is confident in my abilities.” They viewed leadership behaviors as negative, “little timid,” and one that could “be in a little better physical shape.” Leadership feedback was generally gained “through email,” though sometimes it was face to face and was perceived as “corrective.” Participants 1 described his interpersonal relations as positive, stating
that “he does not have an issue building relation with others” and that his leader generally mimics others’ behaviors to “fit in better.”

They had a Ryff score of 373, which scored in the “below average” range. Notably, he ranked autonomy and positive relations as low—the score for autonomy ranked in the “poor” range with a score of 52. Additionally, he scored positive relations as “poor” with a 53, despite indicating that he could speak with his officer and form relationships in the station. The scores for personal growth and self-acceptance seem to align with the responses provided in the interview.

**Participant 2.** Participant 2 is a 30–40-year-old white male with 14 years in the fire service. The responses in his interview were positive. He spoke highly of the department, saying “I absolutely love my department.” He describes his decision-making ability as positive: “I am very much able to decide,” noting that his officer was “very supportive” and “incredible to work for.” His officer’s acceptance of input was positive—his officer “acknowledges very well that he may not be the expert in any topic” and “he would accept input from myself.” Likewise, the leadership guidance responses were also positive—“he guides on the principle [that] we have a job to do”—and he noted his officer is “there for the overall mission of the department and he’s not there for himself whatsoever.” Further the officer “enables the crew to be human beings not just cogs in the machine.” His leadership’s approach to education and learning was also positive—“he thinks it’s mission critical.” The participant reiterated, “he thinks it’s critically important,” noting his officer “would much rather have an educated crew than an uneducated one.” The leadership feedback is thus positive. Participant 2 described is as follows: “it’s direct, sometimes it’s a little bit brash”. He noted his officer “comes at it full force and addresses it head on, it’s all business; it’s not personal.” Furthermore, he said, “I don’t . . . he doesn’t dislike a person because they messed up. He’s fixing the issue.” Interpersonal relations thus seem to be
positive. His leader was perceived as having a “really good ability to read people” and “not looking to fight people at work.” “I don't really have much negative, so I make an effort to get along with people,” he stated, reiterating that his leader takes “a more personal approach.” The leader’s support of crew emotional needs was thus positive. They rated received support as “good” and “definitely not negative by any means,” continuing that the officer is “very quick to check in” and asks “Hey, you guys doing okay? Everybody good.” The leader’s support of individual emotional needs is thus positive. Furthermore, the participant relayed that he and his officer have been together for a few years and that his comfort with talking with his officer “didn't start out that way, but as [they] developed as a crew together.” Additionally, he states that “if I had any issues, he’d probably be my first go-to at work.” For their view of potential success, the participant said he feels “very good about [his] own success” and the certifications and success he has is the “fruits of [his] own labor, nothing would be handed to [him].” The leader’s view of firefighters’ abilities was positive: he noted that his officer thinks his abilities are “good” and that his officer is “comfortable enough to ask [him] to deliver the product.” The leader’s interaction was also rated positive. Participant 2 stated “I’m beyond grateful to have been assigned with him,” further noting “I align with him fundamentally” and “He’s about learning, he’s about change, and just doing things the right way. So . . . I, yeah, so I think I align best with him.” Their view of the officer’s leadership behaviors was positive. He noted that his officer is “sincere,” “focused,” “direct,” and “understanding, in the sense that he understands his limitations, and his crew’s; but also, on an emotional level, . . . he embraces the value of leadership as his responsibility and he takes great pride in that.”

Participant 2 had an overall all Ryff score of 443, the second highest overall score. The scores for the individual domains (Table 2) fell into the “moderate” to “high” range, except for
autonomy which was “very low” at 61. His purpose in life score of 81 was “very high,” representing the highest single score from any participant in any of the six domains.

**Participant 3.** Participant 3 is a 40–50-year-old Native Hawaiian / Hispanic male with 5–10 years of experience. He perceives his department as innovative and a great department. The decision-making ability responses are more negative, in the context of laissez-faire leadership. Participant 3 stated “I’ve got almost full reign,” noting his officer’s attitude as the following: “They’re a little bit lax on that.” The officer’s acceptance of input were negative: “he’s down for whatever, he’s open to anything we want.” While the officer was perceived as accepting of input, it was in an abdicative manner and not inclusionary. Leadership guidance was negative. Participant 3 states the following: “He’s your buddy, but he’s your boss.” For requesting transfers to other assignments, he stated the following: “If you want to go, you can go you, won’t end up in the back end that battalion.” The issue of leadership’s approach to education and learning were positive: “He’s full supportive” and “He’s actually made the call to get the approval for training.” Leadership feedback was positive: “A lot of positive feedback is given around others in a good way,” “He is very discreet, he’ll get you in the office,” and “He’s not one to put you out in front of everybody.” Interpersonal relations are positive. Participant 3 noted them as “Very good, very strong.” He said “We all blend pretty well, everyone gets along rather well,” and continued to note that “off-time, a lot of us still hang out.” The leader’s support of the crew’s emotional needs was perceived as the following: “How are you feeling . . . we’ll kind of do a debrief . . . Very good. Very strong . . . he’ll kinda hit you on your own time and just make sure you’re all right, just doing a follow-up.” The leader’s support of individual emotional needs was more negative than positive—Participant 3 seemed hesitant and unsure when answering this: “depending on what it is, there still is that machismo thing that people got,” “I don’t think I’d be frowned upon or it would ever be held against me,” and “I don’t . . . I don't think he would . . . he
would hold any grudges.” The view of potential success was positive: “there’s a lot of room for advancement” and the opportunity is “good as long as I make the steps.” The leader’s view of firefighters’ abilities was positive: “he makes me feel good about it” and “most times he’s got faith in me.” The leader’s interaction was more negative than positive. Participant 3 notes several examples of laissez-faire leadership: “He’s open to anything we want,” “I’ve got almost full reign,” and that on guidance noting his officer is “a little bit lax on that.” The view of the officer’s leadership behaviors were positive: “He’s confident. He’s assuring. He’s a smart guy.”

Participant 3 had the lowest overall Ryff score at 293. His lowest score was self-acceptance, which he scored at 36, which would require strong negatives in every question. His environmental score was 41 and the positive relation scores was 43, both on the poor range. Autonomy was his second highest score with a 56, still in the poor range. Personal growth was his highest scoring domain with a 68.

**Participant 4.** Participant 4 is aged 50 plus. He is a white male with over 20 years of experience. He states his department as “pretty okay” to work for, being fairly large without a lot of recent changes. Decision-making ability was perceived as positive. Participant 4 stated the following: “I guess it’s pretty good,” “my lieutenant usually asks us what we want to do and when, as far as daily duties, training, and other projects,” and “I am also the most senior guy on the crew, so I get a lot of pull about what we are doing.” About the officer’s acceptance of input, Participant 4 stated “he comes to me for quite a bit and usually listens to what I have to say.” However, he also noted “from the other guys not so much . . . but he’s usually pretty open.”

Participant 4 said his officer was the same way on calls: “My lieutenant really looks to me to help out when needed and to bounce ideas off of.” Leadership guidance was positive: “He motivates us” and, during the day, “he gives direction about what need to be done.” “He’s engaged and participates,” the participant stated further. Leadership’s approach to education and
learning received a positive classification. Participant 4 stated his officer to be “pretty pro-training” — “we do a lot of it, that’s the one thing we always do together as a crew is our training.” Participant 4 states his officer really “supports education and taking classes” and that “he’s on the crew a lot about getting degrees and certifications and just learning.” Leadership feedback was positive: “He’s pretty straight forward, but not out in front of everybody . . . He’ll take you into the office and talk with you . . . The only time he’s really in your face is on the fire ground . . . then it’s pretty much straight at you right then and there, he does not have a lot of tolerance for screw ups when we’re working.”

Interpersonal relations was more negative: “A hard time connecting,” “I try to keep my distance about personal stuff,” and “Do my job but not get overly personal.” The leader’s support of the crew’s emotional needs was positive: “Good about that” and “He’ll ask you if you’re okay and if it’s really bad he’ll keep an eye on you for a while. Some of the younger guys he’ll talk to more and really feel them out.” The leader’s support of individual emotional needs was mostly positive: “Not really an emotionally guy,” “You know I came up in the older fire service, where you didn’t get to be whinny about things, you just kept it to yourself,” “If something is bothering me at work, maybe a little but not about personal stuff.” and “I think if the young kids wanted to, he’d be open for it, at least to listen.”

The view of potential success was positive: “I have the ability to progress,” “Depends on how much you want to work,” and “Nothing holding someone back.” The leader’s view of firefighters’ abilities was positive: “Makes me feel good about being a firefighter, and he’s supportive of the other guys.” The view of the officer’s leadership behaviors was positive: “He’s someone who’s going to get dirty with you,” “smart, but not cocky,” “Who can lead without being all ‘look at me I’m an officer’ about it,” and “They need to be honest, direct, and have your back.”
Participant 4 had an overall Ryff score of 383, which is in the high end of “average.” The autonomy score was 66, environmental score was 62, purpose in life score was 67, positive relations score was 57, personal growth score was 68, and self-acceptance score was 63.

**Participant 5.** Participant 5 is a 21–30-year-old white male with four years of fire service experience. He considers his department as the “wild, wild, west,” noting they are required to “do a lot with a little” and have a staffing shortage. Furthermore, he felt the administration was trying to hinder them—“it’s like being sidelined and benched.” Decision-making ability was negative. Participant 5 described his ability to decide what to do during each shift as “fine,” because his officer had a “lackadaisical attitude” and gave them “pretty much open range.” The officer’s acceptance of input was negative. Participant 5 laughed in a scoffing manner when asked about this topic—“I’ve given my opinion before and been shot down” and “It’s usually not welcome.” The leadership guidance is more negative: “I think it’s really good. Um, I mean he’s . . . He’s very passionate and he . . . he really wants to continue uh, just, he . . . he . . . he likes to work. He’s a work horse. I mean, he’ll outwork me um, on calls. And he . . . he really just wants to . . . to stay busy and . . . and make sure I uh, everybody’s on task, I guess.” Views on leadership’s approach to education and learning was positive: “He’s a busy body. He’s all about it,” “Trains a lot during the day,” “he’s very pro-training,” “He . . . he really enjoys uh, taking the new hires and showing them other things that they’ve learned in their classes,” “He’s very pro-education. Very pro-training. Very, very much so,” and “He wants us to take classes.” Leadership feedback was negative: “He’ll say, hey (name) you, are you getting this? Do you need help with anything? . . . it’s condescending sometimes.” However, for behavior on a call, the participant stated it was more direct and assertive: “Making sure I’m staying on task, I guess.”
Interpersonal relations was perceived to be negative: “It’s been tough,” “All stemming from a personal issue,” “I was ready to bid out,” and “I started pulling myself away, they started easing up.” The leader’s support of crew emotional needs was negative: “I think he could definitely do a better job,” “If we need help, he’ll uh, call for us or you know, notify the battalion chief,” “I wish he was a little more inviting, to be honest,” and “I feel like he’s very um . . . rigid.” The leader’s support of individual emotional needs was negative: “He’s not very um, not very uh, emotional,” “He keeps me within arm’s reach, but without keeping me any closer,” “I . . . so I don’t, I don’t feel that great uh,” and “Sometimes I’m like, Nope. I’m not gonna talk to him today.” The view of potential success is positive: “I feel pretty good,” “I have the ability to promote very quickly,” and “I have had the opportunity to get a lot more hands on training.” The leader’s view of the firefighters’ abilities was mostly positive: “Most of the time, he makes me feel pretty good,” “He’s showing me a lot and I have advanced quite a bit . . . but then there’s every once in a while where I might forget something and it’s the opposite foot. (laughs).” The view of officer’s leadership behaviors was negative. Participant 5 wished for an officer who was “educated,” “honest,” “hardworking,” and “compassionate”—“Definitely add compassionate in there.” He then went on to note that his officer was found “lacking in some of those.” He added, “He has some of the qualities but they are not refined,” “He’s not compassionate when it comes to his crew,” and “He’s not all uh, warm and fluffy.”

Participant 5 had a Ryff score of 338—the third lowest score. His autonomy score was 59, environmental score was 47, purpose in life score was 49, positive relations score was 54, and self-acceptance score was 55—they were all in the defined “poor” range. His personal growth score, the only one not in this range, was a 77, placing that domain in the “high” range.

**Participant 6.** Participant 6 is a 30–40-year-old white male with 3–10 years of experience. He perceived to be working for an aggressive fire department (he used the word
“aggressive” while responding to this question four times). Decision-making ability was found positive. Participant 6 said that the ability to decide what to do during the shift was “high” and that he was not “micro-managed” and had experienced “very good leadership.” The officer’s acceptance of input was positive: “Lieutenant asks for input from me,” “I’m the middle man between my crew and my lieutenant,” and “Very, very up forward in talking to you.” Leadership guidance was positive. Participant 6 states his officer’s leadership and guidance are “very good.” His “lieutenant arrives before the rest of the crew and stays longer” and “leads by example”— “He’s not going to ask us to do anything that he doesn’t think that he can do himself, or he’s not going to do anything that he thinks that we can’t do, and he’s not going to make us do something that he won’t do. So, if he’s going to expect us to do something, he’s going to also do it himself, if not do it first.”

The leadership’s approach to education and learning were positive as well: “Approaches training in a very aggressive manner,” “Expects at least two hours of training a day,” and “My lieutenant is very forth on-on making us train, and wanting us to train, and pushing us.” Leadership feedback was positive: “Approaches it based on the type and urgency” and “Feedback is straight forward in both complimenting and disciplinary.” Examples provided were “Hey, I think you did a great job on this” or “Hey, I think you could probably improve on this and we’ll . . . we’ll work on it as we go.” In cases of something drastic, the participant added, “something that’s disciplinary, then obviously, he’ll pull me aside and, you know, obviously, not in front of everybody, and go through the process of what it would take to write somebody up or go, or go through the entire process.” Interpersonal relations were positive: “I’m a very open person, I don’t have issues telling somebody exactly what I think.” He added the following: “Off-duty, family and friends all hang out together,” “I feel like I have, not everybody, but, you
know, most of the part, we all have good relationships together,” and “Not only the guys on our shift, but also the guys on the other shifts.”

The leader’s support of the crew’s emotional needs received positive responses: “Our officer is actually really well at handling emotional needs” and “He’ll pull you aside, and talk to you, and make sure that you’re good . . . If not he’ll work with the chaplain to assist the crew.” Participant 6 felt he could talk openly with his officer about emotional needs stating “Our . . . our officer is very open-minded. He’s easy to talk to. He’s not judgmental. So, we are good on . . . We’re benefited on that aspect that you know . . . He’s not-not somebody that’s going to judge you, not going to care—you know what it is—but he’s going to help you as much as he can.”

The leader’s support of individual emotional needs was positive. Participant 6 says that he talks with his officer regularly “Every night we walk for an hour or two and have open conversations about not only, you know, the department and what we want to happen, but we definitely talk about personal problems, and family, and issues that—you know—he’s got kids. I’ve got a wife in school, so we definitely have open conversations of family issues, and it’s very, very helpful.” The view of potential success had the respondent stating that “there’s room for promotion,” noting that “within seven years, you could be a lieutenant” as well as “I made driver in three years” and “You can make this department whatever you want.” The leader’s view of firefighters’ abilities was positive: “He has a lot of confidence in me” and “Makes me feel like I can any job that’s from his job down.” The view of the officer’s leadership behaviors was positive. Participant 6 says the leadership qualities of an ideal officer are someone who “would be mentally and physically strong enough to do the job, strong enough to take care of his guys and girls. The ability to . . . to not only lead by example but show the rest of the guys exactly what he expects. So, a good leader should not only give you their expectations but should take the expectations of his men and follow those expectations, as well. I feel like a good leader
can talk to his guys, and be friends with his guys, but as soon as it’s time to get the job done, he’s able to say, ‘Hey. I’m . . . I’m the one in charge, this is what we’re doing’.” The people being addressed would understand that and be able to fall in line. His current officer demonstrates most of these qualities. The participant stated his officer’s leadership’s qualities to be “just about that,” referring to his initial list. He went on to detail these qualities as the following: “He’s willing to be the first one to do it. He’s willing to lead by example. He’s very strong at helping us and promoting us to do the same things that a normal, heavy, strong leader would.”

Participant 6 had the highest overall Ryff score at 463, which is in the “very high” range and is significantly above the mean score of 384. His autonomy score was 74, environmental score was 80, nearly a maximum score. The purpose in life score of 76 and positive relations of 80 were again nearly a maximum score. The personal growth was at 77 and self-acceptance score was 76. His interview responses represent a high-level officer who has found a balance in how to motivate their crew, while being open and encouraging, yet willing to maintain control and set specific boundaries. He makes himself available to the crew for emotional needs and talks openly with them on a regular basis.

Participant 7. Participant 7 is a 21–30-year-old Hispanic male with three to 10 years of career fire service experience. He states, “it’s a privilege” to work at his organization and notes the following: “We have great higher ups” and “I’m honored to work for them. Decision-making ability was positive. Participant 7 states his officer “does a good job at just discussing everything with us, making sure we feel comfortable at the station,” “We definitely have discussions, you know, meetings at the table like, Hey, what do you guys want to train next time we're out of service?” and “We kind of throw ideas out there.” The officer’s acceptance of input was positive: “Does a good job at just discussing everything with us.” The respondent repeated twice over that his lieutenant discussed things with the followers: “I appreciate that in him, He’s a very good
lieutenant.” Leadership guidance was positive: “He’s definitely assertive, he’s definitely a leader, he makes sure we do what we need to do.” Furthermore, the responded stated, “He always apologizes if he makes a mistake, and I appreciate it” and that “our lieutenant has our backs, and he makes sure that we do the right thing.” The leadership’s approach to education and learning was positive: “He’s always making sure that when have training on certain days that he’s gonna do a bunch of research, make sure that he’s educating us with the proper information.” He further said that his lieutenant “approaches training by asking what the crew wants to train on, as well as needed areas”—“He makes sure we train and we actually just don’t sit around and do nothing.” Additionally, leadership feedback was a positive area. Participant 7 said his officer delivers feedback in a positive manner by “critiquing and discussing ways to improve and not just focusing on the cons”—“He doesn’t bring up just the negative,” “He brings up, like . . . ‘Okay, you did this very well. And this you didn’t do so well, but I know you can improve on it, and you can do better next time’.” Participant 7 stated that “if you just bring back all their cons instead of pros, then it’s gonna make someone feel like they’re not really a good person or a good medic or a good firefighter.” Moreover, interpersonal relations were positive. He perceives his ability to form relationships as “good,” stated the respondent—“I’m a very friendly person, you know, I’m easy going. I’m not going to get along with everyone, it’s normal, not everyone’s personality meshes together, but overall I try to talk to everyone.” He added further, “I’ve been more confident and just outgoing because you can’t be shy you have to be well rounded; you have to develop bonds,” “You’re gonna be with these people ten times a month, or more,” and “We all talk each other, hang out, um, just, you know, as a brotherhood.”

The leader’s support of the crew’s emotional needs was also positive. Participant 7 says he thinks his officer “handles emotional needs of the crew well.” “We sit down and talk, if he feels like I need to speak to a chaplain or someone else, the he makes sure to contact them, and
he’s very good at listening.” The leader’s support of individual emotional needs was a positive as well: “I’ve had rough patches and he’s been there for me on-duty and off-duty, he’ll have your back no matter what” and “Not too long ago, when I was in a dark place. You know, we all go through that, you know, ups or downs, and he was there for me 100%. And that just opened my eyes to how, you know, grateful I am to have a leader like that because he’s gonna be there for me no matter what, not someone that’s gonna ignore you or just see it as a job.”

The view of potential success was positive: “I feel like my success rate would be high . . . My first step was just being assertive, you know, being . . . trying to be the leader on scene, cause its gonna be my scene regardless and my patient.” The leader’s view of firefighters’ abilities was positive: “He tells me I did a good job” and “He definitely makes me feel better about myself because you know we have that communication we have this bond.” Furthermore, the leader’s interactions were perceived as positive: “He always apologizes if he makes a mistake, and I appreciate it;” “He’s definitely someone I want as the leader in my crew;” and “I have confidence in him, 100%, emotionally and physically He’s definitely a good leader.” The view of officer’s leadership behaviors was positive. Participant 7’s leadership qualities of his officer are as follows: “someone that’s a leader; “someone that’s assertive;” “confident in their skills,” “able to give direction and orders, is able to educate and has experience, someone that has my back no matter what;” and “we have confidence in him 100%, emotionally and physically.” Participant 7’s Ryff score was 404, “high” and just under the “very high” cut-off.

Participant 8. Participant 8 is a white male in the age range of 21–30 with 3–10 years of experience as a firefighter. He states his department is “one of the largest in the state of Florida” and “it’s a great place to work for.” Decision making ability was negative. Participant 8 says “it’s a guessing game.” “Sometimes in the morning we were told we were gonna train, not really given a time. Sometimes it would happen and, sometimes things would get, things would get
busy and, and we didn’t get around to it.” The officer’s acceptance of input was negative. His response was “it’s more so he just kinda tells us, hey, this is what I’m doing. This is what we’re doing. And sometimes, um, when we’re in the middle of doing something or we just come back from a call and we’re getting ready to eat, we get told hey, we’re doing it right now, come outside. Or sometimes, he would tell the driver, hey let’s go do this, and then no one else really knew until we looked outside and they were doing stuff.” This theme continued with his perceived lack of ability to provide input on calls. “Um, a lot of times, I feel as though the input is given, and really not gone anywhere. He, uh, he likes to kinda be . . . See, I don’t want to make anybody sound bad. But, he’s one of those personalities who likes to let you know that he’s the one that is in charge and makes the decisions. So, a lot of times, when input’s given, it comes out of his mouth as if it’s his idea, in a different way.”

His officer’s leadership and guidance through the day were also negative. “Things didn’t always go to plan and there wasn’t really a laid out plan every morning.” “It’s a lot of, do as I say and not as I do.” “There were a lot of times where in the middle of the day, uh, he would be found in a recliner um, sleeping. And, it was just kinda disheartening, to see that we’re all doing stuff.” “And then we had some issues with uh, him not taking care of the crew a couple times, with things that were needed to get done, but then when similar things needed to get done for him, they were taken care of. So, it was tumultuous at times.” Leadership’s approach to education and learning was mixed but mostly negative. His officer approaches the need for training in a split way. “As far as his own, he pushed it very much so. He, he did, I mean I will say this about him, he does know a lot, he has taken a lot of classes, um, but as far as pushing his crew to do things, uh, not so much.” “There was no push to uh, say hey, you’ guys should take this class or this class. It was a lot of, well I’m taking this, and this is why, and it was a lot of, I guess chest beating? Then uh . . . unfortunately it felt like he looked after himself a lot.”
Leadership feedback was negative. Participant 8 feels his officer provides feedback to him in an “awkward manner.” “Any time something would happen, instead of coming and talking with you, he would bring it up at a very awkward time, and just kinda throw it out there at you”, “it was very, almost confrontational in a sense, the way he would say it and also demeaning.” “It was always in front of everybody, instead of, hey come in the office, let me talk to you. Interpersonal relations were negative, “Station life was affected by his leadership where “it was just very difficult situation. We had a crew who uh, everyone kinda split up and did their own thing because we didn’t want to be all together because of the individual in charge.”

Leader’s support of crew’s emotional needs was positive. Participant 8 did say his officer handled emotional needs after calls in an acceptable manner. “I will say as far as reaching out and making sure we’re all okay, he did do a good job of that, cuz he did care. He was a very genuine person in that sense about making sure that we we’re okay. Um, cuz we had had some pretty interesting calls together.” Leader’s support of individual emotional needs was negative. Participant 8 said he was not comfortable opening up to his officer about things that affected him emotionally. “We work in the fire service and what comes along with that is, we’re supposed to be big tough individuals, nothing bothers us.” “In eight years, there’s been a lot of things that I’ve seen and a lot of things that have happened that have bothered me and for me to feel the way I feel inside and not see anybody else feeling that same way, has made it difficult for me to open up and say, this is how I’m feeling and I think a lot of people may feel the same way about actually opening up and talking openly about it.” Participant 8 said, “it was a trust thing, you know. I tell you all this personal stuff about me and I don’t think that you’re not gonna say something to somebody, you know. And, if we have an officer that I trusted um, I’d be able to talk about those things. And, we should be able to talk about those things, because this is an incredibly difficult job, both physically and mentally.” The view of potential success of
participant was positive. He said he believed his ability to be successful and move up in the
department was present. “Moving forward in our department’s actually happening a lot now,
which is great.” “Being successful here is, is, there’s plenty of opportunities to promote, they
offer lots of classes to better yourself. Um, and they really take care of the firemen, as far as, you
know, whatever we need, they make sure that we get. We have a lot of great training captains,
and uh, and chiefs and everyone really is making sure that everyone’s given the best
opportunities that they can have. Leader’s interaction was negative. “It’s a lot of, do as I say and
not as I do.” “There were a lot of times where in the middle of the day, uh, he would be found in
a recliner um, sleeping. And, it was just kinda disheartening, Station life was affected by his
leadership where it was just a very difficult situation. We had a crew who uh, everyone kinda
split up and did their own thing because we didn’t want to be all together because of the
individual in charge.” “Anytime anything was getting done around the station, you know, there
really wasn’t much from him. It was either sleeping in a recliner, watching TV or making
himself look busy on the computer.”

His lack of solid leadership caused discord to the point that “the crew just kinda exiled
him, you know?” The perspective of officer’s leadership behaviors was also negative. Participant
8 described the leadership qualities of his officer. “Well he didn’t really have a backbone much,
unfortunately.” Saying his officer “would break the rules for himself but not others.” “We never
felt like he had our backs.” We would go hang out in the bunk room or go hang out outside. And
just kinda leave him to himself. You know and, I just think there wasn’t a whole lot of face
behind anything that he was telling us to.” Participant 8 had the second lowest overall Ryff score
with a total of 329 points which fell into the poor range. All but one (personal growth) of his
individual scores fell into the poor range at lower than 60. His autonomy score was 45, the
lowest of any of the participants, which, given his perspective of his officer, would be the
expected outcome. His environmental score was 52, purpose in life score was 57, positive relations score 56 and personal growth score 70. And self-acceptance score was 49.
Table 6
Participant Perspectives (P—positive; N—negative)

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<th>12 categories</th>
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<td>Poor</td>
<td>383</td>
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Theme development. Two themes and two sub themes developed from the participant interviews related to RQ1.

RQ1. How do firefighters perceive the influence of leader behaviors on their psychological well-being? Theme 1, Firefighter’s perceptions of leadership behavior influenced their psychological well-being.

a. Subtheme 1a: Firefighters who perceive their officer’s leadership behaviors positively, related higher psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey.

b. Subtheme 2. Firefighters who perceive their officer’s leadership behaviors negatively, related lower psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey.

Theme 1a. Firefighter’s perceptions of leadership behavior influenced their psychological well-being.” The four participants with the highest Ryff scores were Participant 2 (443), Participant 4 (383), Participant 6 (463) and Participant 7 (404). These four all had combined Ryff
scores that were in the average or higher psychological well-being score ranges; further, each of these participants had predominantly positive perspectives of their officer’s leadership behaviors and spoke in positive terms of their officer.

RQ2. What leadership behaviors do firefighters report influencing their psychological well-being?

Using the data from the qualitative questionnaire and individual interview responses, the following leadership qualities (figures 3 and 4) were identified as those behaviors firefighters report influencing their psychological well-being.

![Positive Leadership Qualities](image)

**Figure 3.** Six most common positive leadership qualities firefighters reported as influencing their psychological well-being
Summary

The purpose of this case study was to collect rich descriptive data, to better understand how firefighters perceive leadership behaviors affect their psychological well-being and identify what leadership behaviors influence firefighters’ psychological well-being. This chapter connected the research questions to the perspectives of the participants. The data was collected through three means, a qualitative questionnaire, individual interviews, and the Ryff Scales of Psychological Well-Being survey. Data was analyzed using open coding and in-vivo coding, using ATLAS.ti software and Microsoft Excel to organize data.

After the data analysis was completed, the research noted two predominant themes related to RQ1 and developed a list of leadership behaviors that firefighters reported affected their psychological well-being.

Figure 4. Six most common negative leadership qualities firefighters reported as influencing their psychological well-being
RQ1. How do firefighters perceive the influence of leadership behaviors on their psychological well-being?

1. Theme 1. Firefighters perceptions of leadership behavior influenced their psychological well-being.
   a. Subtheme 1a: Firefighters who perceive their officer’s leadership behaviors positively, related higher psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey.
   b. Subtheme 2. Firefighters who perceive their officer’s leadership behaviors negatively, related lower psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey.

Theme 2. Firefighters who perceive their officer’s leadership behaviors negatively generally had lower, more negative scores on their Ryff scales of psychological well-being survey.

RQ2. What leadership behaviors do firefighters report to influence their psychological well-being?

Positive behaviors were identified as leading by example, open communication, honest, empathetic, consistent, and continued learning. Negative behaviors were identified as lazy, uncaring, disengaged, judgmental, isolating oneself from the crew, self-centeredness.

These themes demonstrate that firefighters think that certain leadership behaviors affect their psychological well-being. The direction of the impact, more positive psychological well-being or more negative psychological well-being depends on how the firefighters perceives their officer’s leadership behaviors. The firefighters who perceived the behaviors more positively had higher Ryff Scales of Psychological Well-Being scores and those who perceived the leadership behaviors more negatively had lower Ryff Scales of Psychological Well-Being scores. These
findings are described in greater detail in Chapter 5, and the implications for practice, policy, and theory are explored along with recommendations for future research.
Chapter 5: Discussion and Conclusion

Introduction

This qualitative, exploratory case study explored how firefighters in Florida perceive the influence of leader behaviors on their psychological well-being and identified leadership behaviors that firefighters reported influence their psychological well-being. The data for this study was collected through an exhaustive literature review, a qualitative questionnaire, face to face, semistructured interviews, and the Ryff Scales of Psychological Well-Being questionnaire. The purpose of Chapter 5 is to further discuss the data and draw meaning from the large amount of information and data collected.

The researcher’s data analyses led to the development of two key themes related to the first research question and a list of the top six positive and six negative reported leadership behaviors that firefighters reported influenced their psychological well-being. In this chapter, these themes and leadership behaviors will be further discussed along with the researcher’s conclusions and how those conclusions relate to existing literature. Lastly, the implications of the study’s conclusion and current fire service practices and policies will be discussed, along with recommendations for future research on the topic.

Summary of Results

The number of firefighter suicides in the United States is significantly higher than the general population. The antithesis to suicidal tendencies is a healthy psychological well-being (Steeb, 2016). Consequently, this study explored how firefighters perceived the influence of leadership behaviors on their Psychological well-being. Positive psychological well-being is on the opposite spectrum to suicide, and according to Streeb (2016) and Seppala (2012), a positive correlation exists between psychological well-being and social connectedness. Individuals with positive psychological well-being have reduced suicidal ideation and suicides.
The researcher wanted to better understand the way in which firefighters perceived leadership behaviors influenced their psychological well-being and identify those behaviors that firefighters identified as influencing them. This study is significant as there is a lack of research exploring how firefighters perceive the influence of leader behaviors on their psychological well-being. Understanding the influence of leadership on firefighters’ psychological well-being is important for the potential to reduce firefighter suicides.

To explore the perceptions of firefighters on the research questions, the researcher conducted a qualitative questionnaire and semistructured interviews with eight career firefighters in Florida. These interviews were transcribed and entered into ATLAS.ti for coding and review during data analysis. The researcher identified two main themes:

**Research Question 1.** The first research question is, “How do firefighters perceive the influence of leadership behaviors on their psychological well-being?” This research question yielded a main theme and two sub themes. Theme 1, Firefighter’s perceptions of leadership behavior influenced their psychological well-being. This was noted during data analysis where the two sub themes also emerged.

Subtheme 1a: Firefighters who perceive their officer’s leadership behaviors positively, related higher psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey.

The four participants with the highest Ryff scores were Participant 2 (443), Participant 4 (383), Participant 6 (463) and Participant 7 (404). These four all had combined Ryff scores that were in the average or higher psychological well-being score ranges; further, each of these participants had predominantly positive perspectives of their officer’s leadership behaviors and spoke in positive terms of their officer.
Subtheme 2 is “Firefighter’s who perceive their officer’s leadership behaviors negatively generally had lower, more negative scores on their Ryff Scales of Psychological Well-Being.” This appeared to be supported by their Ryff scales of psychological well-being survey.

The four participants with the lowest Ryff scores were Participant 1 (373), Participant 3 (lowest at 293), Participant 5 (338), and Participant 8 (329). They had combined Ryff scores that fell in the below average range or lower. Participants 1, 5, and 8 each had responses to the interview questions that focused on more negative aspects of their officer’s behaviors.

**Research Question 2.** The second research posed, “What leadership behaviors do firefighters report to influence their psychological well-being?” There were common leadership behaviors identified through the interviews and the qualitative questionnaire. These behaviors were separated into two groups, positive leadership behaviors and negative leadership behaviors.

The six most common positive leadership behaviors of fire officers identified are, officers who shown concern, are honest, value continued learning, have open communication and officer who lead by example, which was identified as the most important behavior appearing 20 times. The negative leadership behaviors firefighters identified are officers who are judgmental, uncaring, self-centered (specifically officers who look out for themselves and not the crew), officers who are isolated, through poor communication and a lack of empathy to the needs of the firefighters, officers who are disengaged and the most common behavior, appearing 28 times is officers who are lazy. The aspect of laziness is officers who do not participate in routine work with the crew, do not encourage or participate in training and do not value continued learning.

**Discussion of Results**

The focus of this research study was to determine how firefighters perceive leadership behaviors on their psychological well-being and to identify those behaviors. A qualitative study
was conducted using semistructured interviews with eight career firefighters in Florida. This section offers an analysis of the two themes that emerged from this data and discusses the findings as related to the research questions.

The qualitative questionnaire assisted in the triangulation of data and development of the positive, constructive leadership behaviors sought by firefighters and the leadership behaviors firefighters identify as being negative. The participants who responded to the qualitative questionnaire indicated having an officer that supports them emotionally is important and that forming a good relationship with their officer is important as well. Additionally, the participants indicated that having an officer with strong leadership skills is important. The most prominent response in the questionnaire was leads and leads by example, with 37.7% (20) of the participants identifying it as a key leadership behavior. Other behaviors included knowledgeable fair, consistent, honest, good communication, judgment free, empathetic, and open-minded.

Conversely, when asked to describe their current officer, only 28% (13) of the 45 respondents answered using positive terms including: humble, hardworking, open-minded, and knowledgeable. The remaining 32 respondents answered in negative terms, including does not lead by example, biased, closed off, poor leader, controversial, autocratic and unfriendly, lost touch, does bare minimum, “doesn’t want to hear input from crew and is a difficult person to work for.” One response accurately expressed the perspective as “I wish I was kidding, but he couldn’t lead a pack of wolves to fresh meat with a pork chop tied around his neck.”

**Analysis of Themes.** Theme 1. Firefighter’s perceptions of leadership behavior influenced their psychological well-being.

**Subtheme 1a:** Firefighters who perceive their officer’s leadership behaviors positively, related higher psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being survey. The participants who described and perceived their officers as
having constructive, positive leadership behaviors, comfortable interaction, and closeness with their officers had higher scores on the Ryff Scales of Psychological Well-Being survey. The scores were high not only in the total score but across each of the six domains of psychological well-being. Participants 2, 6, and 7 had scores in the very high range and participant 4 was at the high end of average. The age and years of experience of the participant do not appear to impact the firefighters’ perceptions of ideal leadership behaviors. The three highest scoring responses on the Ryff spanned across three of the four age categories and all categories for years of service.

Participant 2 is an example of the alignment of positive leadership behaviors and higher psychological well-being. The participant stated that his officer is his “first go to at work for emotional issues affecting him at home or work” and he is “very fortunate to be assigned to him.” Further, Participant 2 perceives his officer as being empathetic and supportive, stating “he’s not there for himself what-so-ever”, “he enables the crew to be human beings,” and “helps each employee grow.” He described his officer’s feedback style as “direct and sometimes a little brash.” Further, the participant noted his officer provides feedback “full force and head-on.” Participant 2 also noted a strong social connection with his officer. According to the participant, a “great inter-dynamic” exists between himself and his officer allowing a strong relationship to develop. His view of his officer was very positive, stated “he’s not there for himself what-so-ever”, “he enables the crew to be human beings”, and “helps each employee grow.” Participant 2 had the second highest score on the Ryff Scales of Psychological Well-Being survey with a combined score of 443.

Participant 6 referred to his officer as having “very good leadership” and a closeness with the officer and crew. The crew eats breakfast and dinner together, and “Not only the guys on our shift, but also the guys on the other shifts, I hang out with off-duty. Family friends all hang out
together, so I feel like I have, not everybody, but, you know, most of the part, we all have good relationships together.”

His officer also engages the crew from an emotional standpoint; “our officer is actually really well at handling emotional needs”, “he’ll pull you aside, and talk to you, and make sure that you’re good if not, he’ll work with the chaplain to assist the crew.” Participant 6 felt he could talk openly with his officer about emotional needs stating “our officer’s very open-minded. He’s easy to talk to. He’s not judgmental.” The participant talks with his officer regularly. “Every night we walk for an hour or two and have open conversations about not only, you know, the department and what we want to happen, but we definitely talk about personal problems, and family, it’s very, very helpful.”

Participant 6 had the highest combined score on the Ryff Scales of Psychological Well-Being survey with a score of 463. Participant 7 indicated his work environment is good, stating “it’s a privilege” and that he is “honored to work for them.” His lieutenant was described as “a very good lieutenant” who “has our backs and makes sure that we do the right thing.” His officer motivates them to train and not just “sit around and do nothing.” This participant stated his officer “does a good job at discussing everything with us, making sure we feel comfortable” three times during the interview.

Perko et al. (2016) suggested good communication between the leader and follower is a positive leadership behavior that is attributed to increasing well-being and reducing stress in employees. Participant 7 had the third highest psychological well-being score of 404. The participant explained that strong, open communication and a shared “bond” with his officer were important to him, further stating “he [his officer] definitely makes me feel better about myself because, you know, we have that communication, we have this bond.”
Previous research in other fields has demonstrated that supervisors have a crucial influence on the psychological and physical well-being of their subordinates (Arnold et al., 2007). What was not known was the way in which firefighters perceive their officer’s’ leadership behaviors’ effect on their psychological well-being. Based on this research, firefighter’s who perceive their officer’s’ leadership behaviors positively have higher, more positive scores on their Ryff Scales of Psychological Well-Being.

**Subtheme 2.** Firefighters who perceive their officer’s leadership behaviors negatively, related lower psychological well-being. This appeared to be supported by their Ryff scales of psychological well-being. The participants who expressed leadership behaviors identified as negative, described uncomfortable interactions, or relational distance from their officers had lower scores on the Ryff Scales of Psychological Well-Being survey. The scores were low not only in the total score but across each of the six domains of psychological well-being.

Participants 3, 5, and 8 scored below 340 on the Ryff, which indicates their perception of their personal well-being is poor. The three lowest scores on the Ryff were seen in two of the four age categories and each reported having 3 to 10 years of service. The impact of how age may affect the perceptions of firefighters in assessing negative leadership behaviors are not clear from the results of this study.

Participant 3 scored the lowest of all participants on the Ryff with a 293. He described his officer’s leadership style as laissez-faire, noting he has “almost full reign” and the officer “let’s us do what we want.” He further described his officer as “being your buddy.” Although this participant indicated he could go to his officer for emotional support, he did not convey comfort with doing so and approached the response from a negative aspect by adding “I don’t think I’d be frowned upon or it would be ever held against me”, and “I don’t think he would hold any
grudges.” He noted a similar perception when discussing his officer’s attitude about a station transfer, stating “if you want to go, you can go, but you won’t end up back in that battalion.”

Participant 5 described his work environment as “the wild, wild, west” where his officer is not accepting of input nor does he provide much direct guidance and the crew has “pretty much open range”, which he attributed to the officer’s “lackadaisical” attitude. He added his officer does not engage the crew emotionally or try to develop bonded relationships, referring to him as “rigid and not very emotionally”, choosing to keep the crew at arm’s reach, but no closer. The participant reported that he felt his efforts were hindered: “it’s like being sidelined or benched.” He noted there are days “where I am like nope, I’m not going to talk to him today.” He also indicated his officer lacks compassion and is not hardworking. Participant 5 had a Ryff score of 338, the third lowest score. His scores were defined in the poor range across five domains: autonomy (59), environmental (47), purpose in life (49), positive relations (54), and self-acceptance (55). On the contrary, he was placed in the high range for personal growth (77).

Participant 8 described work in a day as “a guessing game” and “there wasn’t really a laid out plan every morning.” He further stated his officer does not accept input and just tells the crew what they are going to do and when, “sometimes, um, when we’re in the middle of doing something or we just come back from a call and we’re getting ready to eat, we get told hey, we’re doing it right now, come outside.” Overall, participant 8 described his officer as being on the authoritarian side of leadership, “he likes to let you know that he’s the one who is in charge and does make the decisions.” Participant 8 also described instances in which the officer took credit for work the crew had performed.

The description of the workplace indicated a strong disconnect between the participant and his officer and the crew lacked social cohesion; “everyone kinda split up and did their own thing because we didn’t want to be all together because of the individual in charge.” The
participant further stated he was not comfortable in discussing emotional needs with his officer. Participant 8 said, “it was a trust thing, you know. I tell you all this personal stuff about me and I don’t think that you’re not gonna say something to somebody.” Participant 8 had a combined score on the Ryff Scales of Psychological Well-Being of 329.

The descriptions of the leadership styles given by Participants 3, 5, and 8 all indicate their officers’ leadership behaviors as lassiez-fair or lassiez-faire leaning. These three participants had the lowest psychological well-being scores at 293, 338, and 329 respectively. Collectively, they described negative behaviors that were perceived to adversely affect their psychological well-being and crew dynamics.

**Discussion of the Results in Relation to the Literature**

Within the narrow scope of this exploratory single case study, firefighters in Florida perceived that leadership behaviors influenced their psychological well-being. The study participants shared their perceptions of their leader’s’ leadership behaviors and those behaviors that influenced their psychological well-being. There is limited research on fire fighters’ psychological well-being and leadership behaviors. While there is research on leadership and psychological well-being in other professions, the fire service presents a unique culture to study this aspect. This study contributes information to the limited research on how firefighters perceive the influence of leadership behaviors on their psychological well-being.

Demirbag, Findikli, and Yozgat (2016, p. 6) detailed the affective events theory as “workplace events are proximal causes of an individual’s affective reactions that have direct influences on their attitudes and behaviors,” which suggests that each event an individual may encounter will have a positive or negative influence on his or her emotions.” The perception of firefighters in this study aligns with the research conducted in other professions and current theory.
This research extends the leader-member exchange theory (Burnette, 2012) to fire service. The LMX holds that leaders and followers develop a didactic social exchange relationship predicated on trust. Leadership social support provides a buffer to job demands and stress. This support may be actual or perceived and has been demonstrated to have a positive impact on subordinate psychological well-being (Coggins, 2012). The perception of this research’s participants demonstrated that leadership behaviors which focus on the creation of healthy relationships and show positive relationships between the leader and follower had a positive effect on their psychological well-being.

This study identified that laissez-faire leadership has a negative impact on firefighter’s psychological well-being. Laissez-faire leadership behaviors are often considered to represent a lack of leadership. These behaviors “do not set clear direction, vision or mission” (Zineldin & Hytter, 2011, p. 750). The lack of leadership found in the laissez-faire leadership style is known to have negative effects when used in other professions. These negative effects include poor involvement with the group, low accountability, and passiveness. Kelloway (2005) noted laissez-faire leadership may be a root cause of workplace stressors such as role conflict, role ambiguity, and the perceptions of low-quality interpersonal treatment by the leader.

Laissez-faire leadership has also shown to be negatively related to group-level safety climate defined as preventive actions considered, or taken, by the superior” (Skogstad et al., 2007 p. 83). These behaviors demonstrate a lack of leadership and fail to meet the subordinate’s expectations of basic leadership needs. (Buch, Martinsen, & Kuvass, 2015). The negative impacts of laissez-faire type leadership behaviors on the psychological well-being of firefighters based on this research is evident through the participant’s responses.

This research also reinforces that the fire officer’s role is much deeper than merely being a boss. The supervisory role of the officer is important, as their leadership is a central aspect of
the work environment. The relationship between a fire officer and his or her crew is complex. The influence the officer exerts on their subordinates in creating an environment that either encourages or discourages positive psychological and emotional opportunities in the fire station plays an important role in the psychological well-being of firefighters (Gregersen et al., 2014). If a fire officer is a motivating, supportive person, the positive aspects of their leadership provide positive workplace events and help offset the negative events encountered on calls; however, if the fire officer’s leadership is negative or absent, then the firefighter’s psychological well-being will begin to erode. The participants of this research strongly demonstrated a link between the fire officer’s leadership behaviors and their psychological well-being.

In their leadership positions, fire officers impact organizational culture, employee experiences, and employee perceptions. The culture the fire officer creates in the station through their actions and beliefs spread to others. Emotional contagion causes the tendency to subconsciously mimic and synchronize both verbal and non-verbal cues to those of another. The bonding that occurs between peers and leaders generates primary group cohesion (Siebold, 2007). Primary group cohesion (bonding) occurs within a squad or platoon in the military and is identified as “cooperative, holistic, supportive, face-to-face relationships” (Siebold, 2007, p. 289). These relationships develop over time through direct interactions to develop a level of knowledge, trust, and dependability between members of the unit.

Firefighters need to develop close, primary social connections with their leaders to rely on them in times of high risk, potentially life-threatening activities. This increased level of bonding creates an environment for firefighters to work through stressful events, by reducing isolation and increasing a sense of belonging (McMahon, 2010). The research participants with the lowest psychological well-being scores indicated a lack of social bonding with their officer. Significantly, the three participants with the highest psychological well-being scores indicated
strong social connections and bonding with their officer. This reinforces the need in the fire service for strong social connection and bonding to mitigate the negative emotional affective events. The need for social connection is prevalent in post-incident discussions, following particularly stressful, emotionally challenging, or traumatizing incidents (Carey, et al., 2011).

This increased level of bonding creates an environment for firefighters to work through stressful events, by reducing isolation and increasing belongingness (McMahon, 2010). These close work relationships are important. Firefighters are often not able to take their problems home to discuss them. While friends, family, and spousal support is extremely important, discussing details of the horrific scenes, events, smells, and sights dealt with on the job with individuals not in emergency services can create added stress outside of work (McMahon, 2010). Further, the same stress reactions seen in firefighters can develop in family and friends when graphic details of incidents are discussed (Menendez et al., 2006).

The workplace environment impacts a person’s psychological well-being, not just at work, but outside of the workplace as well. Workplace well-being also connects to physical and mental health wellness. Trying to separate or isolate a person’s work life and private life is inconsistent with how people typically live their lives. Psychological well-being carries over from one environment to another, as these environments are interconnected and form a cohesive unit that does not separate with the change in location from the workplace to home (Bluestein, 2008).

**Limitations**

While the researcher did not encounter any significant issues during the study, this remained an exploratory case study with a limited sample size. The goal of this case study was to gain a better understanding of how firefighters perceive the influence of leaders’ behaviors on their psychological well-being and what leadership behaviors firefighters report influencing their
psychological well-being. With respect to the exploratory nature of the research, new insight has been gained into this phenomenon, but not on a broad level. The inherent limitations of the study included self-reporting of the participants psychological well-being through the instrumentation, available resources, and large and diverse population of the United States’ fire service. This study only included a small portion of firefighters in Florida spread over a large geographical area. The need for travel was overcome by using video teleconferencing for face-to-face interviews. However, the study was only exploratory and not comprehensive in scope.

The study included qualitative data from a total of 54 responses and conducted interviews with eight participants. The data provided valuable information to the researcher in addressing the two research questions. However, the small sample size may limit the overall application of the research findings and may not be generalizable to the entire fire service.

The limitations, small sample size, self-reported data, did not prevent the research from addressing the research questions and drawing meaningful conclusions. The sample of participants, though narrowly focused and small, still allowed the researcher to achieve saturation. The data collected and analyzed from the participants offered clear insight into the research questions and provided information that may benefit the fire service in creating new practices and policy.

**Implication of the Results for Practice, Policy and Theory**

This study was designed to explore how firefighters in Florida perceive the influence of leader behaviors on their psychological well-being and identified what leadership behaviors firefighters report as influencing their psychological well-being. The literature related to firefighters’ psychological well-being is limited. The implications of the research findings for firefighters and fire officers are discussed in the following sections. This research helps fill in the
knowledge gap regarding firefighters’ perception of the influence of leadership behaviors on their psychological well-being

**Practical implications.** The results of this qualitative, exploratory case study support the need for changes in the culture of the fire service from one that pressures firefighters to maintain a façade and hide the emotional toll of the experiences of the profession to one that supports open and honest dialogue between firefighters and their peers and officers. The results revealed that firefighters are influenced by leadership behaviors.

Leadership’s social support of firefighters offer a buffer to job demands and stress. This support may be actual or perceived, with the perception that social support is available, exerting a stronger influence on psychological well-being as compared to a leader providing the support (Wethington & Kessler, 1986). This includes the perception that the leader is able and willing to help solve personal problems and that the leader makes work life easier (Liden & Maslyn, 1998). Social connectedness and support are most important for individuals who work closely with their supervisors (Gelsema et al., 2006). Officers need to foster an environment in which firefighters feel comfortable in expressing emotional concerns. Fire service agencies can begin the practical changes of fire officers’ behaviors through progressive education and careful screening of officer applicants as discussed in policy implications.

**Policy implications.** This research suggests that the incorporation of emotional intelligence screening as part of the promotional process may be beneficial. Emotional intelligence refers to skills such as identifying, understanding, and managing the emotions of one’s self and others (Ashkanasy & Daus, 2002). The fire administration may consider having prospective officers complete a leadership inventory questionnaire that focuses on leadership behaviors to determine their leadership style and determine if an officer is found more likely to
possess the leadership behaviors identified as having positive or negative influence on psychological well-being.

Many professions, including the fire service, already incorporate various pre-employment testing related to honesty and integrity, including the use of polygraphs. Others test the cognitive aptitude and physical abilities of prospective employees (SHRM, 2018). The inclusion of an emotional intelligence assessment and leadership behavior assessment for perspective leaders is an easy extension of the vast employment testing already done. This research also suggests it may be beneficial to provide training to fire officers with the knowledge of the profound influence their leadership behaviors may have on firefighter’s psychological well-being and providing leadership training to both new and existing officers to highlight these areas and provide tools to strengthen their positive leadership attributes. This along with the improvement of leadership behaviors and the emotional intelligence of new and existing leaders may also help to create a culture of greater emotional awareness in a profession that typically perceives emotion as a weakness.

Theoretical Implications. The social bonding theory and the affective events theory were used to guide this study. The affective events theory, that following occurrences of an important work event, an employee’s work-related affective experiences, attitudes, and behaviors are affected and the “workplace events are proximal causes of an individual’s affective reactions that have direct influences on their attitudes and behaviors” (Demirbag, Fındıkli, & Yozgat, 2016, p. 6). This study reinforces this by noting the differences in the firefighter’s psychological well-being scores, where firefighters who had more positive interactions with their officers had higher psychological well-being scores and those with more negative interactions had lower psychological well-being scores. These same results also reinforce the social bonding theory on the importance of social bonding and the detriment to human health a lack of social
connectedness brings (Seppala, 2012). Further this study supports the social bonding theory by noting that a lack of close social bonding group cohesions and the development of supportive face-to-face relationships (Siebold, 2007), of firefighters to their leaders has an effect on their psychological well-being.

**Recommendations for Further Research**

Due to the exploratory nature of this case study, conducting a larger study to further investigate how firefighters perceive the influence of leader behaviors on their psychological well-being may be of value. Research into a large quantitative study that furthers research into the impact of age and years of service, particularly for participants with low psychological well-being may be of value. Additionally, action research into how education and training of officers affects the influence of leadership behaviors on firefighter psychological well-being may provide valuable information. Further, research with firefighters from other geographical areas would help to increase the general applicability of this study to the overall firefighting force and could potentially identify other leadership behaviors that affect the psychological well-being of firefighters.

A study that focuses on fire officers in the different ranks and their perception of leadership behaviors on their psychological well-being may also be of value in informing the fire service on the perceptions from the fire officer view. Lastly, research conducted to determine how fire officers perceive the impact of their leadership behaviors on firefighter psychological well-being may be beneficial in offering a more comprehensive picture of psychological well-being in the fire service.
Conclusion

The purpose of this narrowly focused qualitative case study was to explore how firefighters perceive the influence of leadership behaviors on their psychological well-being. The findings showed that firefighters’ psychological well-being is influenced by the leadership behaviors of their officers. Leaders in the fire service who have positive leadership behaviors and form strong social connections with their firefighter had a positive effect on the firefighter’s’ psychological well-being. Leaders in the fire service who had negative leadership behaviors demonstrated a lack of leadership and did not have strong social connections with their firefighters had a negative effect on the psychological well-being of firefighters.

Further, these leadership behaviors were identified and categorized by their positive or negative influence on psychological well-being as perceived by the participants. Understanding how leadership behaviors influence psychological well-being will allow fire service agencies to begin practical application and policy changes. These changes may help positively influence the current stoic culture of in fire services, to begin transforming it into a culture where the exacting emotional toll of the profession is buffered through positive leadership behaviors by maintaining higher levels of psychological well-being in firefighters.
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Appendix A: Semistructured Interview Questions

1. Tell me about your fire department what’s it like?

   **Autonomy**

2. How do you feel about your ability to decide what you are doing during each shift?

3. What is a typical day like at work, from the time you come on shift?

4. How does your officer ask for or accept input?

   **Environmental Mastery**

5. How is your officer’s leadership and guidance through the day?

6. What do you think about the way your department handles transfers

   **Personal Growth**

7. How does your officer approach the need for training and continuing education?

8. How does your officer provide feedback to you?

   **Positive Relations with Others**

9. How do you perceive your ability to form relationships with others in the station?

10. How does your officer handle the crew’s emotional needs after calls?

    11. How do you feel about your ability to talk openly with your officer about issue that affect you emotionally?

   **Purpose in Life**

12. How do you feel about your ability to be successful in your department?

   **Self-Acceptance**

13. How does your lieutenant make you feel about your abilities as a firefighter?

14. Describe to me the leadership qualities of your ideal officer.

15. How would you describe the leadership qualities of your officer?
Other

16. Given our conversations today, is there anything else that I should know or that you would like to share with me?
Appendix B: Psychological Well-Being Questionnaire

The following set of questions deals with how you feel about yourself and your life.

Please remember that there are no right or wrong answers.

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<th>Circle the number that best describes your present agreement or disagreement with each statement.</th>
<th>Strongly Disagree</th>
<th>Disagree Somewhat</th>
<th>Disagree Slightly</th>
<th>Agree Slightly</th>
<th>Agree Somewhat</th>
<th>Strongly Agree</th>
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<tbody>
<tr>
<td>1.</td>
<td>Most people see me as loving and affectionate.</td>
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<td>2.</td>
<td>Sometimes I change the way I act or think to be more like those around me.</td>
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<td>3.</td>
<td>In general, I feel that I am in charge of the situation in which I live.</td>
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<td>4.</td>
<td>I am not interested in activities that will expand my horizons.</td>
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<td>5.</td>
<td>I feel good when I think of what I have done in the past and what I hope to do in the future.</td>
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<td>6.</td>
<td>When I look at the story of my life, I am pleased with how things have turned out.</td>
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<td>7.</td>
<td>Maintaining close relationships has been difficult and frustrating for me.</td>
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<td>8.</td>
<td>I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.</td>
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<td>9.</td>
<td>The demands of everyday life often get me down.</td>
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<td>10.</td>
<td>In general, I feel that I continue to learn more about myself as time goes by.</td>
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<td>11.</td>
<td>I live life one day at a time and do not really think about the future.</td>
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<td>12. In general, I feel confident and positive about myself.</td>
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<td>13. I often feel lonely because I have few close friends with whom to share my concerns.</td>
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<td>14. My decisions are not usually influenced by what everyone else is doing.</td>
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<td>Circle the number that best describes your present agreement or disagreement with each statement.</td>
<td>Strongly Disagree</td>
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<td>15. I do not fit very well with the people and the community around me.</td>
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<td>16. I am the kind of person who likes to give new things a try.</td>
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<td>17. I tend to focus on the present, because the future nearly always brings me problems.</td>
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<td>18. I feel like many of the people I know have gotten more out of life than I have.</td>
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<td>19. I enjoy personal and mutual conversations with family members or friends.</td>
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<td>20. I tend to worry about what other people think of me.</td>
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<td>21. I am quite good at managing the many responsibilities of my daily life.</td>
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<td>22. I don’t want to try new ways of doing things—my life is fine the way it is.</td>
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<td>23. I have a sense of direction and purpose in life.</td>
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<td>24. Given the opportunity, there are many things about myself that I would change.</td>
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<td>25. It is important to me to be a good listener when close friends talk</td>
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26. Being happy with myself is more important to me than having others approve of me.

27. I often feel overwhelmed by my responsibilities.

28. I think it is important to have new experiences that challenge how you think about yourself and the world.

29. My daily activities often seem trivial and unimportant to me.

30. I like most aspects of my personality.

31. I do not have many people who want to listen when I need to talk.

<table>
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<th>Circle the number that best describes your present agreement or disagreement with each statement.</th>
<th>Strongly Disagree</th>
<th>Disagree Somewhat</th>
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<th>Agree Somewhat</th>
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<td>32. I tend to be influenced by people with strong opinions.</td>
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<td>33. If I were unhappy with my living situation, I would take effective steps to change it.</td>
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<td>34. When I think about it, I have not really improved much as a person over the years.</td>
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<td>35. I do not have a good sense of what it is I am trying to accomplish in life.</td>
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<td>36. I made some mistakes in the past, but I feel that all in all everything has worked out for the best.</td>
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<td>37. I feel like I get a lot out of my friendships.</td>
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<td>38. People rarely talk to me into doing things I do not want to do.</td>
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<td>39. I generally do a good job of taking care of my personal finances and affairs.</td>
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<td>40. In my view, people of every age are able to continue growing and developing.</td>
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<td>41. I used to set goals for myself, but that now seems like a waste of time.</td>
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<td>42. In many ways, I feel disappointed about my achievements in life.</td>
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<td>43. It seems to me that most other people have more friends than I do.</td>
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<td>44. It is more important to me to “fit in” with others than to stand alone on my principles.</td>
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<td>45. I find it stressful that I can’t keep up with all of the things I have to do each day.</td>
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<td>46. With time, I have gained a lot of insight about life that has made me a stronger, more capable person.</td>
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<td>47. I enjoy making plans for the future and working to make them a reality.</td>
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<td>48. For the most part, I am proud of who I am and the life I lead.</td>
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Circle the number that best describes your present agreement or disagreement with each statement.

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<td>49. People would describe me as a giving person, willing to share my time with others.</td>
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<td>50. I have confidence in my opinions, even if they are contrary to the general consensus.</td>
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<td>51. I am good at juggling my time so that I can fit everything in that needs to be done.</td>
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<td>52. I have a sense that I have developed a lot as a person over time.</td>
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<td>53. I am an active person in carrying out the plans I set for myself.</td>
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<td>54. I envy many people for the lives they lead.</td>
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<td>55. I have not experienced many warm and trusting relationships with others.</td>
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<td>56. It’s difficult for me to voice my own opinions on controversial matters.</td>
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<td>57. My daily life is busy, but I derive a sense of satisfaction from keeping up with everything.</td>
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<td>58. I do not enjoy being in new situations that require me to change my old familiar ways of doing things.</td>
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<td>59. Some people wander aimlessly through life, but I am not one of them.</td>
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<td>60. My attitude about myself is probably not as positive as most people feel about themselves.</td>
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<td>61. I often feel as if I’m on the outside looking in when it comes to friendships.</td>
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<td>62. I often change my mind about decisions if my friends or family disagree.</td>
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<td>63. I get frustrated when trying to plan my daily activities because I never accomplish the things I set out to do.</td>
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<td>64. For me, life has been a continuous process of learning, changing, and growth.</td>
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<td>Circle the number that best describes your present agreement or disagreement with each statement.</td>
<td>Strongly Disagree</td>
<td>Disagree Somewhat</td>
<td>Disagree Slightly</td>
<td>Agree Slightly</td>
<td>Agree Somewhat</td>
</tr>
<tr>
<td></td>
<td>65. I sometimes feel as if I’ve done all there is to do in life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>66. Many days I wake up feeling discouraged about how I have</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
67. I know that I can trust my friends, and they know they can trust me.

68. I am not the kind of person who gives in to social pressures to think or act in certain ways.

69. My efforts to find the kinds of activities and relationships that I need have been quite successful.

70. I enjoy seeing how my views have changed and matured over the years.

71. My aims in life have been more a source of satisfaction than frustration to me.

72. The past had its ups and downs, but in general, I wouldn’t want to change it.

73. I find it difficult to really open up when I talk with others.

74. I am concerned about how other people evaluate the choices I have made in my life.

75. I have difficulty arranging my life in a way that is satisfying to me.

76. I gave up trying to make big improvements or changes in my life a long time ago.

77. I find it satisfying to think about what I have accomplished in life.

78. When I compare myself to friends and acquaintances, it makes me feel good about who I am.

79. My friends and I sympathize with each other’s problems.

80. I judge myself by what I think is important, not by the values of what others think is important.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree Somewhat</th>
<th>Disagree Slightly</th>
<th>Agree Slightly</th>
<th>Agree Somewhat</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>81. I have been able to build a home and a lifestyle for myself that is much to my liking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>82. There is truth to the saying that you can’t teach an old dog new tricks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>83. In the final analysis, I’m not so sure that my life adds up to much.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>84. Everyone has their weaknesses, but I seem to have more than my share.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
Appendix C: Permission Letter To Use Ryff Scales Of Psychological Well-Being

Questionnaire

Greetings,

Thank you for your interest in the well-being scales. I am responding to your request on behalf of Carol Ryff. She has asked me to send you the following:

You have her permission to use the scales for research or other non-commercial purposes.

They are attached in the following files:

"14 Item Instructions"
- lists 14 items for each of 6 scales of well-being (14x6=84 questions total), and includes details about
- how to use shorter versions of the scales
- scoring instructions (for all lengths of the scales)
- psychometric properties
- a list of published studies using the scales
(if the instructions do not answer your questions about the scales, see the publications by C. D. Ryff at the beginning of the list)

"14-item Questionnaire"
- a formatted version of the full instrument with all 84 items.
- if you want to use one of the shorter scales, you will need to modify this file.
- see the "14 item instructions" for which questions to include.
- we do not have formatted shorter instruments to send out.

Please note, Dr. Ryff strongly recommends that you NOT use the ultra-short form version (3 items per scale, 3x6=18 items). That level of assessment has psychometric problems and does not do a good job of covering the content of the six well-being constructs.

There is no charge to use the scales, but we do ask that you please send us copies of any materials you may publish using the scales to berrie@wisc.edu and cryff@wisc.edu.

Best wishes for your research,

--

Theresa Berrie
Administrative Assistant
UW Institute on Aging
Appendix D: Qualitative Questionnaire

1. How long have you been a firefighter?
2. How old are you?
3. Please select your gender (Male/Female).
4. Please select your Race/Ethnicity—American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, White.
5. Are you Hispanic? (Yes/No)
6. Are you an officer (lieutenant or higher)?
7. In a few words, tell me about your fire department: What is it like to work there.
   **Excellent, Good, Acceptable, Poor, Very poor**
8. How do you feel about your ability to decide what you are doing during the shift?
9. How do you feel about your ability to provide input to your officer on calls?
10. How do you feel about your ability to get things done at work?
11. How do you feel about your ability to form relationships with other in the station?
12. How do you feel about your ability to be successful in this department?
13. How do you feel about coming to work each day?
14. How do you feel about doing training?
15. How do you feel the opportunities for growth and development are at your department?
   **Definitely, Probably, Possibly, Probably Not, Definitely Not**
16. Do you feel that you can talk openly with your officer about issues affecting you at work or at home?
17. How likely is your officer to encourage you to set goals for yourself?
   **Open Response—In a Few Words**
18. Describe the leadership qualities of your ideal officer.

19. Describe the leadership qualities of your officer?

20. When was the last time you requested a transfer, why did you request it?

21. Tell me about how your officer motivates you.

   **Very Important, Important, Fairly Important, Slightly Important, Not Important**

22. How important is it to you to have a good relationship with your officer?

23. How important is it to you to have an officer that supports your emotional needs?

   **Always, Frequently, Occasionally, Rarely, Never**

24. How often does your officer provide feedback to you on your performance?

25. How frequently does your officer support you emotionally?

   **Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree**

26. My officer is supportive of my needs following an emotionally taxing call.

27. My officer encourages positive interactions with the crew.

   **Other/Open Response**

28. Is there anything else you would like to share that you think is important?
Appendix E: Validation Rubric For Expert Panel

Survey/Interview Validation Rubric for Expert Panel—VREP©

By Marilyn K. Simon with input from Jacquelyn White

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Operational Definitions</th>
<th>Score</th>
<th>Questions NOT meeting standard (List page and question number) and need to be revised.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity</td>
<td>• The questions are direct and specific.</td>
<td>1=Not Acceptable (major modifications needed)</td>
<td>Please use the comments and suggestions section to recommend revisions.</td>
</tr>
<tr>
<td></td>
<td>• Only one question is asked at a time.</td>
<td>2=Below Expectations (some modifications needed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• The participants can understand what is being asked.</td>
<td>3=Meets Expectations (no modifications needed, but could be improved with minor changes)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• There are no double-barreled questions (two questions in one).</td>
<td>4=Exceeds Expectations (no modifications needed)</td>
<td></td>
</tr>
<tr>
<td>Wordiness</td>
<td>• Questions are concise.</td>
<td>1=Not Acceptable (major modifications needed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• There are no unnecessary words</td>
<td>2=Below Expectations (some modifications needed)</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>• Questions are asked using the affirmative (e.g.: Instead of asking “Which methods are not used?” the researcher asks “Which</td>
<td>3=Meets Expectations (no modifications needed, but could be improved with minor changes)</td>
<td></td>
</tr>
<tr>
<td>Wording</td>
<td></td>
<td>4=Exceeds Expectations (no modifications needed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

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methods are used?

| Overlapping Responses | • No response covers more than one choice.  
|• All possibilities are considered.  
|• There are no ambiguous questions. |

| Balance | • The questions are unbiased and do not lead the participants to a response. The questions are asked using a neutral tone. |

| Use of Jargon | • The terms used are understandable by the target population.  
|• There are no clichés or hyperbole in the wording of the questions. |

| Appropriateness of Responses Listed | • The choices listed allow participants to respond appropriately.  
|• The responses apply to all situations or offer a way for those to respond with unique situations. |

| Use of Technical Language | • The use of technical language is minimal and appropriate.  
<p>|• All acronyms are defined. |</p>
<table>
<thead>
<tr>
<th>Application to Praxis</th>
<th>• The questions asked relate to the daily practices or expertise of the potential participants.</th>
</tr>
</thead>
</table>
| Relationship to Problem| • The questions are sufficient to resolve the problem in the study  
• The questions are sufficient to answer the research questions.  
• The questions are sufficient to obtain the purpose of the study. |
| Measure of Construct: A: (   ) | • The survey adequately measures this construct.  
* [*Includes operational definitions and concepts associated with construct*] |
| Measure of Construct: B: (   ) | • The survey adequately measures this construct.  
* [*Includes operational definition and concepts associated with construct*] |
<p>| Measure of Construct: C: (   ) | • The survey adequately measures this construct. |</p>
<table>
<thead>
<tr>
<th>Measure of Construct: D: ( )</th>
<th>*Includes operational definition and concepts associated with construct</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• The survey adequately measures this construct.</td>
<td>*[Includes operational definition and concepts associated with construct]</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix F: Client Non-Disclosure Agreement Rev.Com

CLIENT NON-DISCLOSURE AGREEMENT

This CLIENT NON-DISCLOSURE AGREEMENT, effective as of the date last set forth below (this "Agreement"), between the undersigned actual or potential client ("Client") and Rev.com, Inc. ("Rev.com") is made to confirm the understanding and agreement of the parties hereto with respect to certain proprietary information being provided to Rev.com for the purpose of performing translation, transcription and other document related services (the "Rev.com Services"). In consideration for the mutual agreements contained herein and the other provisions of this Agreement, the parties hereto agree as follows:

1. Scope of Confidential Information

1.1. "Confidential Information" means, subject to the exceptions set forth in Section 1.2 hereof, any documents, video files or other related media or text supplied by Client to Rev.com for the purpose of performing the Rev.com Services.

1.2. Confidential Information does not include information that: (i) was available to Rev.com prior to disclosure of such information by Client and free of any confidentiality obligation in favor of Client known to Rev.com at the time of disclosure; (ii) is made available to Rev.com from a third party not known by Rev.com at the time of such availability to be subject to a confidentiality obligation in favor of Client; (iii) is made available to third parties by Client without restriction on the disclosure of such information; (iv) is or becomes available to the public other than as a result of disclosure by Rev.com prohibited by this Agreement; or (v) is developed independently by Rev.com or Rev.com's directors, officers, members, partners, employees, consultants, contractors, agents, representatives or affiliated entities (collectively, "Associated Persons").

2. Use and Disclosure of Confidential Information

2.1. Rev.com will keep secret and will not disclose to anyone any of the Confidential Information, other than furnishing the Confidential Information to Associated Persons; provided that such Associated Persons are bound by agreements respecting confidential information. Rev.com will not use any of the Confidential Information for any purpose other than performing the Rev.com Services on Client's behalf. Rev.com will use reasonable care and adequate measures to protect the security of the Confidential Information and to attempt to prevent any Confidential Information from being disclosed or otherwise made available to unauthorized persons or used in violation of the foregoing.

2.2. Notwithstanding anything to the contrary herein, Rev.com is free to make, and this Agreement does not restrict, disclosure of any Confidential Information in a judicial, legislative or administrative investigation or proceeding or to a government or other regulatory agency; provided that, if permitted by law, Rev.com provides to Client prior notice of the intended disclosure and permits Client to intervene therein to protect its interests in the Confidential Information, and cooperate and assist Client in seeking to obtain such protection.

3. Certain Rights and Limitations

3.1. All Confidential Information will remain the property of Client.

3.2. This Agreement imposes no obligations on either party to purchase, sell, license, transfer or otherwise transact in any products, services or technology.

4. Termination

4.1. Upon Client's written request, Rev.com agrees to use good faith efforts to return promptly to Client any Confidential Information that is in writing and in the possession of Rev.com and to certify the return or destruction of all Confidential Information; provided that Rev.com may retain a summary description of Confidential Information for archival purposes.

4.2. The rights and obligations of the parties hereto contained in Sections 2 (Use and Disclosure of Confidential Information) (subject to Section 2.1), 3 (Certain Rights and Limitations), 4 (Termination), and 5 (Miscellaneous) will survive the return of any tangible embodiments of Confidential Information and any termination of this Agreement.

5. Miscellaneous

5.1. Client and Rev.com are independent contractors and will so represent themselves in all regards. Nothing in this Agreement will be construed to make either party the agent or legal representative of the other or to make the parties partners or joint venturers, and neither party may bind the other in any way. This Agreement will be governed by and construed in accordance with the laws of the State of California governing such agreements, without regard to conflicts-of-law principles. The sole and exclusive jurisdiction and venue for any litigation arising out of this Agreement shall be an appropriate federal or state court located in the State of California, and the parties agree not to raise, and waive, any objections or defenses based upon venue or forum non
conveniens. This Agreement (together with any agreement for the Rev.com Services) contains the complete and exclusive agreement of the parties with respect to the subject matter hereof and supersedes all prior agreements and understandings with respect thereto, whether written or oral, express or implied. If any provision of this Agreement is held invalid, illegal or unenforceable by a court of competent jurisdiction, such will not affect any other provision of this Agreement, which will remain in full force and effect. No amendment or alteration of the terms of this Agreement will be effective unless made in writing and executed by both parties hereto. A failure or delay in exercising any right in respect to this Agreement will not be presumed to operate as a waiver, and a single or partial exercise of any right will not be presumed to preclude any subsequent or further exercise of that right or the exercise of any other right. Any modification or waiver of any provision of this Agreement will not be effective unless made in writing. Any such waiver will be effective only in the specific instance and for the purpose given.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed below by their duly authorized signatories.

CLIENT

Print Name:______________________

By: _____________________________
    Name: _______________________
    Title: _________________________
    Date: _________________________

Address for notices to Client:
    ______________________________
    ______________________________
    ______________________________

REV.COM, INC.

By: _____________________________
    Name: Cheryl Brown
    Title: Account Manager
    Date: January 8, 2018

Address for notices to Rev.com, Inc.:
    251 Kearny St. FL 8
    San Francisco, CA 94108
Appendix G: IRB Approval Letter

DATE: June 18, 2018
TO: Craig Damien
FROM: Concordia University–Portland IRB (CU IRB)

PROJECT TITLE: [1223513-2] Firefighter’s Perception of Leadership Behaviors on their Psychological Well-being: A Case Study
REFERENCE #: EDD-20180412-Markette-Damien
SUBMISSION TYPE: Amendment/Modification

ACTION: APPROVED
APPROVAL DATE: June 18, 2018
EXPIRATION DATE: June 18, 2019
REVIEW TYPE: Expedited Review

Thank you for your submission of Amendment/Modification materials for this project. The Concordia University–Portland IRB (CU IRB) has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission. Attached is a stamped copy of the approved consent form. You must use this stamped consent form.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.
All UNANTICIPATED PROBLEMS involving risks to subjects or others (UIRSoS) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of June 18, 2019.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

If you have any questions, please contact Amon Johnson at (503) 280-8127 or amjohnson@cu-portland.edu. Please include your project title and reference number in all correspondence with this committee.

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Concordia University—Portland IRB (CU IRB)’s records. June 18, 2018
Appendix H: IRB Stamped Consent Form

Research Study Title: Firefighters’ Perception of Leadership Behaviors on Their Psychological Well-being: A Case Study
Principal Investigator: Craig E. Damien
Research Institution: Concordia University
Faculty Advisor: Nicholas Markette

Purpose and What You Will Be Doing:
The purpose of this survey is to explore firefighters’ perceptions of leadership behaviors on their psychological well-being. I expect approximately 10 volunteers. No one will be paid to be in the study. I will begin enrollment on or around June 25, 2018 and end enrollment on July 10, 2018. To be in the study, you will participate in a face-to-face interview and complete a psychological well-being questionnaire. Doing these things should take less than 90 minutes of your time.

Risks:
There are no risks to participating in this study other than providing your information. However, we will protect your information. I will record interviews. The recording will be transcribed by me, the principal investigator, and the recording will be deleted when the transcription is completed. Any data you provide will be coded so people who are not the investigator cannot link your information to you. Any name or identifying information you give will be kept securely via electronic encryption on my password-protected computer, locked inside the cabinet in my office. The recording will be deleted as soon as possible; all other study documents will be kept secure for three years and then be destroyed.

If any of the questions asked are upsetting or make you feel uncomfortable while answering, you can skip them and go to the next question. If, during the course of participation or at a later time, you become emotionally upset or stressed out, you can contact Fire Rescue Support at 352-425-1643 for assistance.

Benefits:
Information you provide will help create a better understanding of how firefighters perceive leadership behaviors’ effects on their psychological well-being. You could benefit by participating in the study by gaining a better understanding of your psychological well-being and providing information that may help create changes in leadership behaviors.

Confidentiality:
This information will not be distributed to any other agency and will be kept private and confidential. The only exception to this is if you tell us about abuse or neglect that makes us seriously concerned for your immediate health and safety.
Right to Withdraw:
Your participation is greatly appreciated, but we acknowledge that the questions we are asking are personal in nature. You may skip any questions you do not wish to answer and you are free at any point to choose not to engage with or stop the study. This study is not required and there is no penalty for not participating. If at any time you experience a negative emotion from answering the questions, we will stop asking you questions, if you need to discuss any feelings that arise.

Contact Information:
You will receive a copy of this consent form. If you have questions, you can talk to or write the principal investigator Craig Damien at [redacted]. If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board Dr. Ora-Lee Branch (email obranch@cu-portland.edu or call 503-493-6390).

Your Statement of Consent:
I have read the above information. I asked questions if I had them and my questions were answered. I volunteer my consent for this study.

Participant Name________________________ Date ____________

Participant Signature__________________ Date ____________

Investigator Name____________________ Date ____________

Investigator Signature__________________ Date ____________

Investigator: Craig E. Damien
Email: [redacted]
c/o: Professor Nicholas Markette
Concordia University–Portland
2811 NE Holmam Street
Portland, Oregon 97211
Appendix I: Statement of Original Work

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously-researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

Statement of academic integrity.

As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work, nor will I provide unauthorized assistance to others.

Explanations:

What does “fraudulent” mean?

“Fraudulent” work is any material submitted for evaluation that is falsely or improperly presented as one’s own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate’s final work without full and complete documentation.

What is “unauthorized” assistance?

“Unauthorized assistance” refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another’s work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.
Statement of Original Work (continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.

2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources has been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*.

Craig E. Damien

Digital Signature

Craig E. Damien

Name (typed)

August 14, 2019

Date