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## A Qualitative Study of the Motivations and Affiliation Dynamics Involved with a Firefighting Career

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### ABSTRACT

*We explored the experiences of full-time firefighters in the present phenomenological qualitative study, having conducted semi-structured interviews with 26 male full-time firefighters. Their personal constructs of motivation and affiliation were explored and, within the constructs of motivation, three themes emerged. First, firefighters were motivated by a love of the excitement firefighting provides. Second, firefighters reported that the work schedule, which allows them more time at home, was a motivation. Third (and most emphasized by the firefighters) was an altruistic motivation to help others. Under the construct of affiliation, the firefighters reported a strong sense of brotherhood with their shift-partners, and they extended this brotherhood to all firefighters and even other emergency workers. We relate these findings to the existing body of research regarding the relationship between motivation, affiliation and satisfaction of firefighters.*

**KEYWORDS:** Firefighters; Qualitative Research; First Responders; Motivation; Affiliation

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### Introduction

Despite the essential role that firefighting possesses in American society, we found relatively few published studies in peer-reviewed journals that explicitly address psychological issues pertaining to the firefighting profession. Most of the published research addresses matters such as protective gear, medical injuries sustained while performing duties, physical stamina required during fighting fires, fire safety issues, and other “physical” elements involved in the process of extinguishing

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dangerous fires. Relatively little attention has been given, in contrast, to the psychological, mental, or emotional aspects of the actual firefighters themselves. In this context, our present study helps contribute to the needed research literature addressing the non-physical elements involved with a firefighting career.

Two overarching challenges exist for individuals who select firefighting as a potential vocational path. The first challenge involves the physical dangers inherent in the job. While scientists continue to improve elements such as protective clothing (Fu, Yuan, & Weng, 2015), safety zone protection (Dennison, Fryer, & Cova, 2014), fire suppression techniques (Hollmgren, 2015), and various firefighting tools (Harrison & Olofsson, 2016), firefighting remains an inherently dangerous profession. Over 68,000 injuries occur annually to firefighters (Haynes & Molis, 2016), making it among American's most dangerous professions. Obviously, fire is a dangerous substance and, having a job requiring continued exposure to it, is realistically going to result in injuries to some firefighting professionals.

Physical challenges also result from a firefighting career due to *secondary effects*. In particular, firefighters not only sometimes are injured directly in the performance of their primary duties—they also sometimes undergo injuries and/or medical conditions after the fire is extinguished. Problems related to breathing (Litow, et al., 2015), lower back problems (Kim, Seo, Kim, & Ahn, 2016), muscle injuries (Lu, 2016), heart issues (Adams, et al., 2014), cancer (Bates, 2007), and other physical problems have been reported. Such problems can be acute and/or chronic at times.

A second overarching challenge in selecting a firefighting career occurs at the psychological level. Research has shown various fire rescue personnel to struggle with issues such as work-family dynamics (Ortiz, 2018; Shreffler, Meadows, & Davis, 2011), mental health issues (Benedek, Fullerton, & Ursano, 2007), emotional burnout when working in high-stress settings (Lourel, Abdellaoui, Chevaleyre, Paltrier, & Gana, 2008), and sleep-related problems (Billings & Focht, 2016). Obviously, firefighting does not lend itself to working banker's hours and for many workers, the stress inherently involved with the job takes its toll over time. Haddock, Jahnke, Poston, Jitnarin, and Day (2015) report the divorce rate for female firefighters is 40% (compared to 24% among male firefighters), suggesting that elements of the job likely impact the overall family dynamic. Firefighter's also experience psychological stress due to the fact that they are called to a relatively wide-range of circumstances, such as rescues, motor vehicle accidents, hazardous material situations, domestic emergencies, and emergency medical responses. As a result, firefighters work in constantly-changing environments that require multiple skill-sets, which can add even more stress to their respective careers.

In sum, given both the physical and psychological challenges involved with having a firefighting career, why do individuals choose to participate in this vocation? Because numerous obvious challenges are readily identifiable, we were interested to know what *motivations* help to counter-balance these dynamics and stimulate individuals to select and keep fire rescuing as a career. Identifying such factors potentially can help recruit new firefighters when job vacancies occur and also help public administrators in selecting potentially good candidates for these positions. Because relatively little has previously been published regarding firefighter vocational motivations, we utilized a qualitative methodology in the present research design. Creswell (2012) notes that qualitative approaches are particularly useful when conducting exploratory research—such as the present study. In-depth interviews allowed us to drill-down during our data collection in ways that surveying firefighters would not have afforded. Our overarching aim in the present

study was to better understand the motivations that firefighters possess when selecting and practicing their respective careers.

## **Method**

### **Participants**

We identified participants for this study through the method of snowball sampling (Marshall & Rossman, 2011). In total, we contacted 26 full-time male firefighters via email or phone call in order to schedule interviews for the present study. The firefighters reportedly worked an average of 56 hours per week and some firefighters involved in this study indicated that they worked part-time at two or more stations, resulting in full-time hours. Twenty-five (96%) of the participating firefighters were Caucasian and one participant (4%) was Hispanic. All the firefighters graduated from high school, and 23 participants (88%) of the firefighters had undergone some college education. The participants' ages ranged from 22 to 53 ( $M=35.5$ ). Twenty participants (77%) were married and/or had children. Our participants represented the following states: Ohio (42.3%), Texas (15.4%), Washington (7.7%), Kentucky (7.7%), Arizona (3.84%), Florida (3.84%), Indiana (3.84%), Minnesota (3.84%), North Carolina (3.84%), Virginia (3.84%), and Wisconsin (3.84%).

We achieved saturation (Bowen, 2008) from our sample of firefighters at around the 17th interview, meaning that adding new interviews to the sample no longer contributed potentially new themes to the present study. Creswell (2007) reports that, when conducting qualitative research, a sample size of approximately 25 individuals who all share the common experience under examination often provides saturation. In sum, we believe our sample size for the present study was sufficient for the study's intended purpose and design and this assessment is congruent with other expert qualitative researchers such as Guest, Bunce, and Johnson (2006) and Neuman (2006).

### **Procedure**

Our present study follows the phenomenological research tradition in that we sought to understand our participants and their personal experiences regarding the motivation and affiliation of a full-time firefighting career (as best we humanly could), reporting the results from the firefighters' perspectives (Creswell, 2012). In order to gather the study's data, we conducted semi-structured interviews (Aydin, 2013; Seidman, 2006), which allowed the fire rescue personnel to better control the conversation and reveal to us their thought processes, feelings, and opinions regarding their motivation for firefighting and their affiliation with their fire department. The semi-structured nature of the interviews yielded detailed and vivid information (Gibbs, 2007). We conducted 54% of the interviews face-to-face, 31% via phone calls, and 15% via email. Block and Erskine (2012) note that, although obviously some data is lost when conducting non-face-to-face interviews, the essential information exists and valid studies can rightly combine protocols.

During the interview process, we explored five particular constructs with each firefighter: expectations vs. reality, interaction with the public and others, stress, effects on daily life, and general perceptions. We recorded all interviews and transcribed them later for analysis and coding. We coded the data beginning with an open protocol following an inductive method (Aydin & Lafer, 2015; Maxwell, 2005); as such, when we began coding, we did not have intended constructs but, rather, inductively analyzed and reviewed the transcripts for reoccurring words,

phrases, and ideas—organizing the similarities into constructs. We compared each new transcript with the previous ones during coding, which utilized a constant-comparison protocol (Silverman, 2006). During the constant-comparison process, we abandoned some codes that originally had been created at the study's outset, because they turned-out not to be representative of most participants in the study (Bereska, 2003; Kayaalp, 2015). In other instances, we reorganized our codes into more broad categories due to overlap and a desire to simplify the analysis process. Our data inquiry often involved asking key questions, conducting organizational review, visually displaying the findings, and concept mapping which is consistent with Gay, Mills, and Airasian's suggested (2009) methodology. The findings we report in this article are representative of most participants in the study.

Throughout each phase of the study, we took diligent steps in order to help ensure that the protocol upheld expected standards with respect to qualitative research methodology (Cope, 2004; Erasmus & De Wet, 2005). With that goal in mind, we designed the research study in order to strengthen its internal validity and to provide validity checks in the following ways: strategic meetings, data auditing, member checking, using low inference descriptors, and consulting an independent researcher. First, during the strategic research meetings, our team discussed design, potential codes, analysis, and potential themes. While quality research can be produced via a sole researcher's perspective, we believe that collaboration involving discussions, debates, examinations of potential biases, and finding alternative explanations generates more reliable results than research generated by one viewpoint (Duffy, Wickersham-Fish, Rademaker, & Wetzler, 2018; Silverman & Marvasti, 2008).

Second, we conducted data audits in order to enhance our study's internal validity (Rodgers, 2008). A data audit in qualitative research is the process by which authors document how the reported results are grounded in transcript data in order to ensure that both breadth and depth of transcript data exists to support a study's conclusions. Data audits benefit qualitative research projects by reducing the likelihood of fraud, clearly demonstrating how the researchers' findings represent the consensus of the participants, and by providing a starting point for future researchers to further the research on the topic.

Third, we implemented member checking (Mero-Jaffe, 2011) in order to further strengthen our study's internal validity. In order to conduct the member checking, we emailed our study's findings to all of the participants and asked them to provide feedback. Member checking helps to ensure that the reported results adequately demonstrate what the participants communicated during their respective interviews. The feedback we received from our participants regarding the present study's results unanimously supported the findings that we report in the present article.

Fourth, we used low inference descriptors (Chenail, 2012) as a further means of enhancing our study's internal validity. During the write-up phases of a qualitative study, this involves providing accounts of the participants using their own words (as often as realistically feasible) instead of rephrasing their thoughts and opinions. The use of low inference descriptors enables readers to better grasp what participants shared during their interviews, without changing tone or tenor. In the present article, we often cite quotations given by the interviewed firefighters in order to better demonstrate the connections between the actual words of the participants and our conclusions.

Finally, we also enhanced the study's internal validity by consulting the expertise of an independent researcher (Flick, 2006). This step involves a qualitative research protocol in which a researcher who did not participate in data collection or analysis reviews the transcripts and procedures used in the study. The outside expert appraised whether the study possessed adequate

internal validity by tracing the reported results back to the data used to support the finding and reviewing the various steps for expected rigor. We found the independent researcher's opinions helpful and useful in helping to ensure that our reported conclusions accurately reflect the participants' true sentiments as expressed in the interview transcripts.

## Results

In regards to motivation, the interviewed fire rescue personnel reported the excitement that accompanies firefighting, the work schedule, and [most strongly] an altruistic motivation to help others and serve their community. In regard to affiliation, the firemen reported possessing strong ties to their fellow firefighters, often referring to one another as "brothers."

## Motivation

The interviewees reported a variety of firefighting elements that initially drew them into the field. The three main motivators reported by our participants were a desire for the excitement of the job, the work schedule, and an altruistic desire to help others.

**Adrenaline.** The study's participants indicated that a firefighting career includes ample "excitement," as many of our participants termed the construct. This type of exhilaration sometimes includes running into a burning buildings, saving people trapped in burning cars, prohibiting potential explosions, and other urgent activities. While such emergencies and adrenaline-provoking-events tend to be avoided in most vocations, the firefighters we interviewed reportedly enjoy and even desire this type of excitement on the job. One participant, for example, referred to the variety of handling car wrecks, house fires, traumas, assaults, and overdoses as "fun," emphasizing that he enjoys never knowing what kind of emergency he would be called to next. All of the interviewed firefighters made some sort of positive comment regarding the danger of firefighting as a positive element. One firefighter stated forthrightly: "You get to do a very exciting job—it's a little bit dangerous—it's a lot a bit dangerous, and it's very exciting—and so that's a very fun part of the job." This love of excitement and adrenaline-seeking characteristic was evident in all of our participants. In addition to firefighting, many of the participants also reported engaging in other adrenaline inducing, outdoorsy activities.

**Schedule.** A second motivation the participants reported in choosing to be a firefighter was the work schedule. The majority of our participants worked 24/48 shifts, which means that they are at the station for 24 hours but then have 48 hours off in order to recover from their last shift. While the 24-hour shifts are difficult on the firefighters, many of them expressed that the 48 hours off was worth the 24-hour shift. Several firemen said that this schedule allowed them to have a certain type of quality-time with their family members that most other 9-5 workers do not experience. Most of our participants found the schedule to be an appealing part of the job. The firefighters with children particularly enjoyed the days off with their children. While they reported challenging sleep issues with the schedule, many firefighters commented that the off time with their family was worth the difficult schedule.

It is important to note that the firefighters' scheduling was reported to have some negative effects as well, such as sometimes missing important holidays, birthdays, sports games, and not being able to have plenary involvement with a church or sports team, due to the inconsistent schedule. The schedule also prevents firefighters from fully developing their social life outside of the station. While our participants often talked about their schedule in a positive manner, such as

spending time with family, there were also comments regarding the experienced downsides of working a schedule that is incongruent with the rest of society. Again, overall, the firefighters believed that the schedule was worth the trade-offs, but the deficits were both noted and felt by the participants.

*Altruism.* The most prominent motivation our firefighter reported was an altruistic desire to help others and pour into the community. When stressful, dangerous situations arise, the firefighters rely on their training to do the job right. In this context, the firefighters indicated that they do not let their innate altruistic tendencies to impact their work quality during times of crisis. Aaron illustrated this point when he stated: “Or it takes a real tough person to tell the mother, Hey, stop freaking out. I’ve got to save your kid, now let me go do my job. You can freak out when I freak out and, until then, don’t freak out.” In less dire situations, however, altruism was said to play a significant role in firefighter’s motivation, as noted by Carl, when he stated: “Yesterday, we had an elderly lady that had fallen down and was there for probably three or four days and no one knew it. So we showed up and had to break in and got her to the hospital, so that’s a rewarding thing, difficult to see, but it’s rewarding to actually think I potentially saved this person.” Additionally, altruism also plays a part in calculating the present risks in a dangerous situation if there is a possibility to help someone in need. Roger illustrated and summarized the sentiments of the participants when he stated: “I’ve seen men and women do things that are incredible, in the face of adversity, and that for me helps me recognize the depth and capacity of the human spirit and the human body and to set yourself aside in the face of pretty significant danger on behalf of your fellow man uh is pretty impressive to watch.”

All of our participants told us multiple times that they were interested in firefighting as a means to help others. This altruistic drive was the most strongly reported motivation for having pursued a full-time firefighting career. All of our participants told us similar accounts: “Well, I basically wanted to do it because the only thing I really wanted to do in life was help people;” or, as another firefighter stated: “I realized I want to be in an industry where I can help people and do things for people. That’s what led me into the fire service, when I found out you can have a profound impact on people.” Altruistic motives clearly presented as the main motivation for the firefighters we interviewed. One firefighter aptly summarized the majority sentiments when he stated:

Well, number one [best thing about the job] is no question, helping people. That's a very satisfying part of the job. And it doesn't have to be fires, it can be the most miniscule, minor issue but, to the person out there, they are having a... well they don't know what else to do. When we get called, people have given up all their other options, and so you get called to go help on all sorts of situations. And it's very, very satisfying to be able to go out and help those people. You can't help all of them, but it's part of it—there is definitely that side of it.

In sum, while several factors, such as the excitement of the job and the schedule, are appealing for firefighters, the main motivation reported is an altruistic desire to help others.

## **Affiliation**

The second significant theme in the present study was a strong affiliation among firefighters. Many participants used the term “brotherhood” when discussing the social dynamics within their firehouse. This comradery refers to a bond shared among the fire rescue personnel that is almost familial in nature. The bond also was often extended to firefighters outside of their

particular station as well. Being accepted into the firefighter brotherhood reportedly does not happen immediately, however. A common social experience the fire rescue personnel discussed during our interviews is the process of initiation into the fire station. In this context, new firefighters are said to enter their career at the very bottom of the hierarchy. There is a tradition of almost shunning the “new guy,” until he has “done his time.” Consequently, new firefighters evidently are often socially isolated in the beginning of the career. During this period of time, the new firefighters are often responsible for chores and tasks such as doing dishes, making coffee, cooking, and the like. One of our interviewees shared the common sentiment in this regard:

They almost try to be like the military, so the first six months you're on probation, you're not friends with anybody, you're not allowed to just hang out and chat with people, you are doing chores or going on 911 calls or studying, pretty much that's all you do, those three things. You're not allowed to take naps, you're not allowed to relax, you're not allowed to read a book and watch TV while in the station for six months; you are doing work and not socializing... so it's very impersonal, it's almost frustrating and difficult... but it's to get you to learn your job very well, and it does that successfully.

While this phenomenon often occurs when a firefighter joins a new station, after the initiation period is over, a strong sense of brotherhood and belonging is said to develop. Overall, our participants viewed this sense of brotherhood among firefighters in a positive manner, with the exception of two participants who gave both positive and negative comments regarding the brotherhood-among-firefighters phenomenon. For example, one participant compared his firehouse to a locker room full of seventh graders, describing some of the immaturity and silliness of putting new firemen through initiation. Most of the firefighters we interviewed viewed this sense of brotherhood as a perk to the job. For example, one interviewee stated the following:

The family and the bonds that you make with these guys, it's worth it. I mean I'd do it again. I mean, you know, it is what it is and, you know, you may not have a great personal life outside the firehouse or outside the firehouse in the whole, but the relationships that you build with those guys and girls, you know, you're family. So yeah, I'd do it again.

This sense of brotherhood also encompasses other emergency safety departments such as EMS and police departments, to a lesser degree. While this dynamic was typical of the small town firefighters, firemen from larger cities did not express the same intensity-of-sentiment regarding sense-of-brotherhood among the various safety departments. Some firemen from larger cities even expressed sympathy toward policemen, due to a more prominent dislike of policemen than firefighters. One interviewee said:

Although it's not right, I think in a general aspect, I think people see ER, fire, and EMS as, like the good guys. They see cops as the bad guys. Regardless of what conversation you're trying to have. But, I can tell you from our perspective, we support our cops 100%. We have their backs, and I know that they have our backs. So you know, when it comes down to that, it's even a bigger family. If they get messed with, we try to help them out. We try to give them what they need.

A side effect, or potential cause, of the sense of brotherhood among firefighters was indicated that firemen tend to not have much of a social life outside of the fire department. This dynamic is partly because of the firefighters' schedule, but it also is said to be due to the sense-of-understanding that firefighters reportedly have with one another. This phenomenon was summarized by one participant as follows:



Because when you live with these people for 24 hours, you spend time in close quarters and stuff, you become very friendly. You know they're your family. You know everything about them, they know everything about you, and there's not much you wouldn't do for them.

Several interviewees mentioned family or friends not understanding the stress and difficulties associated with being a firefighter. This is an additional reason that firemen reportedly tend to bond with one another—not just in the workplace—but also in non-vocational contexts. The sense of mutually relating to each other's lifestyles, challenges, and sense of calling tends to connect the fire rescue personnel in a psychological association. One interviewee summed the sentiments of most firefighters in this regard when he stated:

I've had calls that've gone really south and you know you can kind of call on these guys and talk it out and decompress. I can't necessarily call somebody who's never seen some of these things and explain it to them. And they're probably not going to be right, so you know, you tend to stick with the people you're with. And the things with all of this is they tend to become my family away from a family.

## **Discussion**

When discussing the results of the present study, we center our attention around four particular constructs. The first is that the firefighters reported finding significant “meaning” in their work. Implications of this finding have importance regarding potential job burnout. As previously noted in the article's literature review, firefighters working in high-stress settings are vulnerable to potential burnout (Lourel, et al., 2008) which, in some instances, may be related to fire rescue personnel showing some diminished levels of reported job satisfaction the longer they are in the field (Traut, Larsen, & Feimer, 2000). However, Krock (2016) reported that finding particular meaning in a firefighting role may provide some level of burnout-insulation. Obviously, any prolonged stress that exists indefinitely can result in burnout. However, at least for firefighters, finding “meaning” in their respective roles may help assuage this dynamic in the shorter-term picture. Shor and Bordreaux (2005) found this general principle to be true—even when firefighters worked in the high-stress milieu of terrorist incidents; possessing an identified vocational purpose tends to mitigate potential burnout.

Conway, Clinton, Sturges, and Budjanovcanin (2015) indicate that self-determination theory (SDT) may be useful in helping to better understand how finding meaning in one's job may help mitigate other potential negative impacts of such jobs. In its classical presentation, Gagne and Deci (2005) describe SDT as possessing an internal locus of control regarding one's vocation, possessing feelings of autonomy-of-choice, and possessing a general sense of intrinsic motivation for continued participation in the vocation. SDT predicts that individuals will find their careers fulfilling to the degree that their identified motivation leads to feelings of autonomy, competence, and relatedness. From the results of the present study, the firefighters in our sample fit the SDT theory reasonably well and report experiencing overall job fulfillment.

Findings from the present study indicated that firefighters (a) find significant meaning in their jobs and (b) they find special joy in the adrenalin rush that accompanies work-related danger. We relate these findings to the results of a study by Lee and Olshfki (2002) who reported that firefighters' commitment to their job is a distinctive motivation for them to put forth extraordinary efforts in emergency situations on behalf of their community and organization. As such, putting out fires possesses particular meaning, in part, because of the crisis that each call entails. In this

context, we suspect that a circular-process ensues whereby fire rescue personnel are highly motivated to do to their jobs and successfully extinguishing emergency situations feeds-back-into sustaining the workers' motivation for working with gusto on subsequent fire calls. So long as burnout does not disrupt the process, the cycle potentially could continue through firefighters' respective careers.

A second discussion point is that the manner in which firefighters describe their commitment to their jobs is similar to what religious workers describe as being a "calling." Often individuals who enter some type of religious service speak in terms of having been "called" (intentional passive voice) rather than simply "choosing" their vocation (Horvath, 2015). This is not to imply, of course, that firefighting has any religious connection or that anything spiritual occurs through the process of extinguishing fires. Rather, the manner in which firefighters frame their choices they made to become firefighters possess similarities in how religious individuals explain their perceptions of religious vocations.

Haney-Loehlein, McKenna, Robie, Austin, and Ecker (2015) identified the following elements in terms of identifying a vocational calling: a vocation's content, meaningful context, experiential confirmation of one's call, and continuing affirmative effects (positive, fulfilling outcomes). Other researchers such as Duffy and Dik (2013), Rosso, Dekas, and Wrzesniewski (2010), and Wrzesniewski (2011) identify hallmarks such as external summons, profound meaning, and prosocial motivation for determining how some jobs serve as "callings." The point here is not to identify any specific criteria for callings; rather, the point is that some individuals are invested in their careers to the levels that exceed the "average job holder" and that such individuals feel a sense that they "should" be part of their respective careers for good that exists beyond themselves.

Fire rescue personnel are not alone as individuals who seemingly frame their career choices in the sense of "callings." Other examples of people who sometimes identify themselves as possessing [non-religious] vocational callings include workers with elderly persons (Fejes & Nicoll, 2010), physicians (Duffy, Manuel, Borges, & Bott, 2011), social justice lawyers (Westwood & Barton, 2014), palliative-care nurses (Gilliat-Ray, 2010), adult educators (Rose, Jeris, & Smith, 2005), and others. Generically, these roles involve a public-service ethic, intrinsic commitment, and desire to help others facing challenging circumstances. Data from the present study's findings suggest that fire rescue personnel fit this genre of a firefighter-vocational-calling.

A third discussion point is that the issues related to sleep-problems noted by the firefighters in the present study are congruent with individuals in other vocations. As examples, sleep-issues have been noted for nurses (Kubota, et al., 2010), physicians (Veasey, Rosen, & Barzansky, 2002), police officers (Garbarino, et al., 2010), correctional officers (Lasky, Gordon, & Srebalus, 1986), commercial pilots (Runeson, Lindgren, & Wahlstedt, 2011), swing-shift workers (Akerstedt & Wright, 2009), and multiple jobs that require workers to be on-call (Nicol & Botterill, 2004). Most of the vocations that involve sleep-related challenges seemingly involve public-service contributions and, in that sense, firefighters fit the genre. Many of the sleep-issue careers also tend to be jobs involving [what some consider to be] "callings" and, as such, help explain why individuals endure the hardship of sleep deprivation that often entails working in the respective fields.

A final discussion point is that the brotherhood-dynamic noted by the firefighters in the present study also exists in other vocations. Examples include police officers (Skolnick, 2008), EMT workers (Schwab, 2012), ER nurses, (Van Wormer & Boes, 1997), air traffic controllers (McCartin, 2006), combat military personnel (McFate, 2005), and others. Among other shared

qualities, members in each of these job vocations face times of crises when decisions possess longstanding consequence for which there is one-pass. Social support among such workers who can relate to one-another's stress understandably is meaningful and the brotherhood/sisterhood dynamic likely is a healthy coping-mechanism. Huynh, Metzger, and Winefield (2012) noted that this type of perceived connected can help improve job satisfaction along multiple dimensions.

The National Fire Protection Association (NFPA, 2014) notes that roughly two-thirds of all American firefighters are volunteer or work part-time in their respective roles. Consequently, it is fair to ponder whether the results of the present study also apply to firefighters who are non-full-time-vocational. First, a study conducted by the Corporation for National and Community Service (CNCS) found a retention rate of around 66% among volunteer firefighters (CNCS 2007). As such, it appears that volunteer firefighters possess a similar level of dedication and commitment to their firefighting roles as do full-time workers. Kelly (2017) notes that most full-time firefighters actually started with volunteer roles and, consequently, there likely are many similarities between the two groups when compared. Both groups face similar psychological challenges with their roles (Stanley, Boffa, Horn, Kimbrel, & Joiner, 2017), they find similarly identities in their work (Almklov & Gjosund, 2018), seem to experience similar social network ties (McNamee & Peterson, 2015), and share similar public-service motivation levels (Schmidtthuber & Hilgers, 2018). Obviously, the two groups are not identical, however, and differences undoubtedly exist also. Nonetheless, in the context of the present findings, we suspect that our study's findings likely would be similar for volunteer firefighters—although, obviously, formal exploration is warranted.

### **Limitations and Future Study**

As researchers desiring to conduct good research, it is important to identify and report the limitations of our study (Price & Murnan, 2004). In the present study, the majority of the firemen interviewed were Caucasians; which is generally consistent with the U.S. firefighter population that consists of a Caucasian majority with only 7% being African American and 9% being of Hispanic origins (National Fire Protection Association, 2017). Nonetheless, the perspectives of all firefighters are very important and future research should consider giving special attention to the sentiments of firefighters from minority cultures. Viz, while our sample population somewhat represents the demographics of the national firefighting population, the reported findings of the Caucasian male firefighters may differ from non-Caucasian firefighters and female firefighters. Generalizability is a cogent consideration for all qualitative research studies (Carothers, 2018; Tarman, 2012; Wiersma & Jurs, 2009). Additionally, future researchers should study firefighters from different locations across the U.S., since the majority of our participants were from small towns in the Midwest. The experiences of a fire fighting personnel in a small town could be significantly different from those of firefighters in a big city. Additional research to appraise firefighters' experiences in different locations and types of cities would provide a more comprehensive picture of the motivation and affiliation of full-time firefighting careers. Also, since our findings cannot be generalized to other ethnic backgrounds, it would be beneficial to expand this study to include various parts of the country with varying ethnicities as well.

While this research examined the experiences of full-time firefighters, it would be fitting to extend this study to include volunteer firefighters since volunteers are essential to fire departments in rural areas. This study could be expanded by looking at constructs such as

motivation to volunteer, commitment to volunteer work, desire to enhance the community, and altruistic perceptions of selflessness to enhance the welfare of another person.

Since the qualitative paradigm's strength involves examining a construct with small sample sizes when conducting a study in an inductive and exploratory manner (Marshall & Rossman, 2006), quantitative research should be conducted with larger sample sizes in order to further the research on full-time firefighters. In particular, survey research will help add breadth to the present study's findings. While qualitative research better demonstrates an in-depth understanding, quantitative research is necessary for adding scope to a larger-research-perspective (Creswell, 2012). By publishing the present study, we provide quantitative researchers with some foundational research on which they can build a more global understanding of the motivation and affiliation of full-time firefighters—and also data on which their surveys meaningfully can be built.

## References

- Adams, J., DeJong, S., Arnett, J., Kennedy, K., Franklin, J., & Berbarie, R. (2014). High-intensity cardiac rehabilitation training of a firefighter after placement of an implantable cardioverter-defibrillator. *Baylor University Medical Center Proceedings, 27*, 226-228.
- Akerstedt, T., & Wright, K. P. (2009). Sleep loss and fatigue in shift work and shift work disorder. *Sleep Medicine Clinics, 4*, 257-271.
- Almklov, P., & Gjosund, M. (2018, June). Role multiplexity and home-grown resilience: A study of part-time firefighters in rural emergency management. *Proceedings of ESREL*, Trondheim, Norway.
- Aydin, H. (2013). Educational reform in Nigeria: The case of multicultural education for peace, love, and tolerance. *South African Journal of Education, 33*(1), 1-19.
- Aydin, H., & Lafer, S. (2015). Educational practices for a new Nigeria: An exploratory study. *Alberta Journal of Educational Research, 61*(2), 126-146.
- Bates, M. N. (2007). Registry-based case-control study of cancer in California firefighters. *American Journal of Industrial Medicine, 50*, 39-344.
- Benedek, D., Fullerton, C., & Ursano, R. (2007). First responders: Mental health consequences of natural and human-made disasters for public health and public safety workers. *Annual Review of Public Health, 28*, 55-68.
- Bereska, T. (2003). How will I know a code when I see it? *Qualitative Research Journal, 3*, 60-74.
- Billings, J., & Focht, W. (2016). Firefighter shift schedules affect sleep quality. *Journal of Occupational & Environmental Medicine, 58*, 294-298.
- Block, E. S., & Erskine, L. (2012). Interview by telephone: Specific considerations, opportunities, and challenges. *International Journal of Qualitative Methods, 11*, 428-445.
- Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: A research note. *Qualitative Research, 8*, 137-152.
- Chenail, R. J. (2012). Conducting qualitative data analysis: Managing dynamic tensions within. *The Qualitative Report, 17*, 1-6.
- Conway, N., Clinton, M., Sturges, J., & Budjanovcanin, A. (2015). Using self-determination theory to understand the relationship between calling enactment and daily well-being. *Journal of Organizational Behavior, 36*, 1114-1131.

- Cope, C. (2004). Ensuring validity and reliability in phenomenographic research using the analytical framework of a structure of awareness. *Qualitative Research Journal*, 4, 5-18.
- Corporation for National and Community Service [CNCS] (2007). *Issue brief: Volunteer retention*. Washington, DC: Corporation for National and Community Service. Retrieved from [http://www.nationalservice.gov/pdf/VIA/VIA\\_brief\\_retention.pdf](http://www.nationalservice.gov/pdf/VIA/VIA_brief_retention.pdf)
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Creswell, J. W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (4<sup>th</sup> ed.). Upper Saddle River, NJ: Prentice-Hall.
- Dennison, P. E., Fryer, G. K., & Cova, T. J. (2014). Identification of firefighter safety zones using lidar. *Environmental Modelling & Software*, 59, 91-97.
- Duffy, J., Wickersham-Fish, L., Rademaker, L., & Wetzler, B. (2018). Using collaborative autoethnography to explore online doctoral mentoring: Finding empathy in mentor/protégé relationships. *American Journal of Qualitative Research*, 2(1), 57-76.
- Duffy, R. D., & Dik, B. J. (2013). Research on calling: What have we learned and where are we going? *Journal of Vocational Behavior*, 83, 428-436.
- Duffy, R., Manuel, R. S., Borges, N., & Botta, E. M. (2011). Calling, vocational development, and well being: A longitudinal study of medical students. *Journal of Vocational Behavior*, 79, 361-366.
- Erasmus, Z., & De Wet, J. (2005). Toward rigor in qualitative research. *Qualitative Research Journal*, 5, 27-40.
- Fejes, A., Nicoll, K. (2010). A vocational calling: Exploring a caring technology in elderly care. *Pedagogy, Culture, & Society*, 18, 353-370.
- Flick, U. (2006). *An introduction to qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.
- Fu, M., Yuan, M. Q., & Weng, W. G. (2015). Modeling of heat and moisture transfer within firefighter protective clothing with the moisture absorption of thermal radiation. *International Journal of Thermal Sciences*, 96, 201-210.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26, 331-362.
- Carothers, D. (2018). A culture of equality?. *Journal of Culture and Values in Education*, 1(2), 42-57. Retrieved from <http://cultureandvalues.org/index.php/JCV/article/view/13>
- Garbarino, S., Nobili, L., Beelke, M., Balestra, V., Cordelli, A., & Ferrillo, F. (2010). Sleep disorders and daytime sleepiness in state police shiftworkers. *Archives of Environmental Health: An International Journal*, 57, 167-173.
- Gay, L. R., Mills, G. E., & Airasian, P. (2009). *Education research* (9th ed.). Upper Saddle River, NJ: Pearson.
- Gibbs, G. (2007). *Analyzing qualitative data*. Thousand Oaks, CA: Sage.
- Gilliat-Ray, S. (2010). Nursing, professionalism, and spirituality. *Journal of Contemporary Religion*, 18, 335-349.
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? *Field Methods*, 18, 59-82.
- Haddock, C., Jahnke, S., Poston, W., Jitnarin, N., & Day, R. S. (2015). Marriage and divorce among firefighters in the United States. *Journal of Family Issues*, 37, 2294-2308.
- Haney-Loehlein, ., McKenna, R., Robie, C., Austin, K., & Ecker, D. (2015). The power of perceived experience: Events that shape work as a calling. *Career Development Quarterly*, 63, 16-30.

- Harrison, K., & Olofsson, J. (2016). Becoming-a-firefighter: On the intra-active relationship between firefighters and their tools. *International Journal for Masculinity Studies*, 11, 158-173.
- Haynes, H., & Molis, J. L. (2016). *U. S. firefighter injuries – 2015*. Quincy, MA: National Fire Protection Association.
- Holmgren, R. (2015). New ways of learning to fight fires? Learning processes and contradictions in distance and on-campus firefighter training in Sweden. *Australian Journal of Educational Technology*, 31, 220-234.
- Horvath, M. (2015). Predicting work outcomes from religiosity and perceived calling. *Career Development Quarterly*, 63, 141-155.
- Huynh, J., Metzger, J., & Winefield, A. (2011). Engaged or connected? A perspective of the motivational pathway of the job demands-resources model in volunteers working for nonprofit organizations. *Voluntas*, 23, 870-898.
- Kayaalp, A. (2015). Creativity for the Leaders of Future. *Journal of Military and Information Science*, 3 (3), 100-103.
- Kelly, A. A. (2017). *Climbing the ladder: The transition from volunteer to career firefighting in small town America*. Unpublished master's thesis, Ball State University, Muncie, Indiana.
- Kim, M, Seo, J., Kim, K., & Ahn, Y. (2016). Nationwide firefighter survey: the prevalence of lower back pain and its related psychological factors among Korean firefighters. *International Journal of Occupational Safety and Ergonomics*, 22, 1-10.
- Krock, D. (2016). Can meaning buffer work pressure? An exploratory study on styles of meaning in life and burnout in firefighters. *Archives of Psychiatry and Psychotherapy*, 1, 31–42.
- Kubota, K., Shimazu, A., Kawakami, N., Takahashi, M., Nakata, A., & Schaufeli, W. (2010). Association between workaholism and sleep problems among hospital nurses. *Industrial Health*, 6, 864-871.
- Lasky, G. L., Gordon, B. C., & Srebalus, D. J. (1986). Occupational stressors among federal correctional officers working in different security levels. *Criminal Justice and Behavior*, 13, 317-327.
- Lee, S., & Olshfski, D. (2002). Employee commitment and firefighters: It's my job. *Public Administration Review*, 62, 108-114.
- Litow, F., Petsonk, L., Bohnker, B., Brodtkin, C., Cowl, C., Guidotti, T. ... & Kurt, H. (2015). Occupational interstitial lung diseases. *Journal of Occupational & Environmental Medicine*, 57, 1250-1254.
- Lourel M., Abdellaoui S., Chevaleyre S., Paltrier M., & Gana K. (2008). Relationships between psychological job demands, job control and burnout among Firefighters. *North American Journal of Psychology*, 10, 489-496.
- Lu, Z. (2016). *Identify and model firefighter lower extremity postures*. Unpublished M.S. thesis McMaster University, Hamilton, Ontario (Canada). Retrieved from [https://macsphere.mcmaster.ca/bitstream/11375/20491/2/Lu\\_Ze\\_201607\\_Master.pdf](https://macsphere.mcmaster.ca/bitstream/11375/20491/2/Lu_Ze_201607_Master.pdf).
- Marshall, C., & Rossman, G. B. (2011). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: Sage.
- Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: Sage.
- Maxwell, J. A. (2005). *Qualitative research design* (2nd ed.). Thousand Oaks, CA: Sage.

- McCartin, J. A. (2006). A historian's perspective on the PATCO strike, its legacy, and lessons. *Employ Response Rights Journal*, 18, 215-222.
- McFate, M. (2005). The military utility of understanding adversary culture. *Joint Forces Quarter*, 38, 42-48.
- McNamee, L., & Peterson, B. (2015). High-stakes volunteer commitment: A qualitative analysis. *Nonprofit and Voluntary Sector Quarterly*, 45, 275-294.
- Mero-Jaffe, I. (2011). 'Is that what I said?' Interview transcript approval by participants: An aspect of ethics in qualitative research. *International Journal of Qualitative Methods*, 10, 231-247.
- National Fire Protection Association (2014). *U.S. Fire Department Profile – 2014*. Retrieved from <http://www.nfpa.org/news-and-research/fire-statistics-and-reports/fire-statistics/the-fire-service/administration/us-fire-department-profile>.
- National Fire Protection Association. (2017). *Fire statistics and reports: Firefighting occupations by women and race*. Quincy, Massachusetts: Author. Retrieved from <http://www.nfpa.org/news-and-research/fire-statistics-and-reports/fire-statistics/the-fire-service/administration/firefighting-occupations-by-women-and-race>
- Neuman, W. L. (2006). *Social research methods: Qualitative and quantitative approaches*. Boston, MA: Pearson.
- Nicol, A., Botterill, J. (2004). On-call work and health: A review. *Environmental Health*, 3, 1-7.
- Ortiz, M. J. (2018). Gangs and environment: A comparative analysis of prison and street gangs. *American Journal of Qualitative Research*, 2(1), 97-117.
- Price, J. H., & Murnan, J. (2004). Research limitations and the necessity of reporting them. *American Journal of Health Education*, 35, 66-67.
- Rodgers, B. (2008). Audit trail. In L. Given (Ed.), *The Sage encyclopedia of qualitative research methods* (Vol 1; pp. 43-44). Thousand Oaks, CA: Sage.
- Rose, A. D., Jeris, L. & Smith, R. (2005). Is adult education a calling? Shaping identity and practice in steel mill learning centers. *Adult Education*, 107, 1305-1334.
- Rosso, B. D., Dekas, K. H., & Wrzesniewski, A. (2010). On the meaning of work: A theoretical integration and review. *Research in Organizational Behavior*, 30, 91–127.
- Runeson, R., Lindgren, T., & Wahlstedt, K. (2011). Sleep problems and psychosocial work environment among Swedish commercial pilots. *American Journal of Industrial Medicine*, 54, 545-551.
- Schorr, J. K., & Boudreaux, A. S. (2005). Responding to terrorism in the USA: Firefighters share experiences in their own words. *Journal of Aggression, Maltreatment, and Trauma*, 10, 577–589.
- Schmidhuber, L. & Hilgers, D. (2018). From fellowship to stewardship? Explaining extra-role behavior of volunteer firefighters. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*. Retrieved from <https://doi.org/10.1007/s11266-018-0035-6>.
- Schwab, S. (2012). The sources of stress and support: a perspective by rural emergency response workers. *Master of Social Work Clinical Research Papers*, 90. Retrieved from [http://sophia.stkate.edu/msw\\_papers/90](http://sophia.stkate.edu/msw_papers/90)
- Seidman, I. (2006). *Interviewing as qualitative research* (3rd ed.). New York, NY: Teachers College Press.
- Shreffler, K., Meadows, M., & Davis, K. (2011). Firefighting and fathering: work-family conflict, parenting stress, and satisfaction with parenting and child behavior. *Fathering*, 9, 169-188.

- Silverman, D. (2006). *Interpreting qualitative data* (3rd ed.). Thousand Oaks, CA: Sage.
- Silverman, D., & Marvasti, A. (2008). *Doing qualitative research*. Thousand Oaks, CA: Sage.
- Skolnick, J. H. (2008). Enduring issues of police culture and demographics. *Policing and Society, 18*, 35-45.
- Stanley, I., Boffa, J., Hom, M., Kimbrel, N., & Joiner, T. (2017). Differences in psychiatric symptoms and barriers to mental health care between volunteer and career firefighters. *Psychiatric Research, 247*, 236-242.
- Tarman, B. (2012) Prospective Teachers' Beliefs and Perceptions about Teaching as a Profession, *Educational Sciences: Theory & Practice - 12*(3), 1-24.
- Traut, C. A., & Larsen, R., & Feimer, S. H. (2000). Hanging on or fading out? Job satisfaction and the long-term worker. *Public Personnel Management, 29*, 343-351.
- Van Wormer, K., & Boes, M. (1997). Humor in the emergency room: A social work perspective. *Health & Social Work, 22*, 87-92.
- Veasey, S., Rosen, R., Barzansky, B. (2002). Sleep loss and fatigue in residency training: A reappraisal. *JAMA, 288*, 1116-1124.
- Westwood, F., & Barton, K. (2014). *The calling of law*. New York, NY: Routledge.
- Wiersma, W., & Jurs, S. G. (2009). *Research methods in education* (9th ed.). Boston, MA: Allyn & Bacon.
- Wrzesniewski, A. (2011). Callings. In K. Cameron, & G. Spreitzer, (Eds.). *Handbook of positive organizational scholarship* (pp. 45-55). New York, NY: Oxford University Press.

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