Generational conflict, alcohol use and brotherhood: an exploratory survey of a rural career fire department in the Midwest

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Abstract

Purpose – The purpose of this article was to identify factors impacting burnout, resilience and quality of life in rural career firefighters. In addition, sources of stress and the impact of generational differences were explored.
Design/methodology/approach – An exploratory cross-sectional survey was conducted at a rural career fire department.
Findings – The findings of the project indicate that the firefighters had high levels of compassion satisfaction (CS) and relatively low levels of secondary traumatic stress and burnout; displayed moderate to high psychological resilience and the majority felt moderate to high organizational support, but there was a noticeable minority who did not feel supported by the department. Findings indicate that organizational support is significantly related to both burnout and resilience. The majority of the men (88.3%) reported moderate to high risk for alcohol-related problems and over three-quarters (78.6%) reported binge drinking behavior in the past year. Qualitative findings highlight generational differences and chain of command challenges as primary stressors.
Originality/value – This is a unique study in that it focuses on a rural career department. What was found were issues similar to those facing urban career fire departments.

Keywords Perceived organizational support, Firefighter, Burnout, Alcohol use, Generational conflict, Rural areas

Paper type Research paper

Introduction

Due to the nature of firefighters in the United States, the majority of professional/paid firefighters are located in larger urban areas (67%) while the vast majority of volunteer departments are located in smaller towns and rural areas (95%) (Evarts and Stein, 2020). Because of this, there is a dearth of academic literature on rural career fire departments in the United States. This was an exploratory study to investigate the workplace perceptions of rural career firefighters. Building off of previous research which has examined firefighter

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workplace perceptions (Miller *et al.*, 2018; Smith *et al.*, 2019), we wanted to identify factors impacting burnout in rural career firefighters. With a constructivist grounded theory informed approach to research (El Hussein *et al.*, 2014) to guide what was examined in this study, we first conducted a review of the literature showing possibly significant factors. We then spoke to the current chief of the department. We asked for input from the chief prior to administering the survey. The resulting agreed upon variables to be examined is discussed below.

Background

Generations in the workforce

Currently, there are five generations in the workforce: Silent Generation (age 74–89), Baby Boomers (54–73), Gen X (42–53), Millennials (24–41) and Gen Z (9–23) (Smith and Garriety, 2020). However, due to physically demanding nature of fire service, 74% of current firefighters are under 50 with rural locations having the highest percentage of firefighters over 50 (Evarts and Stein, 2020). Half of career firefighters are between the ages of 30–49 in the United States (Evarts and Stein, 2020). The question of changing identities and priorities with the rise of millennials in the fire service has been brought up before (Odom, 2011). While the fire service has been built on tradition as evidenced by the old fire adage of "200 years of tradition unimpeded by progress" (Rumsey, 2018), the younger firefighters are bringing different identities, changing what constitutes acceptable behaviors and slowly resulting in cultural changes (Perrott, 2019).

Professional quality of life

Professional quality of life in the human service setting can be described as a balance between the positive compassion satisfaction (CS) and the negative compassion fatigue (which comprises burnout and secondary traumatic stress [STS]) (Newell and MacNeil, 2011). CS can be thought of as the sense of satisfaction one receives from assisting others (Lawson and Myers, 2011), while secondary traumatic stress can be described as the Post Traumatic Stress Disorder (PTSD)-like alternating symptoms of numbness and overwhelming feelings, which occur after witnessing a trauma, and burnout is described as a trio of "emotional exhaustion, depersonalization and low personal accomplishment" (Miller and Unruh, 2019). STS is more appropriate for this population than examining only PTSD because it allows for the exact same symptoms, but it includes those which develop through secondary exposure to traumatic events. Although the trauma may not be directly inflicted upon the firefighter, it can still have a profound impact on them working with victims and patients (Miller *et al.*, 2018). Although the exact levels of STS in the fire personnel population is unknown, 7% of professionals who work with traumatized people exhibit signs of STS (Thomas and Wilson, 2004).

By definition, professional quality of life is composed of burnout, which is tied to turnover in volunteer firefighters (Huynh *et al.*, 2013), but the inclusion of STS makes professional quality of life an even more powerful predictor of turnover in healthcare organizations (Austin *et al.*, 2017). The study of professional quality of life (Miller *et al.*, 2018) and burnout (Vinnikov *et al.*, 2019) is becoming more prevalent in the literature. Although this is historically a group with relatively low turnover (Hansen, 1990), intent to turnover has been increasing within the profession (Lee *et al.*, 2020). Anecdotally, fire departments in the United States have been complaining for the last few years of difficulty recruiting enough firefighters for the job (Vock, 2018), so research examining ways to keep the firefighters currently in departments is helpful.

Organizational support

In previous studies of firefighters, perceived organizational support has been found to be associated with higher CS (Miller *et al.*, 2018) and lower STS and burnout

(Miller and Unruh, 2019). Fire personnel who perceived colleagues as supportive also report lower levels of burnout (Sattler *et al.*, 2014; Ângelo and Chambel, 2013). Organizational support has also been associated with a reduction of burnout in firefighters in other countries (Bai and Li, 2015). Outside of the fire service, higher organizational support is positively associated with work engagement and organizational citizenship behavior (Gupta *et al.*, 2016), job satisfaction and career commitment (Choi and Chiu, 2017).

Social support

Much like organizational support, social support has been shown to be a positive influence on intent to turnover and burnout (Kim, 2016). Social support combined with psychological resilience and organizational support helped nurses deal with anxiety over the coronavirus disease 2019 (COVID-19) pandemic (Labrague and De los Santos, 2020). Social support combined with a perceived work life balance has also been associated with a reported reduction in stress and intent to turnover (Giauque *et al.*, 2019). Specially among firefighters, social support may have a protective affect against the development of PTSD (Stanley *et al.*, 2019). When facing the stresses of the job, the vast majority of firefighters expressed a preference to seek assistance from informal supportive people in their life as opposed to formal support which is fortuitous, as people who have an interpersonal relationship with the firefighters might be able to pick up on distress sooner than others (Johnson *et al.*, 2020).

Alcohol use

Alcohol use is a known problem in the fire service. Previous studies have reported more than 85% of firefighters consuming alcohol (Haddock *et al.*, 2015) and up to 56% report binge drinking in the past month (Haddock *et al.*, 2012). There is some indication that the problematically high alcohol use among firefighters may be due to repeated exposure to traumatic events (Gallyer *et al.*, 2018). This is supported by research which finds that firefighters with more PTSD symptoms had the highest levels of alcohol use (Bartlett *et al.*, 2019).

Methods

The study sample comes from a small, career, rural fire department in the Midwest. The department employs 40 full-time firefighters, all Caucasian males. Institutional Review Board (IRB) approval from the first author's university was received prior distributing any survey. Between September 21 and October 12 of 2020, participants had the opportunity to participate in a survey. A flyer was created describing the purpose of the study, and inviting participation was sent in an email to the chief, who in turn distributed it to his men. The flyer included information on how to participate in the random drawing of electronic gift cards and included a link to the web-based survey tool through PsychData. To be eligible for the study, the participants had to be currently employed as a firefighter in the department and over the age of 18.

The survey included demographic questions as well as five previously validated instruments. The professional quality of life: CS and compassion fatigue version 5 (ProQOL 5) was used to ascertain the CS, burnout and secondary traumatic stress of the men (Stamm, 2010). To establish the level of support that the men felt from the department, the eight-item survey developed from Eisenberger's Survey of Perceived Organizational Support was used (Eisenberger *et al.*, 1986). To establish the individual levels of psychological resilience, the Brief Resilience Survey was used (Smith *et al.*, 2008). The RAND Social Support Survey Instrument (Sherbourne and Stewart, 1991) was used to evaluate the level of social support the men felt in their personal lives. Finally, the Alcohol Use Disorders Identification Test

(AUDIT) instrument developed by the World Health Organization (Saunders *et al.*, 1993) was used to determine alcohol use patterns among the men. In addition to the above validated survey instruments, several open-ended questions were included to allow the men to provide insight into their perceptions of the biggest issues facing the department as well as their own biggest personal issue with the job.

Analysis

Quantitative data analysis

A total of 19 surveys were started. Prior to analysis, the data were screened and cleaned to ensure proper statistical analysis. The participants who stopped answering questions immediately after the demographic questions or did not answer any questions at all were removed from analysis. This left 16 completed surveys for a completed response rate of 40% of the department. After all the appropriate questions were reverse coded, each scale had a score calculated by summing the appropriate variables. These new variables became the representative score variables which were inserted into the regression analyses.

Both descriptive statistics and multiple regression analysis were done utilizing SPSS software. Separate regressions were run, each with a different ProQOL 5 subscale serving as the dependent continuous variable. A regression was run with each subscale score serving as the dependent variable with the other instruments serving as the independent variables to determine what was statistically significant.

Qualitative data analysis

The standard six-step method for qualitative analysis was used to analyze responses to the open ended question: Step 1: Become familiar with the data, Step 2: Generate initial codes, Step 3: Search for themes, Step 4: Review themes, Step 5: Define themes and Step 6: Write-up (Braun and Clarke, 2006; Maguire and Delahunt, 2017). After becoming familiar with the responses, we utilized "concept coding" as defined by Saldaña (2015) examining the text at the macrolevel for concepts with related elements, with the idea of keeping it general enough to progress analysis toward the ideas present in this manuscript. In this manner, a basic thematic analysis was done with particularly impactful quotes which still preserved anonymity being included below.

The questions asked were exploring what their biggest personal issues were in their work, what the biggest issues were facing the department and what would be beneficial for the people in the department.

Results

Quantitative results

Demographics. Based on the self-reported data, all 16 of the men who completed the survey were heterosexual Caucasian males. All but one was married and only one had served in the armed forces in the past. The age range was 21–49 years old with a mean age of 36.7 years old. In total, six percent of the respondents were Gen Z, 63% were Millennial and 31% were Gen Xers. The years worked at the department ranged from less than a year to 21 years with an average of 8.7 years working at the department. The highest educational attainment of the men ranged from high school/General Educational Development (GED) equivalency test to a bachelor's degree, with the median (43%) of the men reporting an associate/technical degree.

Summary results. Professional quality of life. Among men in the department, 46.7% had moderate CS while 53.3% had high CS. In total, 80% of the men displayed low burnout while 20% displayed moderate burnout. No one had high burnout. No one reported severe STS

symptoms while most (73.3%) reported low STS symptoms and a minority (26.67%) had moderate STS symptoms.

Perceived organizational support. The scale used has a maximum of 48 points which can be earned. The men in the department had scores ranging from 17–48. As the below histogram shows, the majority of the men feel they have high to moderate organizational support, although there is a notable minority who does not (see Figure 1).

Psychological resilience. Psychological resilience can be a protective factor in "bouncing back" from traumatic events (Miller and Unruh, 2019). Based on the cutoff scores recommended by the original authors of the scale for defining "low", "moderate" and "high" psychological resilience (Smith *et al.*, 2013), half of the men had moderate psychological resilience and half of the men had high psychological resilience. No one scored in the "low" range.

Social support. Most of the men in this department clearly feel that they have social support while others are very obviously lacking social support. The maximum score is 100. The average score was 78. 60% of the men scored over 80 and 40% scored below 80. There was one gentleman who scored a 32. The spread of overall social support scores can be seen in Figure 2.

Alcohol use. Among the men in the fire department, we examined potentially problematic alcohol use. We found that 56.3% of the respondents were at medium risk for harmful alcohol use, 25% were at high risk of harmful alcohol use and 7% were likely displaying alcohol dependance. Most (78.6%) of the respondents reported binge drinking behavior in the past year.

Regressions. In order to evaluate more than summary details on the survey instruments, regressions were run to determine if there were predictive characteristics between variables. The following statistically significant relationships were found (see Table 1).

Burnout. For each additional increase in the firefighter's score for perceived organizational support, there was a decrease (0.240) of burnout symptoms. The F-test value associated with this regression was 7.273 with a corresponding *p*-value of 0.018, indicating it was a statistically significant relationship (see Table 2).

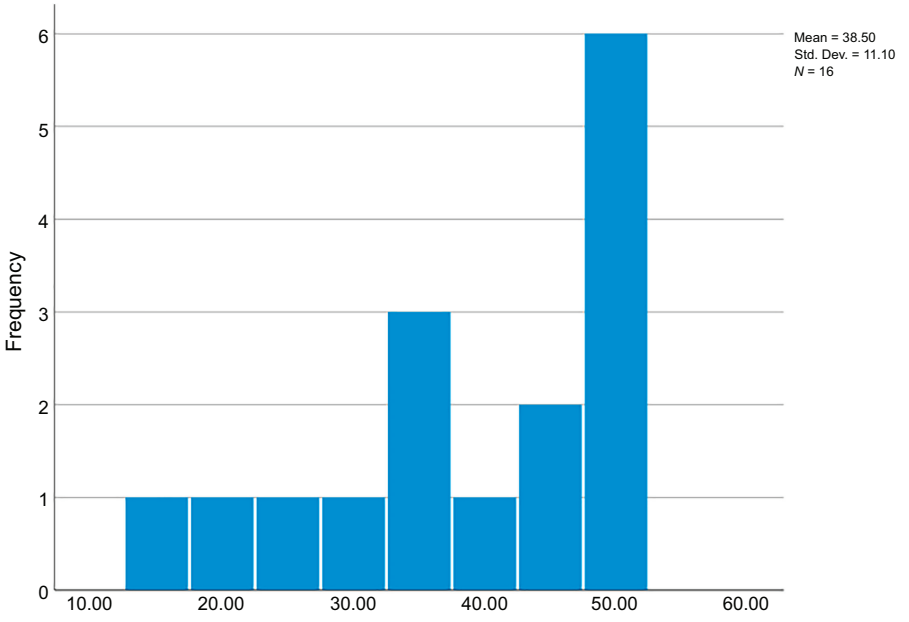

Figure 1.
Perceived organizational support

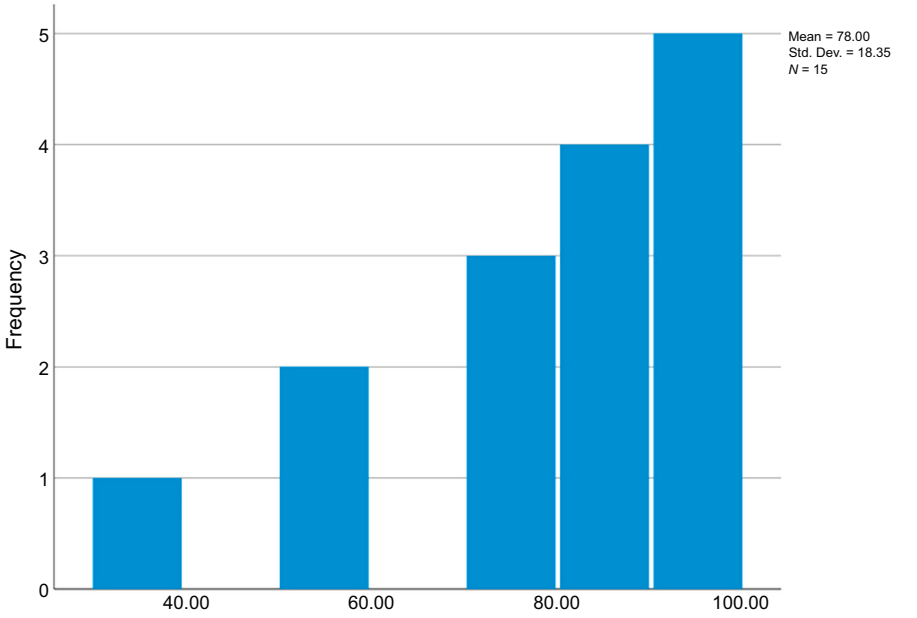

Figure 2.
Overall social support

Model	Unstandardized beta	Standard error
Constant	27.937	3.586
Survey of perceived organizational support (SPOS) score	−0.240*	0.089

Note(s): $p \leq 0.05$ - *
$p \leq 0.01$ -**
$R = 0.599$
$R^2 = 0.359$
Adj. $R^2 = 0.309$a

Table 1.
Linear regression of burnout

Model	Unstandardized beta	Standard error
Constant	30.770	3.670
Survey of perceived organizational support (SPOS) score	0.295**	0.093

Note(s): $p \leq 0.05$ - *
$p \leq 0.01$ -**
$R = 0.659$
$R^2 = 0.434$
Adj. $R^2 = 0.390$

Table 2.
Linear regression of compassion satisfaction

Compassion satisfaction. Similarly, for each additional increase in their score for perceived organizational support, there was an increase (0.295) in CS. The F-test value associated with this regression was 9.963 with a corresponding p-value of 0.008, indicating it was a statistically significant relationship (see Table 3).

Psychological resilience. For each additional increase in educational attainment (e.g. going from high school degree to some college), there was an increase (0.435) in average psychological resilience. The F-test value associated with this regression was 6.526 with a corresponding p-value of 0.023, indicating it was a statistically significant relationship.

Qualitative results

There were spaces for the men to put in their own comments and below are the questions asked with the major themes which appeared. The men were asked to explain what was the biggest stressor they personally faced in the workplace. Below in Table 4 are the themes that appear along with a typifying quote.

Concerns with encountering emergency calls with injured children were a recurring theme in different ways. This has been shown in both firefighters (Richardson and James, 2017) and emergency medical technicians (Folwell and Kauer, 2018). It has been postulated that calls with pediatric patients cause first responders to think of their own families and personalize the situation in a way that most other calls do not (Richardson and James, 2017), which makes it understandable why these situations could cause particular anxiety in the men. Knowing the people when the men responded was also mentioned and could be generating the same feelings of anxiety.

Additionally, the "abnormal" work schedules and irregular sleep schedule were also mentioned given the departments shifts schedule at the department is 24 h on/48 h off.

Another question asked was what they thought was the biggest issue facing their department. The men provided very detailed answers to this question, and four major themes came across. They are discussed below with example quotes to highlight the themes.

Model	Unstandardized beta	Standard error
Constant	3.068	0.306
Educational attainment	0.435**	0.106

Note(s): $p \leq 0.05$ - *
$p \leq 0.01$ -**
$R = 0.793$
$R^2 = 0.629$
Adj. $R^2 = 0.592$

Table 3.
Linear regression of psychological resilience

Theme	Quotes
Feeling unprepared for what they might face	"The unknowns"
Calls with traumatic events	"Dealing with pediatric emergencies such as trauma or sudden death"
Personal safety	"my own personal safety as I have a wife and 2 kids that depend on me every day"
Struggling with work/life balance	"My time is monopolized by public service and I have to work to balance that with my family life. I have an 18 month old son and wife that also need my time"
Conflict with leadership	"Shift leadership and myself do not get along"
Responsibilities/not wanting to make a mistake	"That I hope I don't do something wrong or forget to do something"

Table 4.
Emergent themes of personal stressors

Generational conflicts. This went both ways. The younger employees seemed to resent the older employees not taking them seriously, frequently criticizing them and have a perception that the older men are just waiting to retire.

> To many firefighters that are just waiting for their tome (sic) to retire and doing the bare minimum until then.

The older employees felt that younger employees lack respect and are lazy. The older employees are also doubtful about the skill levels of the younger men and felt that they did not take the job seriously.

> Age differences and the changes in society. Getting young workers to work and respect authority.

Conflict with the chain of command. Conflicts with the chain of command were identified as a stressor among firefighters. In particular, conflicts were reported as being with both immediate supervisors and chief-level officers. These conflicts ranged from immediate supervisor to the chief. There were multiple implications of what is known in the business world as the "The Peter Principle" (Lazear, 2004). This is something frequently seen in many organizations, although the authors could not find a formalized discussion of it in the fire literature. The Peter Principle states that, if someone performs well in their job, he/she will likely be promoted to the next level of the organization's hierarchy, and this will continue until they reach the point where they can no longer perform competently (Lazear, 2004). There was a feeling that some of the leadership might have been good firefighters but not good in their leadership position or went into leadership for the wrong reasons.

> They might be a good fire fighter but when put in a leadership role a higher standard is expected.

> Coworkers who want leadership roles to just be in control and not a leader.

Lack of cohesion. Lack of cohesion also was identified as a concern. This tied in a bit to the generational conflict but was more nuanced than just that. There were mentions of skills getting "rusty" and a lack of calls to build team cohesion/trust. There appears to be a desire for more unity among shifts as a team.

> Enthusiasm varies from shift to shift.

> Lack of fires or more serious runs that allow us to work as a team and use our skills on a daily basis.

Lack of training. An identification of lack of training was present with two notable subthemes. For the first subtheme, some men felt that they personally lacked skills to feel confident to respond to the wide array of calls they might have to respond to. In light of the recent world events including Black Lives Matters protest (some of which turned violent (Dave *et al.*, 2020)) and the COVID-19 pandemic taking a unique toll on first responders (Zolnikov and Furio, 2020).

> I think our biggest issue is we are expected to know how to handle every situation (by the public), not that we don't want to help, but we are not trained to handle some of these situations. I guess an example of this would be if we had rioting in our town and people set things on fire we would be called to assist and be right in the middle of it.

For the second subtheme, there was small but notable number of men who lacked confidence in the skills of the other men to respond to any sort of situation.

> we have a lot of new guys while I believe they are all great firefighters there is still a lack of experience that can be problematic at times.

The final question gave the men a chance to tell the researchers what they thought would help the department. Table 5 shows the suggestions along with the percentage of the men who suggested them.

Discussion

Quantitative results

The men had high levels of CS and relatively low levels of STS and burnout. The men displayed moderate to high psychological resilience. It seems the majority of the men felt moderate to high organizational support, but there was a noticeable minority who did not feel supported by the department. Similarly, the majority of the men felt a large amount of social support, yet a small subset clearly felt unsupported. All participants reported consuming alcohol with the vast majority (88.3%) of the men having medium risk or higher for harmful alcohol use and over three-quarters (78.6%) reporting binge drinking behavior in the past year.

Generational conflict

While generational differences in the workforce are frequently discussed as commonly known and in absolute terms, the general academic literate supporting this "phenomenon" is actually limited with the evidence being described as "fractured, contradictory and fraught" (Tolbize, 2008). While far from a decided debate, evidence seems to indicate that most workplace attitude variance occurs within the generational age groups as opposed to between them (Cucina *et al.*, 2018). One major hypothesis in the business literature is that the perceived differences between the generations have more to do with the differences in age or stage of life of the employees as opposed to inherent characteristic differences (Jones *et al.*, 2018).

Within the fire literature, there has not been a significant focus on a generational conflict and most of it focuses on departments in Europe (Olofsson, 2013). However, among the existent literature, it appears that the source of some of these "generational conflicts" could be a result of difference in perceptions of how to do the job. Olofosson (2013) provides examples of older and retired firefighters remembering having to hand-crank ladders and viewing the younger men as having it easy as they have only ever had the hydraulic drive system of the contemporary ladders. The older firefighters called into question the professional skills of (by viewing the young men's skills as less "authentic"). She found that this led to a generational divide and resulted in increased solidarity within each age group (Olofosson, 2013). Future research should explore whether the perceived lack of skills of the newer men is an extension of this opinion of what constitute "authentic" firefighting skills or if it was because of inherent differences between the generations.

Alcohol use

As noted previously, unhealthy alcohol use is a widely known problem in the fire service. What is interesting about this study is that the majority of the data collected about alcohol use

Suggestion	Percentage of the men
Peer support sessions	37.5
Support session for significant others	18.8
Mobile mental health app	12.5
Individualized professional counseling	6
Events outside of work to allow bonding between families to create a larger "department family"	6

Table 5.
Suggested department programs

in the fire service comes from urban departments (Barlet *et al.*, 2019; Zegel *et al.*, 2019). The authors were unable to find a single article focusing on alcohol use among rural firefighters, making it hard to compare the results of this study with other firefighters. However, given the above-mentioned rates of alcohol use, it appears that rural career firefighters might utilize even more alcohol than their urban counterparts, in particular when it comes to binge drinking. This does not match with what is seen with the general population, where individuals in an urban environment are more likely to have drunk alcohol in the past year, and there was not a statistically significant difference in binge drinking (Dixon and Chartier, 2016). The previous literature has found that for each additional year of work experience, firefighters were 1.08 times less likely to binge drink (Piazza-Gardner *et al.*, 2014), although this study found no significant relationship between these variables.

Work–life balance

The poor sleep quality of firefighters has been documented (Abbasi *et al.*, 2018). As for the 24 h shift, the research literature shows that it is linked to an increase in physiological and psychological loads (Kaikkonen *et al.*, 2017), hypertension (Choi *et al.*, 2016b) and obesity (Choi *et al.*, 2016a). It has also linked to work–family conflict (Shreffler *et al.*, 2011).

Previous research has found that work–family conflict is a significant predictor of burnout in firefighters (Smith *et al.*, 2019). In this data set, social support approached statistical significance as a protective factor against burnout but did not meet it. Work–life balance has also been found in other research to have a significant impact on job satisfaction among firefighters (Choi, 2017). This is an area which should be explored further and in additional rural career departments.

Leadership

Conflict with leadership is a fairly common documented phenomenon among firefighters because the rigid hierarchical administrative structure and complete dependance on teamwork can exacerbate an interpersonal conflict (Halbesleben *et al.*, 2006). This could further be worsened by the fact that in the United States, there is little in the way of standard educational or training requirement in order to be promoted to leadership positions within fire departments, with most departments relying on experience and seniority (Beaton *et al.*, 2001). A study of added years' experience among fire leaders found that years of service are significantly correlated with better performance under high stress conditions but worse performance under low stress conditions (Beaton *et al.*, 2001). Given this is a rural department with the men feeling they do not get enough "big" calls – it could be that the leadership is good under stress but needs improvement during "slow time". Future research should examine if there are generational factors influencing the conflicts with leadership.

Limitations

One of the limitations of this study is that it does have a small sample size. However, given that a 10% response rate is typical of web-based surveys (Van Mol, 2017), and the 40% participation was higher than many existing web-based studies. One of the ameliorating factors in this study is that, although we are unable to completely rule out nonresponse bias, we know the characteristics of the entire population. It is a very homogenous population, and our sample matches up with the characteristics of the entire population in question. Not all of the instruments used were significant in the quantitative analysis. It is possible that if we had more participants, we would have gotten more statistically significant results in the part of the study. A larger sample size would also assist in generalizability. The findings of the study give a strong justification for conducting another study with a bigger sample size.

Conducting a larger study will give a better fit of the model and result in more significant variables.

Another limitation is the possible lack of generalizability to other fire departments. As stated in the beginning, the majority of career fire departments are not in rural settings in the United States, meaning that the results found here may not reflect the majority of career firefighters in the country but do tap into a unique population of nonurban/suburban fire departments. However, we feel that much like there is value in studying women in the fire service despite them making up approximately 3–5% of the workforce (Jahnke *et al.*, 2019), there is benefit to the field by studying rural career firefighters. It adds to the richness of the literature in the field.

A final limitation would be the abnormal world events which occurred in 2020. Some of the concerns which the men expressed might not be things they are normally concerned with. For example, the concern one of the men made about contracting a disease might be heightened due to the COVID-19 pandemic. The concern about rioting in a rural location might not have been prevalent if there was not very adversarial news coverage of rioting over the spring and summer of 2020 (Lane *et al.*, 2020). However, due to the physical demands of the job and how they necessitate retirement once a certain physical decline occurs (Kirlin *et al.*, 2017), the concerns of conflicts between older vs younger firefighters are expected to be an argument in perpetuity in the field. The concerns about work/life balance have also been frequently cited in the literature (Duran *et al.*, 2018), as have the issues with alcohol use (Haddock *et al.*, 2012), so we expect that the majority of the concerns brought up are in fact reflective of day-to-day concerns.

Conclusion

What we see in this rural career fire department is an interesting snapshot into a department, which has men facing multiple pulls and conflicts, but also displaying respect for each other and seeking to become a "department family". Although there are concerns about the alcohol use among the men, there is evidence of both organizational and social support, which could be helping them deal with a difficult job. Findings highlighting the benefit of organizational support are encouraging as increasing department support can have a measurable impact on firefighter behavioral health. We hope that this is the beginning of further research on rural career fire departments. Future research should expand on the current findings to investigate ways fire departments can be leveraged to improve interpersonal relations within the department, particularly in rural departments.

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