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Exploring the Retention Calculus: The Motives, Expectations, and Satisfaction of South Carolina Volunteer Firefighters

Abstract

A large majority of fire departments across the United States (US) depend on volunteer firefighters for emergency responses. Over the last decade, suburban and rural populations have soared, while the numbers of volunteer firefighters have fallen by over 10%, suggesting that improvements in recruitment and retention are necessary to counteract that trend. This article presents the results of a mixed methods research design that evaluates volunteer firefighters' motives to join, their expectations to continue service, and their contemporary satisfaction with service. The project evaluates how these different factors affect volunteers' prospective service length. Results suggest that a values orientation is the most prevalent influence affecting firefighters' commitment to the volunteer fire service, but that personal enhancement and understanding goals were best able to systematically explain variance in the prospective service period. The findings presented here are used to outline recommendations to improve recruitment and retention of volunteer firefighters and reduce levels of insularity in recruitment networks.

Keywords: *volunteer fire service, volunteer firefighter, recruitment, retention*

Introduction

Many, if not most, fire-service leaders do not oversee departments that service compact urban areas. High rates of automobile ownership, easy availability of peripheral land, and a lack of central planning authority have made urban sprawl particularly prevalent within the United States (US) (Hamidi & Ewing, 2014). Since 1950, the population levels of US cities have remained relatively stagnant while their surrounding suburbs and rural areas have experienced sharp increases in numbers of residents (Nechyba & Walsh, 2004). These rural municipalities and thinly inhabited counties pose significant challenges with respect to essential public services like fire protection. First, the lack of population density means that an arguably thin tax base exists from which to provide anticipated services. It also means that fire departments may have extensive boundaries to cover — regions that if adequately defended would account for sizeable rosters of career firefighters.

The longstanding solution to this problem has been reliance upon volunteer firefighters to either deliver these services (i.e., *wholly volunteer* departments) or provide ranks of support for career fire-service leaders to organize (i.e., *mostly volunteer* departments). Thus, in those areas of the country that have been growing over recent decades, adequate fire protection is typically dependent on the availability and willingness of volunteers.

As is the case throughout the US, South Carolina (SC) fire chiefs must maintain a work force that is capable of mitigating a multitude of emergencies. In those communities that lack the tax base necessary to fund rosters of career firefighters, this work is done by volunteer firefighters. Critically, the numbers of these volunteers *are declining*.

According to Karter and Stein (2013), 1.1 million US firefighters were active in 2011, and of these, nearly 69% (756 thousand) were volunteers. The US population has increased by 32% since 1985, but the corresponding number of volunteer firefighters has declined by more than 10%. Stocker (2004) similarly observes an 11% decline in volunteers between 1983 and 2001, when he indicates that 785,000 were serving. This evidence of decline suggests that the number of volunteer firefighters has dropped to its lowest recorded value in the last quarter of a century. Thus, the current trend in volunteerism represents a significant threat to the safety of the American public; we need to better understand and counteract this trend.

SC's fire service is a representative context of this phenomenon. SC lacks a major metropolitan area, but it does possess several large cities. Its urban municipalities have either been stable, or in decline, but the suburban areas reflect the national trend of growing sprawl. SC suburbs and surrounding rural areas have shown continuous growth from those citizens who are

lured by more affordable housing (despite the longer commutes that relocation entails). The recent US Census data (US Census Bureau, 2013) suggests that SC closely approximates the national statistics in nearly every recorded demographic category. When considering the balance of these various criteria, SC offers an excellent opportunity to better understand the problem of declining numbers of volunteer firefighters.

One should note, however, that a decline in voluntary group membership is an issue that has broad reach. This topic clearly is not limited to fire protection. As Putnam's (1995, 2000) *social capital* perspective suggests, American's membership in social groups of all types have been dwindling along with the movement away from the urban core.

The process of recruiting and maintaining rosters of volunteer firefighters is very much related to this concept of social capital. Volunteer fire service typically is a family tradition, and these familial connections operate as ties that bind past, current, and future rosters. Nevertheless, these traditional paths of recruitment have consequences. Volunteer rosters tend to be insular in nature — white male firefighters with strong local family ties. Given the ongoing declines in membership, however, fire chiefs must now consider how to break out of existing networks and recruit more broadly. These leaders must at the same time ensure that they meet the expectations of their current rosters of volunteers. Together, then, fire chiefs for wholly or mostly volunteer departments are facing a number of difficult constraints. They are operating in low-resource environments, servicing communities with dwindling social capital, and attempting to retain and expand insular volunteer networks.

This research sheds some new empirical light on how these different dilemmas play out in the context of SC. The study adopts Clary, Snyder, Ridge, Stukas and Haugen's (1998) six goals associated with volunteerism and targets three critical concepts related to volunteer fire service: (1) motives to join, (2) expectations to continue service, and (3) current satisfaction with service. This study evaluates how initial/naïve motives transform into contemporary/informed expectations and then determines how these motives, expectations, and satisfaction are related to volunteer firefighters' anticipated service periods.

Motives, Expectations, and Satisfaction

Clary et al.'s (1998) description of the six generalized motives identifies those factors that should systematically be related to volunteers' prospective service periods. The authors ascribe the following abstract volunteer motives:

1. **Values** — Altruism or the concern for the welfare of others;
2. **Understanding** — Opportunities to learn, practice, and apply skills and abilities;

3. **Career** — Improvements in volunteers' job prospects or career enhancements;
4. **Social** — Solidarity and therapeutic motivations like combating isolation, reducing depression, and lessening loneliness and emotional deprivation;
5. **Protective** — Guilt relief and evaluation of personal resources compared to others; and
6. **Enhancement** — Increase in self-esteem, self-improvement, and/or self-confidence.

Clary et al.'s (1998) factors consider volunteerism from a generic perspective (e.g., volunteering at the library, a soup kitchen, a parent-teacher association, or a local recreational organization was considered as the same action). This research seeks to understand the extent to which these six factors emerge within a typical volunteer firefighter's decision calculus (i.e., one that is likely to differ given the close proximity to danger). The underlying hypothesis is that these six items operate as prospective naïve motives to join the fire service, but that they also become fully informed expectations that must be met in order for the volunteer to continue within the fire service.

Conceptualizing Motives, Expectations, and Satisfaction

Keeping firefighters on the roster is critical. Therefore, in addition to understanding initial motives to join, we must also understand contemporary expectations to continue service. A *motive* is the reason an individual chooses to perform a particular act, or one's impetus for action (Mills, 1940; Dwyer, Bono, Snyder, Nov, & Berson, 2013). One can think of the motive concept as the initial driving force that encourages a person to engage in some form of behavior. In terms of the research presented here, the goal is to improve our understanding of the possible rationales that drive members of the public to participate within the fire service.

Motives to join the service are both naïve and malleable. Individuals that watch a fire truck roll by with lights flashing and sirens blaring might assume that it is on the way to rescue a child from a burning building. These citizens probably do not consider the countless number of hours firefighters spend in training, checking equipment, and readying apparatus to respond to emergencies. By comparison, the time preparing to respond far exceeds the amount spent on scene. This disparity of perception clearly is evident in the motives of volunteer firefighters. Those that decide to volunteer so that they can rescue the child from a fire simply may never get that opportunity.

Naïve motives to join will eventually morph into informed *expectations* of what volunteer fire service actually entails. Thus, the simple identification of motives to join is insufficient to the task found here. We may fully understand these original motives, but without an understanding of volunteers' subsequent expect-

tations for continued service, fire chiefs lack systematic knowledge about their capacity to retain members. In fact, given the large training curve involved in the fire service, it may be more critical to understand expectations to serve and prevent the losses of well-trained and experienced volunteers.

No one can fully appreciate, or know what to expect, when they first join the volunteer fire service. Once they serve, expectations are developed that may diverge sharply from their initial motives to join. Quite simply, naïve motives bring volunteers to the fire-service organization, expectations are what they learn through indoctrination and participation in the organization, and *satisfaction* of those expectations is what actually keeps them in place. The extent to which the organization meets the firefighter's expectations will drive his or her current satisfaction level and engender a willingness to continue serving the department and local community.

Wholly Volunteer Versus Mostly Volunteer Departments

This study considers only wholly volunteer and mostly volunteer departments where the numbers of volunteer firefighters are critical to meeting operational demands. The expectation is that substantive differences may exist in the recruitment and retention of firefighters across these two institutional structures. In contexts where volunteers and career personnel work side-by-side (Ganesh & McAllum, 2012), volunteers may receive limited training by comparison, operate with a more limited knowledge of the discipline, and possess limited authority despite the significant consequences of their tasks. It may also be that volunteers in departments with professional staffs have weaker ties to the organization, since the possibility exists that the department may hire someone to support the organization in their absence. Generally, the expectation is that firefighters in mostly volunteer departments will exhibit a diminished level of commitment versus those in wholly volunteer departments.

Demographics and Insularity

Maret (1983) suggests that the recruitment of volunteers is a demanding task and that attrition over time is a serious challenge for any organization. This situation is especially true within the fire service where the most obvious constraint is the aging cycle. The highly strenuous job of fire fighting makes it more difficult, and at some point impossible, for individuals to contribute to the organization. As such, this study controls for the maturation of volunteers within the analysis.

Given the general insularity of the fire service (Chetkovich, 1997; Yarnal, Dowler, & Hutchinson, 2004), race and gender effects are likewise critical to understanding this particular topic. The typical volunteer firefighter (Thompson, 1993; Perkins, 1987, 1989) is a white male who has a family legacy of participation in the fire service. In addition to this legacy effect, aspects of social

reciprocity and civic responsibility also act as coercive influences. In small communities, these *family firefighters* likely experience stronger pressure to join and continue their service.

This insular social network and the rural nature of these departments make diversity in terms of race, ethnicity, and gender, a scarce trait. It is thus important that an attempt is made to parse any disparities associated with non-legacy, minority, and female volunteers. Evidence of racial and/or gender discrimination and harassment clearly exist in the fire service (Chetkovich, 1997; Jahnke et al., 2012), but the ongoing decline of the rosters of volunteer fire departments means that fire chiefs must recruit outside of the insular network of family firefighters. Along those lines, an attempt is made to leverage systematic disparities in the volunteer service associated with nonlegacy, female, and minority volunteers.

Social Capital, Risks, and Equipment

Putnam (1995, 2000) identifies a macro-level decline in existing amounts of American social capital. Levels of civic engagement (e.g., voter turnout, religious observation, labor union membership, parent/teacher associations, and even bowling leagues) have been cast as being in an extended state of erosion. These trends would suggest that fewer individuals may be willing to serve their communities without remuneration, but we must consider other closely related explanations for volunteer service.

The *human capital* model (Becker, 1962; Becker & Tomes, 1986; Wilson & Musick, 1999; Freeman, 1996) suggests that individuals with greater resources, such as discretionary time, are most likely to participate in volunteer organizations. Correspondingly, those individuals with greater demands upon their time resources should be less likely to participate (i.e., declines in the ranks of volunteer firefighters could be a function of increasing demands elsewhere). In this analysis, familial commitments, such as spousal relationships and the demands of child rearing, are viewed with concern. These commitments not only make it less likely that an individual may join the volunteer fire service, but they should also be an underlying explanation of retention — volunteer commitments may erode under growing demands for family time.

Another systematic explanation of volunteer participation can be found in the high-risk exposure of fire fighting that may be an instrumental factor within the retention calculus. Motives to join the fire service can be tied to some individuals who are seen as risk seekers (Barlow, Woodman, & Hardy, 2013), but the realization of those risks may be substantively different than anticipated. It is likely that the acts of witnessing and experiencing risks in the form of close calls and/or injuries will influence one's willingness to continue to serve. The underlying relationship might run in either a positive or negative direction. On one hand, risk exposure could provide the satisfaction that risk takers seek

in the first place and therefore improve retention (Aksoy & Weesie, 2012). Alternatively, it could discourage more risk-averse volunteers from future participation because of the rational fear of serious injury or death.

Finally, it is important to examine the influence of departmental incentive structures on the volunteer calculus. Volunteer firefighters often make use of warning lights, sirens, and radios in their personal vehicles as part of their service to the organization. The possession of these devices can be seen as more than merely possessing the tools of one's trade. Warning lights, sirens, and radios represent technological challenges to learn and develop skills, but they also serve as powerful symbols of volunteers' time commitment and their exposure to heightened levels of risk on behalf of the community. For those departments that do not allow equipment prior to the completion of training, it tends to identify the volunteer firefighter as an indoctrinated member of the department. This type of symbolism can be very meaningful and influence volunteers' commitment to the organization in terms of eventual service length. Consequently, an effort is made to determine to what extent this symbolism affects retention.

Research Design

To better understand the dilemma of recruitment within the contemporary environment of declining volunteer firefighter rosters, this project utilizes a mixed methods framework. A qualitative concept mapping exercise initially identified the range of motives and expectations that volunteer firefighters consider upon joining and continuing their service. These factors were then used to construct a quantitative study of volunteer firefighters' prospective service length. Respondents' prospective service estimates are modeled to better understand how fire-service leaders can employ their scarce resources to promote roster stability. The remainder of this discussion of the research design used in the study is organized into two sections: (1) sample derivation and (2) analyses, estimations, and control variables.

Sample Derivation

To translate Clary et al.'s (1998) six factors to the fire service, a snowball sampling technique was used (Handcock & Gile, 2011). Ultimately, 25 volunteer firefighters from seven different SC departments in six different counties were interviewed.¹ New referrals continued until the research saturation point was achieved. At the conclusion of each structured interview, the research participant built a series of free-response concept maps (Kelly, 1955; Brown, 1992; Focht, Langston, & DeShong, 2001) using index cards with each card defining a single motive to join or a contemporary expectation of service. Larger cards equated to more important motives/expectations, and colored dots represented the level of satisfaction with each contemporary expectation. New response cards were added

until each respondent reached a saturation point or the point at which no new information was forthcoming (Glaser & Strauss, 1967).

The qualitative analysis revealed 26 unique responses that were seen as important either as a motive to join or an expectation to continue serving. Ten of the response items were eventually deemed duplicative or idiosyncratic, leaving 16 individual response items (see **Table 1**) that could be associated with the Clary et al. (1998) generalized volunteerism framework.

The results of the qualitative analysis informed the creation of a survey instrument designed to provide empirical leverage about motives, expectations, and corresponding levels of satisfaction. The survey instrument was distributed to a random, representative sample of volunteer firefighters in the state of SC. Because this research considers two separate institutional structures — wholly volunteer and mostly volunteer departments — the study adopted a stratified random sampling frame (Baker, 2002). The *US Fire Administration's National Fire Department Census* (2013) and the *SC State Firefighters Association* (2013) Membership Database were used to identify departments and establish the number of volunteer firefighters within each department.

The state of SC had 362 departments separated by the two strata — 115 mostly volunteer and 247 wholly volunteer. The initial population estimates suggested that there were 5,110 firefighters in mostly volunteer departments and 8,224 in wholly volunteer departments. The percentage of each stratum's composition and the magnitude of the overall population were used to calculate the number of requested respondents.

To operationalize the sampling strategy, fitted lists of random roster positions were emailed to each department. One crucial adjustment was made to the sampling frame in order to ensure the representativeness of the sample with respect to race and gender. Given the small number of females and minority participants (Thompson, 1993; Perkins, 1987, 1989) within the fire service, an oversample of these categories of volunteers was conducted. The participation announcement asked each department to forward the survey to all the females and minority volunteer firefighters. In the analysis that follows, survey responses are weighted to reflect the oversample of underrepresented categories within the population.

To record respondent observations, a webpage was created that listed each department and the random numbers associated with the volunteer firefighters' positions on the department's roster. The webpage served as a reference for departments participating in the survey. Respondents could only access the instrument through a dedicated hyperlink. Only the correspondence sent directly to each department contact contained the hyperlink. The reference website and research announcements did not contain the link to the survey and directed anyone interested to discuss their

Table 1: Volunteer Firefighters' Responses According to Volunteerism Factors

Response Item	Factor	Motive-to-Join				Expectation-to-Serve				Satisfaction			
		Min	Max	μ	σ	Min	Max	μ	σ	Min	Max	μ	σ
Helping Others	Values	3	4	3.90	.30	1	4	3.86	.42	1	4	3.77	.52
Civic Responsibility	Values	1	4	3.78	.49	2	4	3.80	.47	1	4	3.74	.58
Serving as Role Model	Values	1	4	3.31	.89	1	4	3.47	.74	1	4	3.42	.82
Feeling of Accomplishment	Enhancement	1	4	3.62	.63	2	4	3.68	.53	1	4	3.64	.59
Member Valued Public Service	Enhancement	1	4	3.64	.56	1	4	3.66	.57	1	4	3.56	.65
Excitement	Enhancement	1	4	3.53	.72	1	4	3.53	.69	1	4	3.49	.76
Obtaining Training	Understanding	1	4	3.31	.68	1	4	3.67	.56	1	4	3.56	.63
Acquiring/Applying Skills	Understanding	1	4	3.10	.92	1	4	3.29	.85	1	4	3.28	.89
Fellowship	Social	2	4	3.54	.62	1	4	3.60	.59	1	4	3.53	.65
Close Friend/Family Member	Social	1	4	3.01	1.13	1	4	3.00	1.06	1	4	3.08	1.09
Acquaintance	Social	1	4	2.93	1.09	1	4	2.92	1.09	1	4	2.93	1.11
Possess Sufficient Resources	Protective	1	4	3.14	.95	1	4	3.31	.83	1	4	3.21	.86
Payback Community	Protective	1	4	3.09	.94	1	4	3.14	.92	1	4	3.17	.97
Networking with Community	Career	1	4	2.63	1.00	1	4	2.87	.98	1	4	2.82	1.03
Gaining Full-time Employment	Career	1	4	2.33	1.16	1	4	2.56	1.18	1	4	2.51	1.28
Supplemental Income	Career	1	4	1.71	.99	1	4	1.89	1.10	1	4	2.04	1.23

Notes: Regression results from representative sample of South Carolina volunteer firefighters with oversample for nonwhite male firefighters. Mean Scores: 4.0 = high importance/satisfaction; 3.0 = moderate importance/satisfaction; 2.0 = low importance/satisfaction; 1.0 = no importance/satisfaction.

department's participation with their chief or training officer. All correspondence with department contacts and survey participants emphasized that only randomly selected firefighters should complete the survey, and it directed respondents not to forward the hyperlink to others.

After the initial email to the list of department contacts, responses from the departments indicated that the number of volunteer firefighters within the census was overestimated. For example, a department might receive instructions to forward the survey link to its 3rd, 44th, and 120th roster slots, and it might only have 30 volunteers. When appropriate, random numbers were regenerated based upon the department's actual number of volunteers. At the inception of this research, available census estimates suggested that there were 13,334 volunteer firefighters in SC. The study's revised population estimate suggests that there is a maximum of 8,465 volunteer firefighters in the state. The number of volunteer firefighters serving was only 63% of the projection found in state and national databases, suggesting that the problem of declining numbers of volunteers is perhaps worse than originally believed.

With some further investigation, it was discovered that 42 of the departments that could be contacted via telephone in fact had fewer volunteer firefighters. A number reported having less than 50% of the anti-

pated roster size. Again, when appropriate, the roster sampling strategy was revised to align with the corrected department information. A total of 284 respondents (i.e., a raw 19% response rate) were received from the revised 1,517 requested roster positions. Of the 284 initial respondents, listwise deletion was used to eliminate mostly incomplete responses to yield our final sample of 217 respondents (a refined 14% response rate).

Analyses, Estimations, and Control Variables

The analysis that follows proceeds along two lines of inquiry. First, volunteer firefighter responses regarding the six volunteerism factors (see Table 1) are evaluated using error bar plots that contrast motives with expectations and satisfaction. This evaluation provides new leverage on the relative import of Clary et al.'s (1998) categories within the context of the volunteer fire service. Then a continuous variable of firefighters' assessment of their remaining service period is modeled. That continuous variable is estimated with weighted least squares, and we evaluate four separate specifications. The first is a baseline model specification that only comprises the alternative explanations for firefighters' estimated service period discussed previously. The second specification introduces controls for

the six generalized motives to join, followed by a third specification associated with expectations to serve and a fourth specification for contemporary levels of satisfaction. These models thus provide knowledge about whether naïve motives, informed expectations, or contemporary satisfaction best explain SC volunteer firefighter retention. In each specification, the analysis controls for the respondents' mean response-item value within each of the six categories of motives, expectation, and satisfaction.

To control for aspects of firefighters' age and past service, an interactive variable of age cohort and current years of service to the department (see **Figure 1**) was created. The mean value and standard deviation of respondents' age ($\mu = 43$; $\sigma = 14$) was utilized to create four separate intervals (18 to 29; 30 to 43; 44 to 57; and 58+). Next, these four categories were interacted with the respondents' existing years of service. As expected, findings show a declining slope for each subsequent age cohort. One should note, however, that the slope of each category is positive, meaning that those with greater service anticipate longer service to their department. This relationship can even be found for the oldest (58+) age cohort, suggesting that the ties that bind one to the volunteer fire service

are fairly robust. Those respondents who had contributed significant amounts of service to the department appear to anticipate volunteering as long as possible.

The established lack of diversity within the volunteer fire service made it critical to incorporate both gender and race as alternative control variables. The oversampling technique used to generate the representative sample allowed for the evaluation of the influence of race and gender upon anticipated service to the department.² Qualitative results suggested that family legacy frequently was an influential motive to join. As such, white-male family firefighters serve as the baseline, or null category, and separate controls were included that identify those volunteers who did not possess a family history of fire fighting. The nonlegacy, female, and minority controls take the form of dichotomous variables.

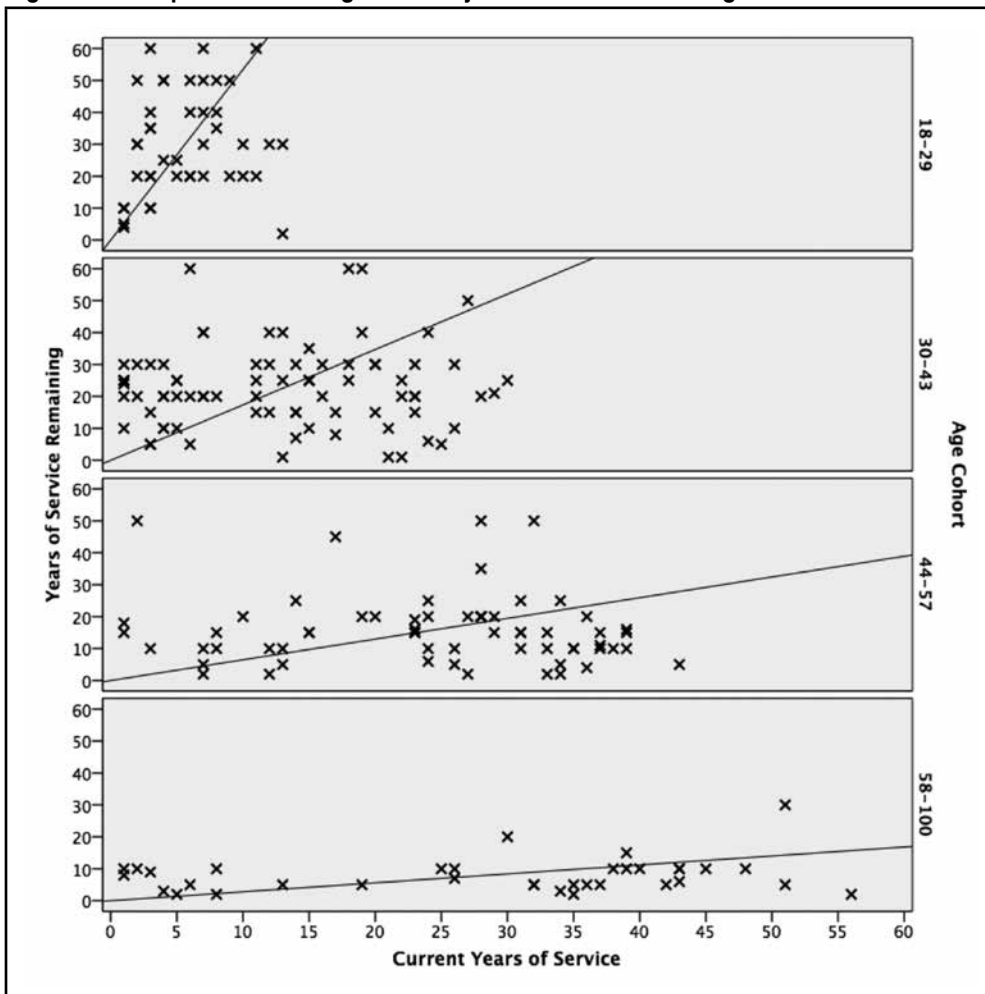
To evaluate the effects of social capital, the models control for the number of other civic groups in which the firefighters participated. Effects related to family obligations, close calls, and the presence of equipment in a respondent's vehicle were also included in the analysis. The variable associated with family obligations is an ordinal variable (0 = not married/no children; 1 = married/no children; 2 = not married/have children; or 3 = married/have children).

The control variable for close calls is an ordinal variable (0 = not witnessed or experienced close call; 1 = witnessed close call where a firefighter was nearly injured severely or killed; 2 = personally experienced close call where respondent was nearly injured severely or killed). The control variable for equipment in a vehicle is a dichotomous variable that controls for the presence of an emergency light, siren, and/or radio in a personal vehicle.³

Naïve Motives to Informed Expectations to Satisfaction

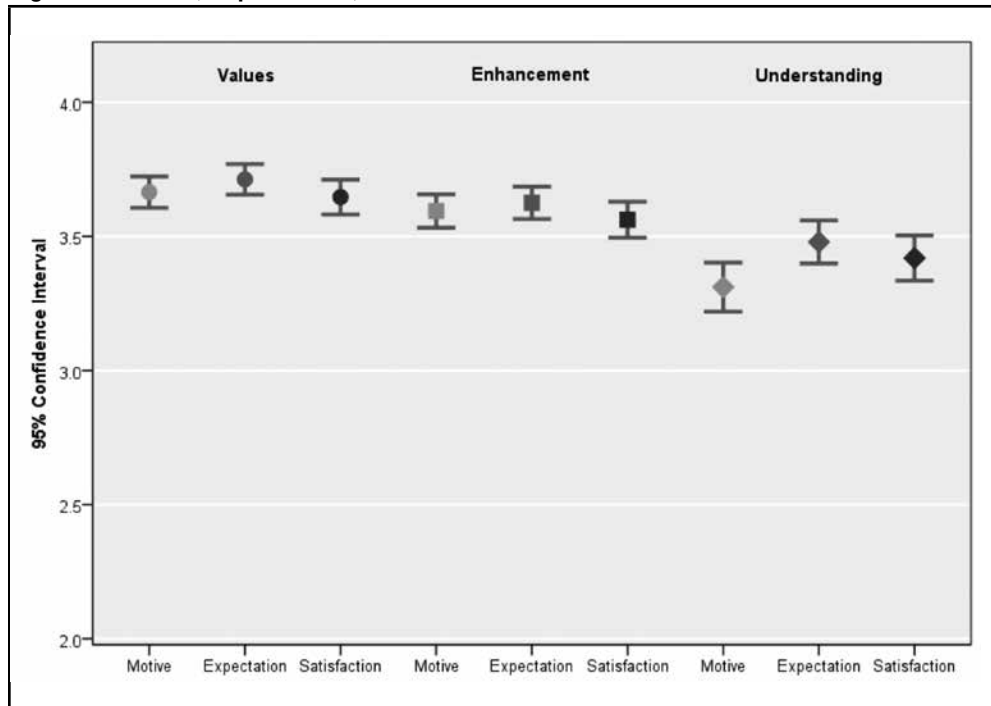
Figures 2 and 3 demonstrate the assessed importance and satisfaction associated with the Clary et al. (1998) volunteerism factors. The robustness of values within SC firefighters' assessments clearly is apparent within these data.

Figure 1: Anticipated Remaining Service by Current Service and Age Cohort.



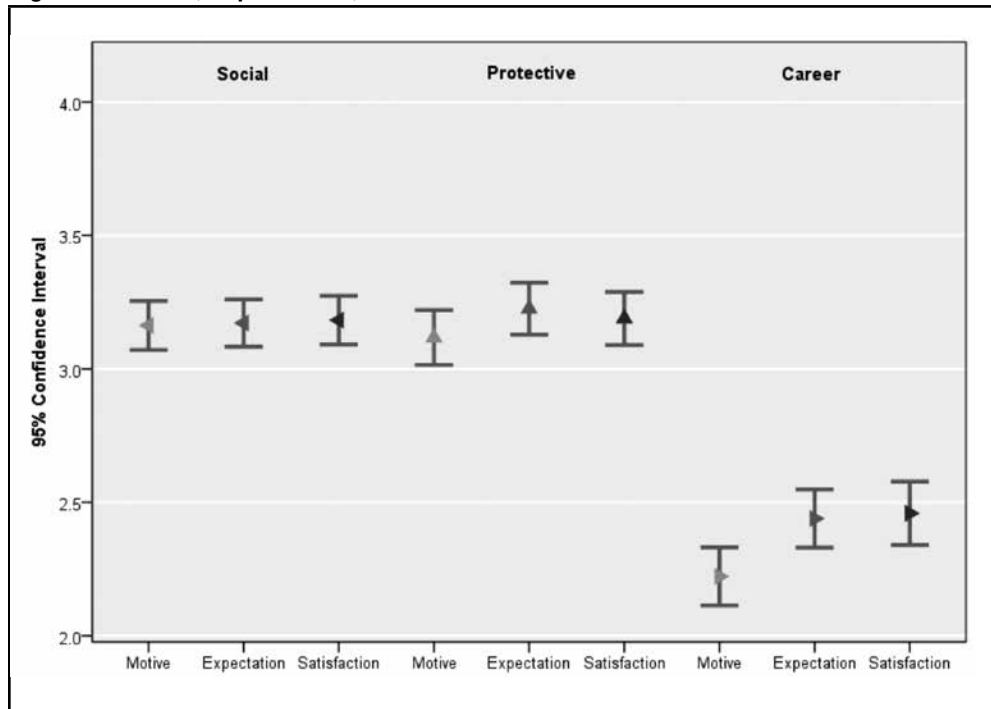
Notes: Cohorts established with the mean value and standard deviation of respondent's age ($\mu = 43$; $\sigma = 14$).

Figure 2: Motives, Expectations, and Satisfaction for Volunteerism Factors: Tier 1



Notes: Mean scores: 4.0 = high importance/satisfaction; 3.0 = moderate importance/satisfaction; 2.0 = low importance/satisfaction; 1.0 = no importance/satisfaction.

Figure 3: Motives, Expectations, and Satisfaction for Volunteerism Factors: Tier 2



Notes: Mean scores: 4.0 = high importance/satisfaction; 3.0 = moderate importance/satisfaction; 2.0 = low importance/satisfaction; 1.0 = no importance/satisfaction.

Values is the highest ranking category and predominantly a function of response items associated with *helping others* and *civic responsibility*. Both of these items exhibit relatively little deviation (see Table 1). The emphasis on values increases slightly from the naïve motive to the informed expectation stage, suggesting that training and experience tend to reinforce

associated with being veteran firefighters. These enhancement responses also increase slightly with service in the organization and are marginally diminished in terms of current satisfaction. The divergence again is relatively minute, so it appears that SC volunteer departments are performing reasonably well on this criterion.

this values orientation. Simply stated, volunteer firefighters in SC appear to be highly motivated by public service to their fellow citizens, and that commitment does not seem to erode with actual service.

The prevailing level of satisfaction associated with values response items did show a marginal decline. Generally, it appears that these departments are meeting expectations, but the heightened level of import assigned to values means that fire-service leadership must seek ways to ensure that the altruistic goals of volunteers to aid their fellow citizens are not encumbered. It also may be critical to frame volunteers' participation from a civic-responsibility perspective. The relative satisfaction expressed on this scale suggests that SC departments are effective in promoting the values orientation of the fire service, but it is important to maintain that perspective given the evidence of declining rosters.

The need for recognition of volunteer firefighters' service can also be found within the enhancement goal category. This set of items tends to capture aspects of self-actualization and includes *feeling of accomplishment* and being a *member of a valued public service*. This goal likewise comprises respondents' desire for *excitement*, which is thought to be underreported because of the behavioral norms

Both public-oriented values and personal enhancement appear to be at the top of the list of reasons for joining and continuing service, but the third most notable factor is associated with learning and understanding (i.e., *obtaining training and acquiring/applying skills*). This subset of responses is somewhat unique to the preceding categories (see Table 1). It appears that learning and skill development are not as prominent as motives to join, but they are considerations that are cultivated through one's training and participation in the fire service. Notice the more substantial assessment of import from the motive to expectation stage. The increase is right at the 95% confidence interval, indicating that the difference is substantial and meaningful. Responses associated with values, enhancement, and understanding are all relatively high and stable, but the desire to learn new skills is somewhat of a lagging indicator. As shown in the section that follows (an analysis of volunteer firefighter retention), understanding performs quite differently than either values or enhancement considerations. Skill development that leads to understanding thus represents a valuable strategic opportunity for fire-service leaders to promote roster stability.

Volunteers' consideration of values, enhancement, and understanding comprise a primary tier of importance, and to a certain extent, there is some amount of overlap between the three concepts. Understanding gathered through training and skills development clearly affects the means through which a volunteer can help others and how they interpret their own accomplishments. These highly important and highly satisfying response items appear critical to successful retention efforts. The remaining three categories (i.e., social, protective, and career goals), however, represent subordinate influences within the volunteer calculus (see Figure 3).

Social-oriented influences (i.e., *fellowship, close friend/family member, and acquaintances*) are in a clearly defined secondary tier of importance and relative satisfaction. This particular finding may be somewhat surprising given the traditional images of the family firefighter (Thompson, 1993; Perkins, 1987, 1989) and tight insular networks of firefighters. The lack of meaningful variation across the different stages of service suggests that these firefighters did not necessarily volunteer to make friends and socialize with others. The desire for *fellowship* performs relatively better in this set of responses, and that item could conceivably be tied to a process of self-actualization and enhancement found earlier. In either event, this research demonstrates that on whole, social factors take a back seat to the promotion of values, personal enhancement, and understanding goals. In real terms, more gatherings and cookouts may not be an effective response to shrinking rosters.

Likewise, protective-oriented responses lie within this same tier. Unlike social responses, some evidence of maturation can be found throughout volun-

teer service (e.g., *possessing sufficient resources to volunteer*). This relationship suggests that volunteer firefighters may not subscribe to the protective-oriented guilt relief described by Clary et al. (1998), but some do begin to evaluate relative levels of resources upon serving. *Payback to the community for own success* probably is more closely related to the protective factor described by Clary et al. (1998), but respondents reported a much smaller increase in import of this item.

The lowest tier of importance and satisfaction is comprised of career responses, which makes sense given that the opportunity for a career position may not be available (i.e., wholly volunteer departments) or are extremely limited (i.e., mostly volunteer departments). Nevertheless, career responses experience significant increases in importance with training and exposure to the fire service. *Networking with business and community leaders* is more influential than *gaining full-time employment*, although both are assessed to be more important over time. Satisfaction levels approach their corresponding expectation levels, which suggest that respondents do not consider their career goals to necessarily go unfulfilled.

The final career-response item is associated with *supplemental income*. Although it is somewhat more important while serving, it is, by far, the least important and least satisfying of all response items. Respondents report that *supplemental income* is relatively more satisfying than it is important. This finding was also encountered during the qualitative interviews, wherein the large majority of snowball respondents reported that they appreciated any remuneration, but it was not necessary for them to join or continue their service. This finding suggests that fire-service leaders should not necessarily devote substantial amounts of resources to the creation of financial incentives. As discussed in the following section, these sums may be more fruitful when applied to training and helping volunteers acquire new skill sets. From a larger perspective, however, these results are substantively important as they demonstrate that the volunteer fire service will not be able to buy its way out of its current retention problem.

Understanding Volunteer Firefighter Retention

To better understand how these different factors affect SC volunteer firefighters' prospective length of service, a number of different regression models were estimated. Model results can be found in **Table 2**, which provides some useful insights on how fire-service leaders can strategically approach their retention efforts.

Beginning with the baseline model specification of alternative control variables, estimates show that there are meaningful differences between wholly volunteer and mostly volunteer departments. The significant parameter result ($p < 0.05$ one-tailed) suggests that those departments with paid staff have a systematically weaker relationship (i.e., four years shorter) with

Table 2: Weighted Least Squares Estimates of Volunteer Firefighters' Anticipated Service Period

Control Variable	Baseline			Motive-to-Join			Expectation-to-Serve			Satisfaction		
	β	(s.e.)	ρ	β	(s.e.)	ρ	β	(s.e.)	ρ	β	(s.e.)	ρ
Values				2.69	2.65	.31	3.42	2.93	.24	.92	2.52	.72
Enhancement Goals				2.73	2.30	.24	3.02	2.51	.23	5.51	2.34	.02
Understanding Goals				-2.87	1.67	.09	-3.15	1.87	.09	-3.59	1.86	.06
Social Goals				.27	1.68	.87	.09	1.89	.96	-.04	1.83	.98
Protective Goals				-.28	1.42	.85	-.22	1.43	.88	.76	1.38	.58
Career Goals				2.57	1.52	.09	2.18	1.44	.13	1.43	1.32	.28
Mostly Volunteer Department	-4.02	2.12	.06	-3.84	2.11	.07	-4.03	2.16	.06	-4.25	2.11	.05
Age 18-29 * Years of service	.99	.40	.02	.79	.41	.06	.81	.41	.05	.96	.40	.02
Age 30-43 * Years of service	.07	.14	.64	.04	.14	.77	.07	.15	.65	.05	.15	.74
Age 44-57 * Years of service	-.08	.10	.41	-.12	.10	.24	-.12	.10	.22	-.10	.10	.32
Age 58-100 * Years of service	-.31	.08	.000	-.32	.09	.000	-.35	.08	.000	-.35	.08	.000
Nonlegacy	3.33	1.77	.06	2.29	1.98	.25	2.46	1.98	.21	2.65	1.94	.17
Female	-9.04	4.15	.03	-9.30	4.12	.03	-9.44	4.12	.02	-9.04	4.08	.03
Minority	-6.59	3.29	.05	-9.16	3.46	.01	-9.08	3.45	.01	-8.58	3.33	.01
Family Obligations	-2.56	0.70	.000	-2.27	0.71	.002	-2.34	.70	.001	-2.10	.71	.003
No. of Other Civic Groups	-2.70	1.04	.01	-2.50	1.06	.02	-2.45	1.06	.02	-2.06	1.05	.05
Close Calls	.40	0.72	.58	.47	0.73	.52	.58	0.77	.45	.73	0.72	.31
Equipment in vehicle	2.27	1.77	.20	1.65	1.84	.37	1.17	1.82	.52	1.26	1.83	.49
Constant Value	31.04	3.06	.000	15.78	10.55	.14	14.40	10.59	.18	13.84	8.74	.12
Observations		217			217			217			217	
Adjusted R ²		.35			.36			.36			.37	

Notes: Weighted regression results from representative sample of South Carolina volunteer firefighters with oversample for nonwhite male firefighters. Probabilities represent two-tailed tests. Mostly volunteer is a dichotomous variable. Years of service variables are interacted with the age ranges indicated. Nonlegacy (no family history of fire fighting), Female, and Minority are dichotomous variables. No. of Other Civic Groups represents other civic groups respondent participates in at time of survey. Family Obligations represent an ordinal variable (0 = Not Married/No Children, 1 = Married/No Children, 2 = Not Married/Have Children, 3 = Married/Have Children). Close Calls represents an ordinal variable (0 = No Witnessed or Experienced Close Call, 1 = Witnessed Close Call, 2 = Experienced Close Call, 3 = Witnessed and Experienced Close Call), Equipment in vehicle is a Dichotomous Variable.

respondents' prospective service length. This result is intuitive, and it is reasonably consistent across the different model specifications. The result simply suggests that the ties that bind volunteers to the department are weaker when the prospect of a career employee fulfilling their duties is present.

As expected, the findings show systematic relationships associated with the interaction of the age cohorts and reported years of service. These relationships are confined to the earliest and last age cohorts. The youngest set of firefighters (18–29) had a positive relationship versus each year of service (i.e., for each year of current service they anticipate one more year of

service). Those in the 58 and older group had a negative relationship that can be associated with physical decline. In this instance, each year of service is associated with a third less year of prospective service.

While these demographic relationships may not be that substantively important, they do serve as a critical set of control variables that help one discern other relationships. One critical finding involves the insularity of SC volunteer departments. Parameters associated with female and racial/ethnic minority firefighters were each negative, sizeable, and significant. Female firefighters anticipated a nine-year shorter service period. While part of that result could be a function of

biological considerations, such as child rearing, the roughly seven-year difference associated with minority firefighters suggests that the underlying issue is more likely one of insularity and acceptance.

Unfortunately, this finding with respect to gender and race is not unanticipated (Chetkovich, 1997; Yarnal et al., 2004). Perhaps the more surprising result is found for nonlegacy firefighters who had a positive and significant ($p < 0.05$ one-tailed) parameter estimate. Family firefighters are often thought of as the foundation of volunteer departments. In SC, the evidence shows that nonlegacy firefighters may be relatively more committed to the service. This factor is a fortunate relationship for fire-service leaders because it indicates that they do not necessarily have to rely on existing recruiting networks. They can reach outside of the existing network and find loyal contributors, but these estimates also suggest that leaders must be focused on diversity and equality in order to retain them.

The results presented here also reveal that social capital and family commitments act to constrain the prospective service period. For each additional obligation to another civic group, the volunteer's commitment is roughly two to three years shorter to the fire department. The difference in family obligations is significant at the highest probability level and reasonably large (-2.5 for married; -5 for children; -7.5 for married and children). Remarkably, no evidence is found that risk exposure affects firefighters' commitment to service. The null result in this instance may be a function of systematic underreporting due to behavioral norms, or it may be tied to the strong-values orientation of volunteers to the local community.

The final estimate on the inclusion of equipment in vehicles is not particularly robust ($p < 0.10$ one-tailed), but we found it to be a curious relationship. Unreported estimate results found no evidence that departmental provision of the equipment had any effect upon the service period. However, the included equipment parameter did tend to perform rather well within unweighted model specifications. Because the unweighted samples provide relatively more leverage to the female and minority oversample, this relationship could indicate that equipment may represent an opportunity to reach out to more diverse volunteers. The result found here is not particularly robust, but it may represent a unique opportunity for fire-service leaders to consider and evaluate.

Attention now turns to the full model specifications that comprise the Clary et al. (1998) volunteerism controls for volunteers' initial motives, informed expectations and contemporary levels of satisfaction. The broadest available conclusion is that the model controlling for current levels of satisfaction performs best. This conclusion is meaningful because it indicates that volunteer firefighters' commitments may not be overly complex or path dependent. Essentially, these results suggest that volunteers come into the organization with naïve goal orientations, and their goals tend to evolve.

Neither motives nor expectations appear to take the form of a binding contract that governs their commitment to their departments.

In terms of initial motives, only two parameter results exhibit significantly different behavior — social goals and career goals ($p < 0.05$ one-tailed). Naïve goals associated with building social ties *adversely* affect firefighters' commitments to their department. The effect is roughly -3 years per response item interval (e.g., from low importance to moderate importance). Those with naïve career goals, however, exhibit systematically longer service periods in roughly the same magnitude (between 2 and 3 years). The recruitment of those seeking a social network does not seem to be particularly effective. The newness seems to wear off, and the available social rewards may be waning. Those who have a sincere interest in the fire service as a career seem to be slightly better candidates, although there may be some risk of them becoming disgruntled if opportunities do not eventually materialize.

The model associated with expectations to serve is largely consistent with the motives specification, but the parameter strength associated with career-minded volunteers falls just beyond the traditional significance level (now $p < 0.10$ one-tailed). The lesson seems to be that motives do evolve into informed expectations (see Figures 2 and 3), but the observed variance in *assessments of import* on different factors is not closely tied to projected service periods. Instead, it is the more straightforward *expressions of satisfaction* that matter.

When looking at contemporary satisfaction, some substantively interesting results emerge. First, the fact that firefighters expressed a level of satisfaction within the enhancement category is a critical indicator of their future commitments. For each increase on the response item, one can anticipate an additional 5.5 years of service. Plainly, those volunteer firefighters whose service contributes to feelings of accomplishment and an association with a valued public service are more committed. One should not overlook the emphasis on excitement, which if anything, is underreported in these results. If volunteers' service breaks up levels of monotony elsewhere in their lives, then they are more likely to continue their service. Thus, fire-service leaders seeking to maintain and expand rosters should emphasize the meaning and value of volunteers' service and perhaps not trample too hard on the occasional excitement encountered on the job. Satisfaction in this area offers meaningful increases in volunteer-service commitment.

The other critical factor appears to be the innate value of understanding and skill development amongst this sample of SC volunteer firefighters. The results suggest that those members who place an emphasis on training and skill development have systematically *shorter* service commitments. In this instance, it is between a three and four years shorter commitment per interval on the response item. This relationship would suggest that volunteer departments are not

as effective at emphasizing skill development as they could be. As shown previously (see Figure 2) volunteer firefighters' emphasis on understanding and skill development shows substantive increases from the initial motive stage. This result associated with retention shows that at least some portions of their rosters are going to move on once they learn the basics of service and the education process stalls. Changes in the remaining control variables hint that this lack of skill development may be particularly important to nonlegacy recruits.

In sum, results suggest that fire-service leaders seeking to retain and expand rosters should emphasize aspects of personal enhancement as well as understanding amongst their volunteers. This result does not mean that other factors like values orientation are not important. The assessed level of import associated with values is meaningful, but it simply does not exhibit much variance. The lack of variance on commitment to helping others and civic responsibility suggests that they are somewhat like necessary conditions to join. Volunteer firefighters have this orientation, and departments must carefully cultivate it. In addition to that factor, however, they should be working toward improving aspects of volunteers' personal enhancement and skill development in order to keep them engaged and committed to the service.

Conclusions on SC Volunteers and Recommendations

Based on the analyses presented in this article, what do we now know about the state of SC volunteer fire departments? First and foremost, the findings show that the current estimates (SC State Firefighters Association, 2013; US Fire Administration, 2013) of volunteer rosters are inflated. If anything, the sampling frame utilized in this study indicates that the decline in volunteer firefighters may be worse than initially thought. These results also tend to emphasize the prominence of three of Clary et al.'s (1998) volunteerism categories: (1) values, (2) enhancement, and (3) understanding.

In terms of recruitment and retention, the results suggest a lack of a long-term connection between motives to join and projected service length. This result means that typical members are becoming volunteer firefighters with naïve motives that develop and mature during service. Neither initial motives nor mature expectations appear to be robust explanations of retention. For the fire service, this result means that there are not really any limitations on recruiting. Much like the military, recruiting appeals can vary widely from volunteer to volunteer. This factor is not a liability for fire-service leaders; it is an asset. It does not appear to matter by what means fire-service leaders pull potential volunteers into the queue. Volunteers can be recruited with wide-spread appeals to different motives (the exception may be a strong emphasis on social goals

and networking, which is negatively related to service period). Recruits' expectations will eventually sort out, mature, and align with the dominant expectations within the organization (i.e., values, enhancement, and understanding factors).

The emergence of understanding factors in the primary tier of importance among expectations to continue service was due mainly to the increase in the importance of *obtaining training*. Snowball respondents repeatedly stated that they did not fully appreciate and understand the importance of training until after serving for several years. Understanding factors also represents a means by which volunteer firefighters can promote values like *helping others*. In many combination (career and volunteer) departments, there are separate and unequal training standards for career versus volunteer personnel. While volunteers may be unable to complete the massive amount of training required by a full-service, all-hazards department, a basic level of training should be consistent between the career and volunteer groups. This type of equivalence contributes to the volunteer feeling like a valued part of the organization. This equivalence also reduces the friction between career and volunteer personnel and acts to increase the level of satisfaction that a volunteer receives from values and enhancement. Many fire-service leaders have responded with the opposite tack — lowering standards in an effort to bolster retention — and that appears detrimental according to these results. Such an approach may result in the volunteer wandering aimlessly about the organization without a sense of belonging or personal enhancement.

Finally, fire-service leaders must recognize the effects of family obligations, membership in other civic groups, and most importantly, gender and race on service length. These variables act to limit firefighters' service. Recruiting efforts must not only consider candidates outside of the social network of existing members, but also strive to make the work environment more diverse and accepting.

In summary, fire-service leaders should recognize the lack of limitations on recruiting. Candidates will enter the fire service with relatively naïve motives to join, these motives will eventually mature into fully informed expectations for continued service that generally revolve around the factors of values, enhancement, and understanding. The importance of these factors does not drive service length. Instead, it is simple satisfaction. Expressed satisfaction with enhancement factors provide statistically significant increases in service length, while understanding factors and a lack of skill development have negative effects on service length. Thus, the analysis suggests that a robust emphasis on training in concert with efforts to break down the levels of insularity associated with diverse recruits is critical to counteracting the observed decline in the numbers of SC volunteer firefighters.

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Endnotes

¹ Of these seven departments, four were wholly volunteer departments. Of the 25 respondents, three respondents were female and one respondent was African-American.

² The representative sample included 161 traditional (white male), 35 female (nonminority), 21 minority (18 male and 3 female) respondents.

³ We also tested whether departmental provision of a respondent's equipment would have an effect on retention, but the results were inconsequential and not statistically significant.

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