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An exploration of effective recruitment sources for Norfolk Fire-Rescue

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ABSTRACT

An Exploration of Effective Recruitment Sources for Norfolk Fire-Rescue

Beth Bruner submitted for Masters in Human Resource Management

University of Richmond, 2007

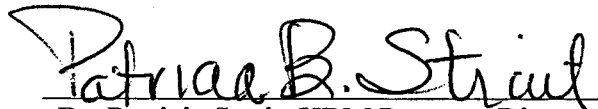Thesis Director, Dr. Marcia R. Gibson

Public Safety applicants have declined nationwide over the last several years, including those

individuals applying to Norfolk Fire-Rescue (NFR). Declining applicants can be attributed to change in

generational births, effects of 9/11, and change from the 18 year old high school graduate to a mid-

twenty year old college student. An applicant pool decrease requires more effective recruitment efforts.

This study examines the NFR 2006 hiring process from written exam through applicants' hiring. A non-

randomized survey design examined 245 surveys of all exam applicants. Measured constructs included

recruitment sources and demographic data and were analyzed specifically with regard to those who were

hired. Demographic data was examined to determine whether or not department recruitment sources

are varied to attract diverse individuals. Hypotheses were tested for acceptance, including typical

applicant characteristics and recruitment sources. Analysis of Variance was used to examine the survey

results in order to draw conclusions and make recommendations.

I certify that I have read this thesis and find that, in scope and quality, it satisfies

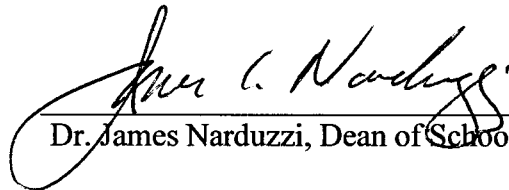the requirements for the degree of Master in Human Resource Management.

By Thesis Committee

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Dr. Marcia Gibson, Thesis Advisor

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Dr. Patricia Strait, HRM Program Director

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Dr. James Narduzzi, Dean of School of Continuing Studies

AN EXPLORATION OF EFFECTIVE

RECRUITMENT SOURCES FOR NORFOLK FIRE-RESCUE

By

BETH BRUNER

B. S., Hampton University, 2002

A Thesis

Submitted to the Graduate Faculty

of the University of Richmond

in Candidacy

for the degree of

MASTER

in

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An Exploration of Effective Recruitment Sources for Norfolk Fire-Rescue

Introduction

Public Safety applicants have declined nationwide over the last several years, including those individuals applying to Norfolk Fire-Rescue (NFR). Declining applicants may be attributed to change in generational births, effects of 9/11, and change from the 18 year old high school graduate to a mid-twenty year old college student. This chapter introduces a study of effective recruitment sources for NFR using the 2006 recruitment applicant pool.

In this chapter the purpose of the study is presented along with the target population, definitions, a brief overview of the research methodology, hypotheses and research questions.

In the next five chapters, the reader will be presented with a detailed description of the scope and rationale for the study, literature in support of the research, design methodology, results, a summary and recommendations.

Chapter One, Introduction serves to familiarize the reader with the research problem, why it was selected, significance of the topic, the client organization under study, a brief description of the methodology, the hypotheses and research questions. Chapter Two, Literature Review reviews current information relating to the topic of study including relevant articles, books and Internet sources. The work of researched authors who have written on similar subject matter and their perspectives are provided. Chapter Three, Methodology discusses the actual research including the survey instrument used and how the data was compiled. The reliability and validity of the data is provided as well as the procedures and statistical method. Chapter Four, Results presents the data analysis and research

findings. Chapter Five-Summary, Discussion and Recommendations will review the overall findings, which will be presented and conclusions drawn.

Rationale for Selection

The problem of low employment application to the department of NFR is significant when selecting recruit employees. The initial pool of applicants needs to be large due to a high percentage of applicants who do not successfully complete the entire hiring process. The final selection of recruit employees is made from a qualified list of applicants which remains active for two years. Within a two year time frame, approximately three hire cycles occur within NFR consisting of approximately 60-75 recruit employees. Recruitment sources need to be effective in attracting many qualified applicants to NFR, so that by the end of the initial selection process, there will be a large list of qualified applicants to possibly employ. By continuing to hire and train new employees, NFR will be able to staff the available daily positions. A cost savings for the department will result by not having to use overtime personnel.

Data from the US Census Bureau states that after 9/11, there was a dramatic decrease in the applicants to Public Safety professions, including Fire-Rescue departments. After 2001, the firefighter applicants decreased to less than half the number of the previous year of 2000 (Ruggles, 2004). The trend was similar with police officers and sheriffs. This historic event has changed the way organizations recruit future employees. A decade ago, NFR enjoyed applicant pools of over a thousand individuals. In 2006, there were fewer than 300 applicants, even though significant efforts had been put in place with a recruitment team. This low applicant number can be attributed to different work preferences in the younger generation, the historic event of 9/11, or a change in when individuals are applying, before or after college education.

Recruitment sources have changed over the years to include more than a singular print advertisement in the area newspaper. Recruitment sources are varied and can include print, television, Internet, job fairs and community events. Employee referrals are also an avenue for recruitment and can be effective for some organizations. Organizations need to continually analyze their recruitment efforts including types of sources to ensure they are effective in attracting qualified applicants. By performing continual analysis, organizations can identify when market conditions have changed and adjust their recruitment efforts. Varying sources of recruitment will limit "unintentional disparate impact on possible candidates by helping to eliminate systemic discrimination" (Arthur, D. 2001, p 94). Organizations may be able to avoid systemic discrimination by having multiple sources of recruitment.

Leaders of organizations who adapt their recruitment sources by understanding the culture of the applicants which they wish to recruit will be effective in attracting applicants. By understanding life and communication styles of those applicants, recruitment sources can be tailored for a specific group of qualified applicants (Goldsmith, M, Greenburg, C. L., Robertson, A., and Hu-Chan, M., 2003). This type of change might include departments adapting their online resources to not only include information about their specific department, but direct links to their hiring procedures and streaming video.

This research subject is analyzed by examining survey results, existing recruitment sources, and literature on employment trends. The 2006 applicants taking the written exam are included in the study and followed until the hiring of recruit employees. Recruitment source data, as well as demographic information is reviewed for possible insight to the most effective recruitment sources and also what types of people are applying with regard to education level, gender, age, and race.

Purpose

The purpose of this study is to discover the most used recruitment sources from the applicants to NFR. Other desired discoveries are to find the most effective recruitment source of recruit applicants and the common descriptors of the applicants.

Definitions

ANOVA-Analysis of Variance, a statistical tool used to examine if any variable comparisons result in a significant relationship

Recruit Applicant- a NFR applicant that has completed the hiring process successfully and is waiting to be hired

Recruit Employee- a newly hired NFR employee that is currently at the training academy and has not yet completed the minimum required certifications of the position

Recruitment Sources- People, Internet, Banners, Job Fairs, Print Ads, Community Events, and Television

Target Population

Norfolk Fire-Rescue is the study client. The study population consists of men and women applicants from the age of 18 and older who applied for a Recruit Firefighter/EMT-Enhanced position with NFR. Some of the applicants possess some professional firefighting and emergency medical services experience, while others have not. Applicants have been recruited from any number of different sources. The applicants participating in this study consists of those who were given the opportunity to take the written test. The Human Resources department of the City of Norfolk

determined if applicants had an acceptable application to be permitted to take the written test. All applicants at the time of study were instructed on the purpose of the research and given an opportunity to participate. All of the 276 applicants were included as the sample for this study.

Hypothesis and Research Questions

There are several hypotheses for this research.

1. The typical applicant is around the ages of 24-26 with some college background.

2. The typical applicant is recruited through the Internet and/or from banners outside of fire stations throughout the city.

3. The majority of the applicants are Caucasian males, with less than 35% minority applicants.

4. Internet applicants are more likely to complete the hiring process and be considered recruit applicants.

Study research questions are the following:

1. What was the most commonly used recruitment source of applicants to NFR?

2. What was the most productive recruitment source of recruit applicants to NFR?

3. What are common descriptors of the typical applicant to NFR?

Independent variables for the research questions will be as follows:

1. Age--the applicants' age including: 18-20, 21-23, 24-26, 27-29, 30-35, 36-40, 41-45, and 46+.

2. Gender--the applicants' gender including: male or female

3. Race/ethnicity--the applicants' race/ethnicity including: Caucasian, black or African-American, bi-racial/multicultural, Hispanic or Latino, Asian, native Hawaiian or other pacific islanders, other, American Indian or Alaskan native

4. Education--the applicants' education including: GED, high school, some college, associate, bachelor, master, and Doctor

5. Professional Experience--the applicants' professional experience including: Firefighter-Volunteer, EMT-Basic, Military-Navy, Firefighter-Professional, Military-Army, Military-Marines, EMT-Paramedic, EMT-Intermediate, Military-Air Force, Nurse, Military-National Guard, EMT-Enhanced, EMT-Shock Trauma, Military-Coast Guard, and EMT-Cardiac Technician

Dependent variables for the research questions will be as follows:

1. Common Source--the source from which the largest percentage of applicants stated they received information about the open application of NFR.

2. Productive Source-- the source which yielded the largest percentage of recruit applicants.

3. Common Descriptors-- the descriptors that appear most frequently in the applicant demographic profile

Methodology and Evaluation

A survey instrument is used to collect data from the study research sample. This survey instrument collects data from two constructs: demographic information and recruitment sources. The

completed surveys will be compiled into data. The data will then undergo analysis using an analysis of variance (ANOVA) statistical method. The relevant data will be presented using figures and tables.

Study Team

The study team consisted of the NFR members of the Special Projects and Human Resource Committee and dedicated Public Safety employees of the City of Norfolk Human Resources. During the written exam, these members assisted in administering the survey to the applicants. The primary researcher collected the surveys upon applicant completion, compiled and analyzed the data.

Conclusion

This study allows the researcher to evaluate the results and propose findings. Then resultant recommendations will be made to the departments of NFR and Human Resources of the City of Norfolk. As a result of this study, the recruitment staff's current practices can be reviewed and possibly changes can be recommended based on this study. Recommendations can be made for greater effectiveness in recruiting qualified applicants for the future hiring for NFR. Finally, based on the study results and recommendations the recruitment budget can be reviewed with regard to how to use the allotted money in the most effective areas.

Literature Review

The areas of recruitment sources, generational concerns, demographic, and educational trends are discussed in this chapter. The several authors' opinions are presented on various subjects related to the study questions. Diane Arthur (2006) believes that recruiting workers today is a challenge for all employers due to the increasing numbers of baby boomer retirements, the amount of workforce illiteracy and the low numbers of younger workers coming into the workplace. Employers must keep their recruitment skills sharp to employ top performers by working continuously to recruit and attract these workers.

Recruiting is organizational activities that provide a pool of applicants for the purpose of filling job openings. Successful recruiting requires many actions including the evaluation of past recruiting efforts. Also, recruiting should be integrated with the employer's human resource strategy. (Breaugh, 2005)

Generational Concerns

Recruiting has many challenges including demographic and cultural changes within the different workforce generations. Currently, there are four workforce groups, including traditionalists, Baby Boomers, Generation X, and Generation Y. Authors disagree on the exact dates of the generations, but are within a few years on the ends of the ranges. Leuenberger (2006) suggests that employers who are recruiting from different generational groups need to become knowledgeable on each groups work habits, preferences, and communication styles. This will help eliminate communication problems and allow sources to be customized for different workers.

The youngest generation in the workforce today is called Generation Y. The majority of applicants will be from this group of individuals. These workers were born between 1977 and 1998 as

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stated by Goldsmith and his colleagues (Goldsmith, M. et al, 2003). This group of individuals is different from the leaders of most organizations, who are most likely Baby Boomers, individuals born between 1946 and 1964. This generational difference is evident in the culture of each group, including their environment, use of technology, management, and leadership styles. Generation Y individuals are motivated differently than their Baby Boomer peers. Generation Y individuals are team oriented, self-controlled, and technologically savvy (Leuenberger, 2006). The understanding of the Y culture will help organizations attract more qualified applicants by adapting their recruitment techniques to this group of individuals. Arthur (2006) agrees that communication styles are different and should include electronic formats. Revising brochures to include the latest technology and utilizing CD-ROMS will appeal to this group of workers. This generation focuses on the balance of work and life. They like to have fun at work and may be bored easily, leading to turnover.

Kovary (2005) states that the younger generations want to know of their possible career paths and mobility within the organization when they are recruited. They might also request to speak with current employees to evaluate management perspectives. This type of questioning might be considered inappropriate by some older generations. The generation Y workers consider these questions valid when evaluating possible employment. Generation Y workers view loyalty as a commitment to results and their manager (Kovary, 2005). Employment is viewed as a contract, and loyalty to the organization has little relevance, which is a stark contrast to the Baby Boomer workers (Wendover, 2005). Employers need to ensure their recruitment staff understands the differences between each generation and limit their personal bias of different generations when recruiting new applicants.

Toyota Motors has redesigned the application process to help decrease the hiring time of new applicants. They have instituted an interactive job simulation that not only assesses problem solving but

also the applicant's ability to learn. This computer-based interview resembles reality simulation video games (Winkler, 2006). This type of interview is ideal for the younger generation who communicate in this dimension, but Toyota has stated that any age applicant has been able to use this tool with ease. Virtual job simulation has surpassed video screening or online applications by allowing the employers to make smarter hiring decisions and allow applicants a realistic picture of the job.

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Recruitment Sources

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Arthur (2001) identifies several traditional recruitment sources, including employee referrals, the Internet, newspaper ads, college recruitment, job fairs, targeted minority recruiting, and walk-ins. An employee referral program is noted as one of the strongest sources by Pritchard (2007). "The employees of any organization are the most powerful source due to their ties to the larger community and continuous communication to family and friends (Pritchard, 2007, p. 55)." An organized referral tracking system and incentive offers are two of the key concepts of an employee program. Employers must follow up on this type of program to not only bring in new applicants, but to strengthen existing employee relations. Wendover suggests referral programs because they can eliminate most other recruitment programs, which are costly (Siegel, 2002). Alumni referral programs are also an avenue for employers to consider. These employees are often accessible and active within the community. Alumni networking can be a successful source for referrals and a smart use of former investments of the organization.

Online recruiting has become common with many organizations. Recruitment cost varies depending on the market, but when compared to other recruitment sources, it represents a cost savings to most organizations per Donna Graham (2000). Online recruitment is not limited to Internet advertising,

but includes instant messaging, video interviewing and the use of online networking communities. Employers need to consider whether potential applicants view their website as 'user friendly.' Also, the ability to find answers and communicate with the direct personnel in charge of the recruitment is important for the initial impression of the applicant. Video interviewing has connected out-of-area applicants to the employers and the equipment needed is low cost (Graham, 2000). This option is preferred by candidates due to less time required to travel during the hiring process.

Online communities and websites are being utilized by companies in an attempt to recruit applicants in their natural habitat (White, 2007). One company, Ernst & Young has tried to reach out to tech-savvy people by creating a recruitment page on "Facebook," a social-networking site. This updated online recruiting attempt updates the older forms such as posted job openings and descriptions on job boards. Other companies have used "MySpace" in similar ways to keep employees connected with one another and refer possible applicants.

E-recruiting can help expedite the hiring process by automating key personnel services and enabling the applicant to access a large supply of information about the organization. While some organizations simply use their website as a job posting, others have integrated human resource technology that enables the employer to manage their applicants quicker and efficiently. There are several challenges to e-recruiting including organizational, technological, managerial, and legal. Organizations that use this technique need to have all involved personnel understand how to utilize the information collected. (Lee, 2006)

Any recruitment effort must be analyzed to determine if it was effective for the company. Utilizing newspaper advertising can be successful, but employers should analyze how many hires are directly attributed to a specific advertisement. By comparing the success or lack of success in different

newspapers, employers can determine where their advertisement is the most effective in attracting new hires (Pritchard, 2007). Gina Ruiz (2006) agrees that although the Internet has been established as a strong recruitment method, employers must not undervalue the role of traditional print advertisements. A combination of online and print advertisements can be very effective in areas of mixed rural and urban areas. If an employer is within a metropolitan area, online recruiting could be more effective. Both sources of recruiting are considered equal tools in many studies, although employees cite online sources to be more effective than print sources. Some job types such as manufacturing are found to be more effective in print advertisement.

In considering career fairs, Pritchard (2007) suggests being extremely picky about which fairs to attend. Employers need to carefully consider where they invest their time, energy, and dollars. Career fairs are part of, "the way we've always done things". Some organizations might be resistant to the idea of reducing their participation, but need to consider past performance in their critical evaluation of their efforts.

Military recruitment has also been an effective source for new applicants. This type of recruitment is a joint effort between organizations and the military's Transition Assistance Program. Both parties are equally engaged in placing these applicants into new professions. These applicants are often viewed favorably by employers based on their past work ethic and ability to work in teams.

Descriptors of the City of Norfolk

In the City of Norfolk, the demographic data of race is white 47%, Black 44%, Hispanic 3.8%, Bi-racial 2.5%, Filipino 1.8%, Other 1.7%, and American Indian 1.1% (http://www.city-data.com/city/Norfolk-Virginia.html).   One aspect of recruitment is to evaluate how many minority applicants are being reached by the organization recruitment sources. Some companies have hired companies like Inroads to assist them in attracting more minority applicants (Martinez, 1996). Inroads helps companies improve the quality of their diversity recruitment efforts. The cost is less than that of recruiting on campus, and provides the employer with interns during the summer months. A consistent flow of interns will help create a long term strategy of recruitment into an organization. Many organizations have trouble attracting diverse applicants, including women and minorities. A group composed of a broad mix of people will more accurately reflect an organizations customer base and understand their needs more effectively (Cafasso, 1996). Performing consistent targeted recruiting will help ensure applicants are aware of the opening.

Norfolk Fire-Rescue Education

In a December 2005 study of educational supplements within NFR found that 84% of employees with zero to five years of service had some college or above upon hire (Bruner, 2005). Junior employees are twice as likely to have received formal education before hire when compared to their coworkers of 20 years ago. This change in applicant characteristics may have an effect on the recruitment sources of NFR. In this NFR study, job satisfaction levels were found to increase in those members who held a degree. Offering tuition aid for further education is a technique for recruiting the younger worker as stated by Arthur (2006). Some organizations fund scholarships to students in their

final years of school in exchange for a minimum commitment of employment after graduation. Tuition aid for current employees is also used as a recruitment technique and has similar commitment guidelines.

Conclusion

Recruiting is challenging for employers as the characteristics of employees continue to change. Workforce groups are diverse and employers need to identify the different generational groups that exist within their organization. With this specific information, employers can accurately recruit for new employees. Altering communication styles will help ensure that employers attract diverse applicants. Various recruitment sources are available for organizations to utilize, including print and online. The decision to use print or online recruitment will depend on the demographics of the area, including geography. Regardless of recruitment source, each organization must continually analyze their sources to evaluate their efforts.

Methodology

In this chapter the research design is described in detail to include the target sample description, questionnaire design, study procedures, and statistical measures.

Sample

The applicants sitting at the written exam portion of the Norfolk Fire-Rescue hiring process were included in this study. Only those applicants who turned in a complete application were given notice of the written exam and the opportunities to take the test. The sampling frame consisted of the applicants that sat for the written test and agreed to take the survey instrument; 276 completed surveys will be included in this study. The applicants were all given the same instruction in completing the surveys including the option of leaving the survey blank or specific questions blank. Only the filled in responses will be analyzed and compared to one another for this study. Of those completed surveys, 11% or 31 surveys were left entirely blank. The remaining 245 surveys will be analyzed for information about the two constructs, demographic data and recruitment sources.

Research Design and Measures

A non-randomized survey design was used for this research and included a survey as the measurement instrument called Recruitment Survey (Appendix A). Constructs that were measured included recruitment sources and demographic data. Section one of the survey lists various types of identifying data including age, gender, race/ethnicity, education level, and professional experience. The second section includes all of the recruitment sources that NFR used to recruit potential applicants.

There will be two groups for this study; those who complete the survey and those who complete the entire hiring process to become a recruit applicant. Both groups will be studied for the same constructs.

Once the survey design was completed it was submitted to the University of Richmond's Institutional Review Board along with a description of the study for Approval. This IRB approved the approach. See Appendix D-IRB Approval.

Reliability and Validity

The non-random design was reliable due to the use of multiple testing groups of applicants. The 276 applicants that sat for the written test were tested over several days including 10 testing periods. The instructions for the survey measurement were repeated the same for each group and resulted in 245 completed surveys. 31 surveys were left blank and not included in the analysis.

Due to the survey design of this research, no significant threats to internal validity were apparent. The measurement survey was tested for content validity by administering it to approximately 20 recruit employees who were in the training academy when the survey was developed. This group of individuals was chosen due to their recent employment date and knowledge of specific recruitment sources. Upon these employees taking the survey, the two constructs were evaluated for accuracy. Both constructs were determined to be represented effectively by the survey instrument. Originally, the survey instrument was divided into two separate surveys, one for each construct. After the initial validation testing, it was changed to one survey consisting of questions related to both constructs.

This research design could be expected to yield similar results in the other metropolitan localities of Hampton Roads. Areas that are of similar demographic makeup with a large military presence would

likely be similar to the overall results of this study in regards to age, gender, race, and education. Professional experience as a firefighter or as an EMT would likely be similar in localities comparable to the City of Norfolk. The amount of past military experience might not be as high outside of Hampton Roads, due to the large military presence.

Procedures

The procedures used in this study including administering the survey, collecting the data, and collating the data for analysis. Administering the survey was performed at the written test of the applicants. The survey instrument was given before the written test to ensure all applicants were given the same instruction. The privacy of applicants was ensured by instructing each applicant to fill out the survey without using their name. A survey number was used for each survey completed, including blank responses. Each applicant was instructed to copy the survey number located in the upper right corner to their scantron sheet. Upon completion, each applicant returned the completed scantron and survey instrument. Each scantron was checked for the survey number. Applicants that took the written test multiple times were instructed not to fill out the survey a second time.

Each testing session was kept independent of one another and the data was collected in large envelopes, including each survey and corresponding scantron of each applicant. This technique was used to ensure that each testing period was administered the same and limit variability. Once all testing periods were complete, the scantron sheets were compiled into one group. The data was transferred by hand into an Excel spreadsheet for easy viewing and data analysis. Several data categories were coded for analysis.

Statistical Method

The data will be analyzed by identifying majorities in each construct of demographic data and recruitment sources. Common descriptors of typical applicants will be identified after each category is converted into percentages. Recruitment sources will also be compiled into different categories and organized by percentages. Independent variables of age, gender, race/ethnicity, education and professional experience will be analyzed for common descriptors of the typical applicant. Professional experience is further divided into two subgroups of professional experience in firefighting and emergency medical services and professional military. These two independent variables were compared to the two dependent variables of recruitment sources and hire (representing recruit applicants).

The statistical method used in this study is the Analysis of Variance or ANOVA. The ANOVA is used to compare sample means to see if there is significant evidence to infer that the means of corresponding population distributions also differ. ANOVA is able to compare many distributions within the same variable. The independent variables of professional experience and professional military were compared to the dependent variables of sources and hire using an ANOVA. All four variable categories had data that needed to be coded to input into an ANOVA. A level of significance was analyzed to infer if the relationships between the variables were evident. The resulting significance level is then compared to a significance level of .01 or .05 to see if it is a relationship.

Conclusion

The research design consisted of distributing a non-randomized survey to the NFR 2006 applicants who sat for the written exam of the hiring process. The applicants who agreed to take the survey instrument resulted in 276 completed surveys which will be included in this study. Of those

completed surveys, 11% or 31 surveys were left entirely blank. The remaining 245 surveys will be analyzed for information about the two constructs of demographic data and recruitment sources to evaluate if there are significant findings between variables. The two groups for this study included the 245 applicants that completed surveys and those applicants who complete the entire hiring process to become a recruit applicant. Both groups will be analyzed for the two constructs of demographic data and recruitment sources. With the data collected, the complied data from the survey instrument categories will be organized according to percentage and select variables will then be used in an ANOVA to determine any significance. Select variables are coded to use within the ANOVA measure. Independent variables of professional experience in firefighting and emergency medical services and professional military are compared to the two dependent variables of recruitment sources and hire using the ANOVA measure. Significant findings will be analyzed to determine if any relationships exist between the variables.

Results

This chapter provides the analysis of the data and the findings as they relate to the study questions and hypotheses.

Analysis of Data

The data is analyzed and categorized into demographic, recruitment sources, recruit applicants and ANOVA results.

Recruitment Survey Overview-Demographic Data

After examining the results of the completed surveys, it was found that there was a diverse sampling in most of the surveyed areas. The compiled data is listed by the largest percentage of each subgroup to identify the typical applicant (Appendix B). The surveys that were left entirely blank were not included in this analysis. The surveys that had some blanks in the demographic sections were included and listed in the results section (Appendix C).

In the age category, 21% or the majority of the applicants were between the ages of 24-26. Closely following were the groups of 21-23 at 19%, 18-20 at 18%, and 30-35 at 16%. The 27-29 applicants represented 11%, the 36-40 group represented 9%, the 41-45 group represented 2%, and only 1% of the applicants were 46 or older. Three percent of the surveys were left blank and were not included Figure 1, Age Distribution.

Figure 1
Age Distribution
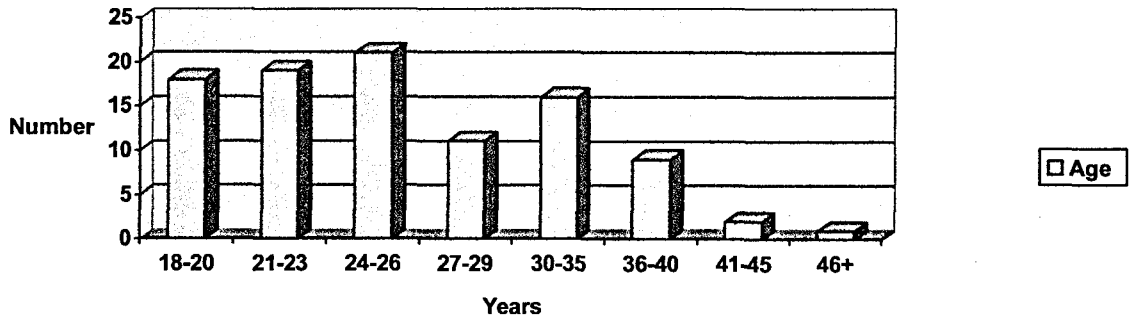
In the gender category, males represented 85%, while females represented 11%. A small percent of the surveys were left blank in this category, approximately 3%, which is not shown Figure 2, Gender Data.

Figure 2
Gender
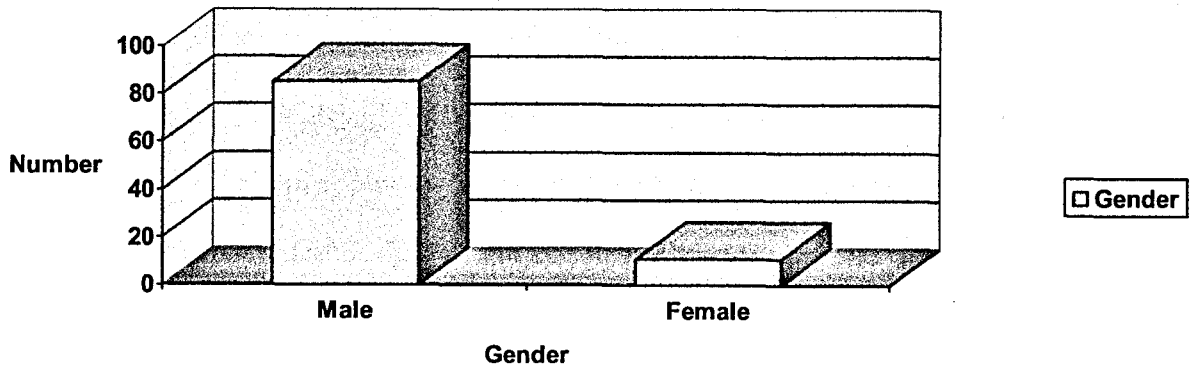
In the race/ethnicity category, 64% of the applicants were white or Caucasian representing the majority with three times more than the next closet applicant category of black or African-American at 21%. Both the applicant categories of bi-racial/multicultural and Hispanic or Latino represented 4%

each of the applicant pool. The applicant categories of Asian, native Hawaiian or other pacific islanders, and other each represented 1% of the applicant pool. American Indian or Alaskan native represented 0% in the applicant pool, which reflected a less than 1% response. Also, 4% of the survey responses were left blank and not included in Figure 3, Race/ethnicity.

Figure 3
Race/ethnicity
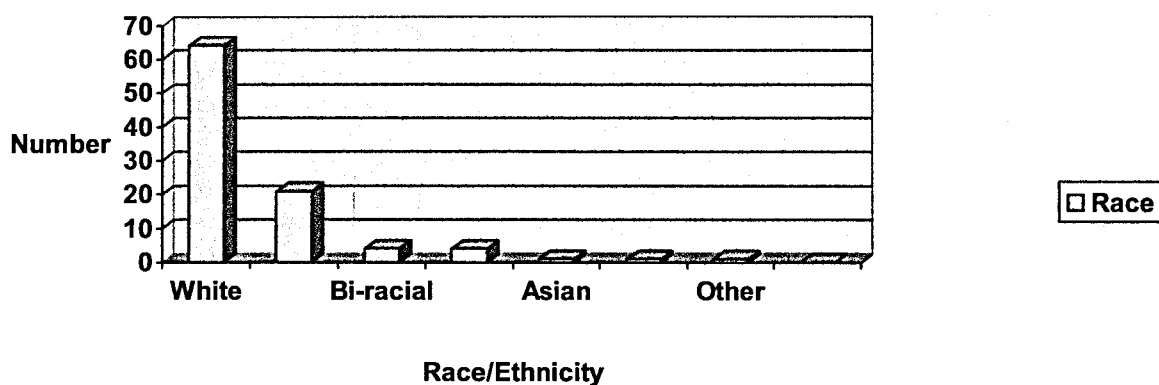
The highest educational level also varied; almost half of the applicants had Some College education at 48%. Twenty-six percent of applicants had a high school education or over a quarter of the applicants. The remaining 23% of applicants are categorized as follows: 11% with a Bachelor's degree 6% with a GED, 4% with an Associates degree, and 2 % with a Master's degree. The subcategory of Doctorate was left blank and is not represented in Figure 4, Education.

Figure 4
Education
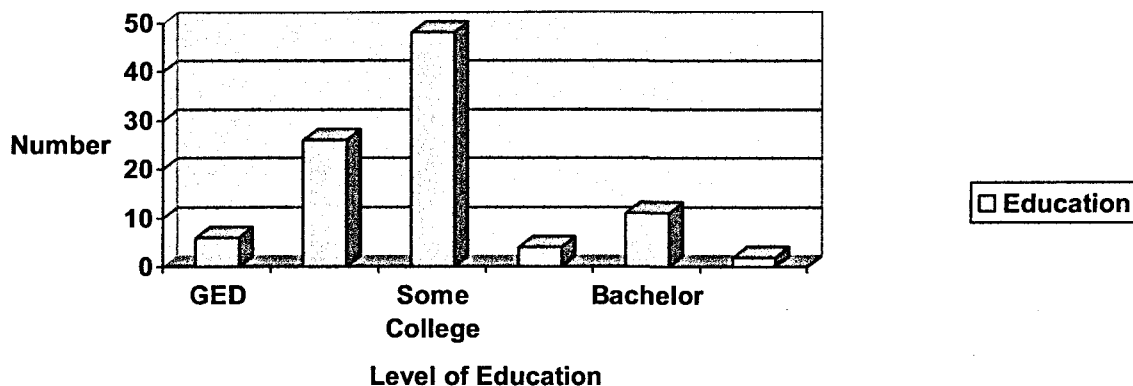
Seventeen percent or the majority of applicants' professional experience was Firefighter-Volunteer, 15% listed EMT-Basic, and 11% listed Military-Navy. There were also 3% of each of the following categories listed: Firefighter-Professional, Military-Army, and Military-Marines. The remaining subcategories were not included in Figure 5, Professional experience. EMT-Paramedic, EMT-Intermediate, Military-Air Force, and Nurse each had a 2% response and the Military-National Guard had a 1% response. EMT-Enhanced and EMT-Shock Trauma each had a 0% response in the applicant pool, which reflected a less than 1% response. The subcategories of Military-Coast Guard and EMT-Cardiac Technician were left blank in the completed surveys.

Figure 5
Professional experience

Figure 5 bar chart. Y-axis labeled "Number" with values 0, 2, 4, 6, 8, 10, 12, 14, 16, 18. X-axis labeled "Professional Experience" with categories FF-Vol, EMT-B, Army. Legend: □ Professional Experience.
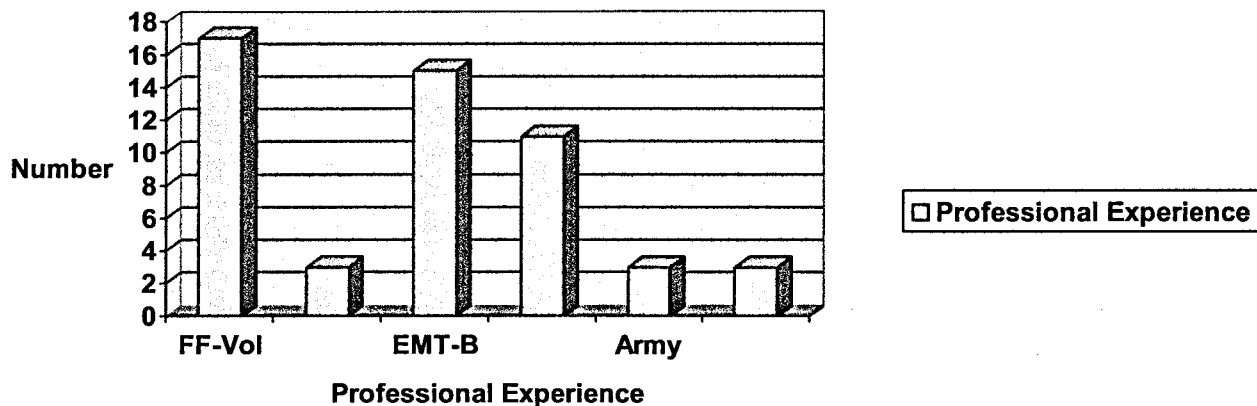
Recruitment Survey Overview-Recruitment Sources

The applicants were instructed to check all of the sources that applied to their specific recruitment with NFR including job fairs, community events, print ads, television, internet, fire station banners and people. This data was then quantitatively analyzed to find out which sources were most commonly used. The results are listed by the largest percentages to the smallest (Appendix B).

Evaluating the recruitment sources showed that the category of People was the overall most effective source at 76%, while the NFR web site was the single most effective source at 60%. The categories had responses ranging from 76% to 3%, with the listed categories in order from highest response to lowest; People, Internet, Banners, Job Fairs, Print Ads, Community Events, and Television. See Figure 6, Recruitment sources.

Figure 6
Recruitment sources
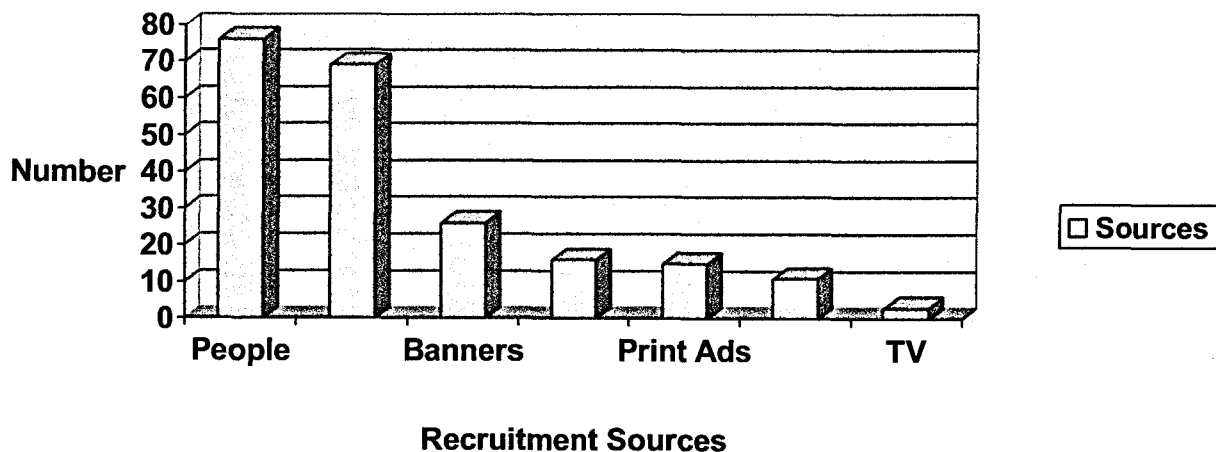
The category of People was the overall highest percentage of response from the applicants. The subcategories of Friend/Family Member and Current or Retired NFR Employees were almost equal in their response as a recruitment source at 32% and 31% respectively. Finally, City of Norfolk Employees (non NFR) had a smaller response at 13%. See Figure 7, People categories.

Figure 7
People categories
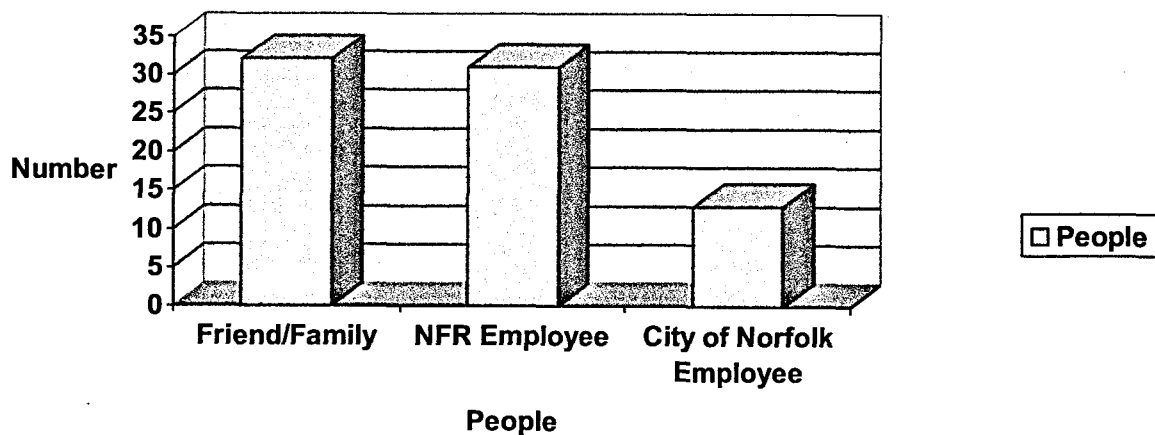
The recruitment source category with the next highest percentage was the Internet with 69%. The single highest subcategory of all recruitment sources was the NFR website. Sixty percent of the applicants listed the NFR website as a recruitment source. The other three Internet sources combined only equaled 9%, with Other Fire Web site as 6%, EMS Web site as 2%, and Professional Organization Site as 1%. See Figure 8, Other Internet sources.

Figure 8
Other Internet sources
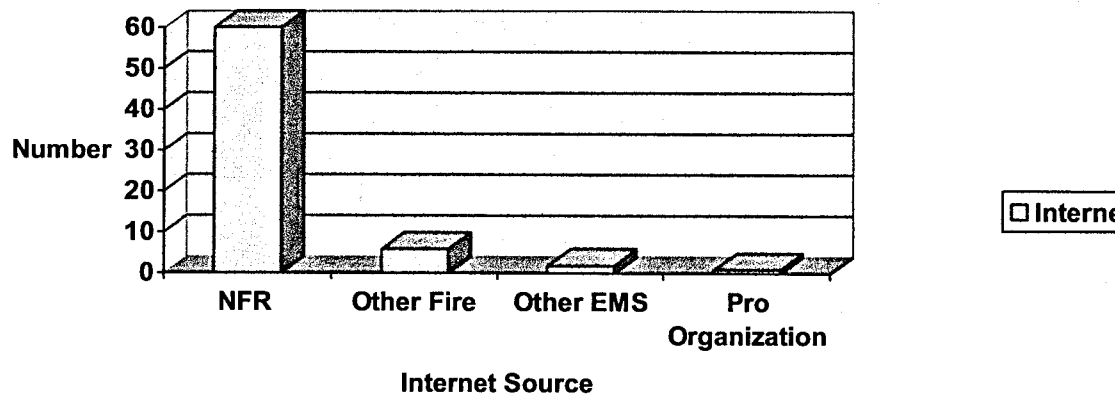
The recruitment source of Banners yielded a 26% response. See Figure 9, Banners. This recruitment source consisted of multiple banners throughout the city, posted in front of fire stations and the training center of NFR.

Figure 9
Banners
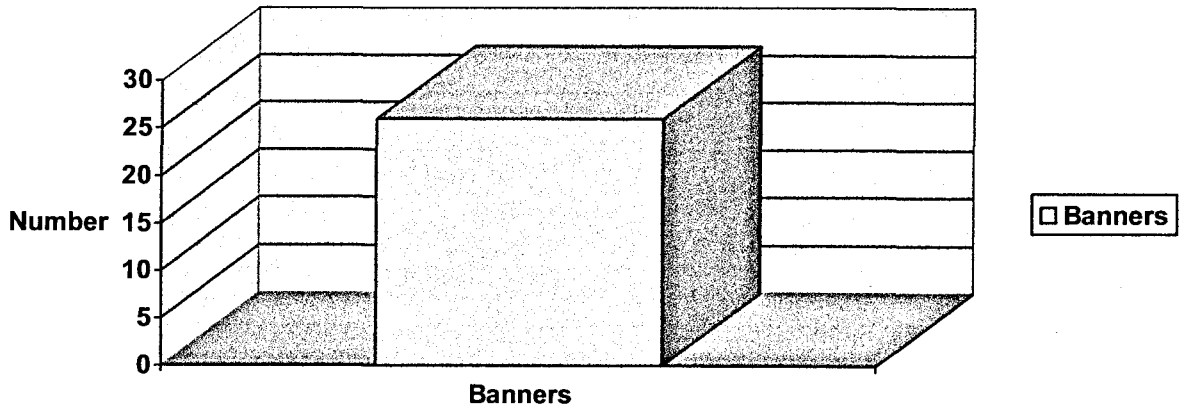
In the category of Job Fairs, the total response was 16%, with no subcategory having a large

majority. Three subcategories each had 3%, which included MacArthur Mall, Old Dominion University

and Tidewater Community College. Calvary Revival Church had a 2% response, while five other

subcategories had a 1% response. Those subcategories included the Diversity Fair, ITT Technical

Institute, Norfolk State University, Regional Armed Forces, and the Military Job Fair. Both the Military

Officers Association and the WVEC Small Business represented 0% in the applicant pool, which

reflected a less than 1% response. See Figure 10, Job fairs

Figure 1
Job fairs
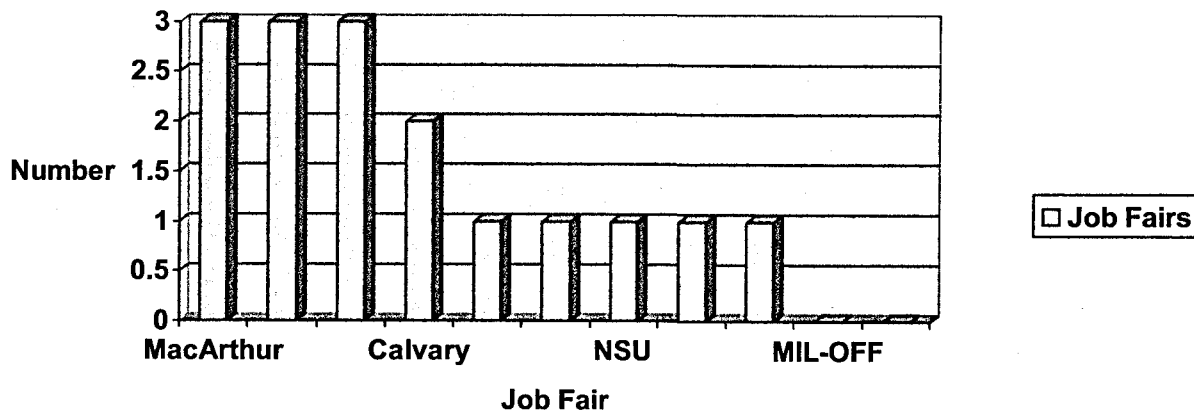
The category of Print Ads had a slightly lower response of 15%, with the subcategory of

"Virginia Pilot" comprising the entire 15%. Three of the other subcategories including "Compass,"

"Flag Ship," and "School Sports Poster" represented 0% in the applicant pool, which reflected a less

than 1% response. The Going Ashore/TAPS subcategory had no response. See Figure 11, PrintAds.

Figure 11
Print Ads
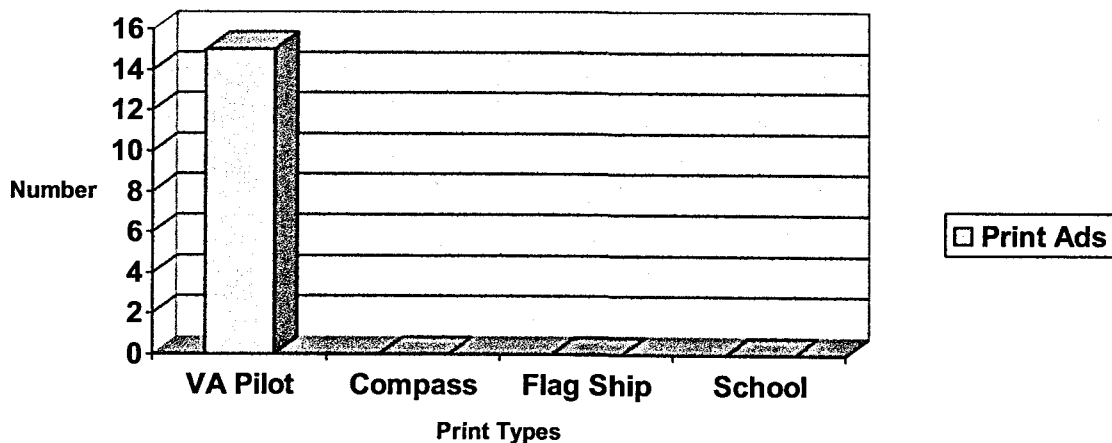
Community Events had an overall category response of 11%. Harbor Fest had a slight majority at 3%. Both Afr'am Fest and the EMS Picnic had a 2% response each. The remaining subcategories each had a 1% response, including the Brambleton Community Outreach Center, Civic Leaders Picnic, EMS Week Display, and Home-a-rama East Beach. See Figure 12, Community events.

Figure 12
Community events
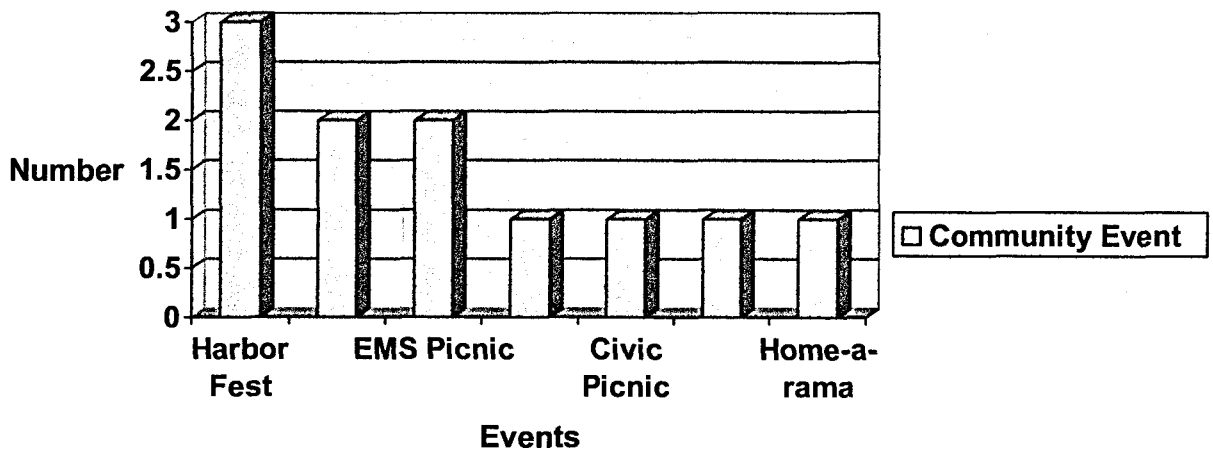
The final category of recruitment sources that had the least response was Television, with the only subcategory of Norfolk Perspectives Cable TV Show having 3%. See Figure 13, Television.

Figure 13
Television
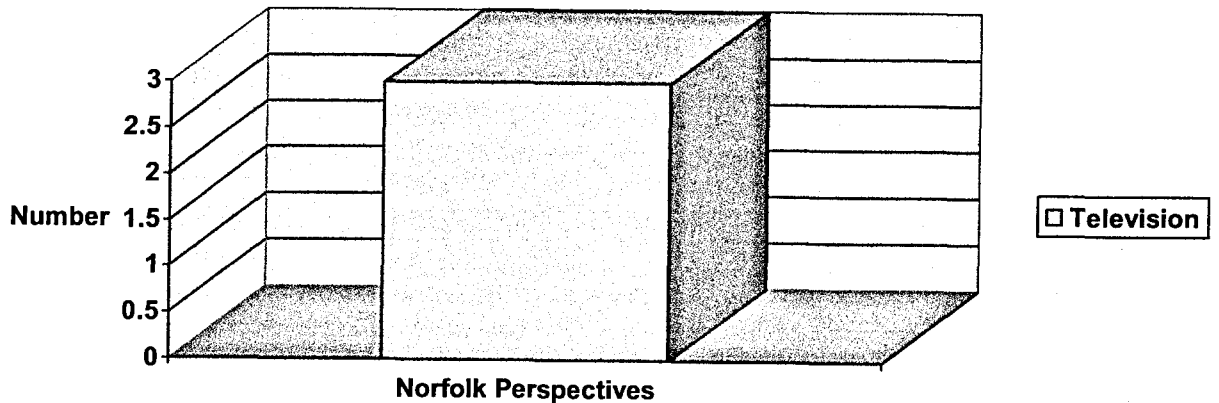
Findings

The typical NFR applicant reflective of the demographic data was a 24-26 years old, white male, with some college background. This applicant may have had some previous training as a volunteer firefighter, EMT-B, or possibly served in the Navy. The recruitment sources for this typical applicant most likely included the NFR Web Site, a Friend/Family member, a Current or Retired NFR employee or a banner.

Recruitment Survey Overview-Recruit Applicants

Fifty-six of the recruit applicants completed the entire hiring process and were treated as a second sample group. This groups' data was analyzed a second time to identify any majority characteristics. Three surveys were blank and not included in the analysis.

Finding

The data mirrors the entire applicant pool, with the typical applicant being a 24-26 year old white male, some college, volunteer Firefighter, EMT-B, and Navy. This person was most likely recruited by the NFR website, a friend/family member, and/or banners.

The Professional Military applicants represented approximately 20% of the entire applicant pool. Upon examining the recruit applicant data, one in three of these applicants made it through the hiring process to end up as a recruit applicant.

Analysis Of Variance (ANOVA) Results

The independent variables of Professional Military and Professional Experience were compared to the dependant variables of Sources and Hire. An analysis of variance (ANOVA) examined if any of these comparisons resulted in a significant relationship. Using a .01 or .05 level of significance, the analysis shows no significant relationship between the two independent and two dependent variables. Professional experience (.161 significance score) in firefighting or emergency medical services and professional military background (.134 significance score) did not affect applicant recruitment sources. Neither professional experience (.168 significance score) in firefighting or emergency medical services nor a professional military background (.451 significance score) affected the candidates' eligibility to become a recruit applicant. Based on the significance values, no relationship shows enough of a difference to relate any significant finding. See ANOVA Tables 1-4.

ANOVA Table 1 (Professional Experience –Sources)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	9.605	3	3.202	1.734	.161
Within Groups	432.126	234	1.847		
Total	441.731	237			

ANOVA Table 2 (Professional Military –Sources)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4.196	1	4.196	2.263	.134
Within Groups	437.535	236	1.854		
Total	441.731	237			

ANOVA Table 3 (Professional Experience –Hire)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.331	1	.331	1.912	.168
Within Groups	40.866	236	.173		
Total	41.197	237			

ANOVA Table 4 (Professional Military –Hire)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	.461	3	.154	.882	.451
Within Groups	40.737	234	.174		
Total	41.197	237			

Hypothesis and Research Questions

The hypothesis and research questions are provided below with the findings listed with each.

1.   The typical applicant is around the ages of 24-26 with some college background.

Finding

Accepted-Table A (Between Subjects and Factors)

As expressed shown in Table A, the majority in the categories of age and education was 24-26 and some college background.

2.   The typical applicant will have been recruited through the categories of internet

and/or from banners outside of fire stations throughout the city.

Finding

Rejected- People and Internet

It was found that the categories of People and Internet were the most common recruitment sources, with 76% and 69% respectively.

3.   The demographic data will show that a majority of the applicants will be Caucasian

males, with less than 35% minority applicants.

Finding

Accepted- Table A (Between Subjects and Factors)

The majority of applicants were Caucasian with 66%. Minority applicants consisted of 33%. Male applicants were the majority with 88%, while female applicants consisted of 11%.

4.   Subjects who used the Internet were more likely to complete the hiring process and be considered recruit applicants.

Finding

Accepted-Table B (Survey Data-Recruit Employees)

Sixty-one percent of recruit applicants cited the Internet and over 50% who cited People as a recruitment source. Sixteen of these recruit applicants cited both the Internet and People, resulting in 29%.

Research questions that were included in this study are the following:

1. What was the most commonly used recruitment source of applicants to NFR?

Finding

The category of People was the most commonly used source for recruitment. The subcategories of Friend/Family Member and Current or Retired NFR Employees were almost equal in their response at 32% and 31%. Finally, City of Norfolk Employees (non NFR) had a smaller response at 13%.

2. What was the most productive recruitment source of recruit applicants to NFR?

Finding

The category of Internet was the most productive source for applicants who made it through the entire application process. Approximately 61% of recruit applicants cited the Internet as a recruitment source.

3. What are common descriptors of the typical applicant to NFR?

Finding

Table A (Between Subjects and Factors) states that the typical applicant is a white 25 year old male who has completed some college but is without professional military or professional experience in firefighting or EMS.

Conclusion

This chapter provided a detailed data analysis presented in figures and tables. The figures represented the entire sample with each category analyzed with the percentages of the applicants' response. The demographic data revealed that the typical NFR applicant was a 24-26 years old, white male, with some college background. This applicant may have had some previous training as a volunteer firefighter, EMT-B, or possibly served in the Navy. The recruitment sources for this typical applicant most likely included the NFR Web Site, a Friend/Family member, a Current or Retired NFR employee or a banner. The recruit applicant was reflective of the overall sample with the same common descriptors.

Using a .01 or .05 level of significance, the statistical method of ANOVA shows no significant relationship between the two independent and two dependent variables. The significant values of the comparisons were higher than the .05 level of significance, with .451, .168, .161, and .134.

The hypotheses and research questions were then accepted or rejected based on the data analysis. Three hypotheses were accepted and included: the typical applicant is around the ages of 24-26 with some college background, the demographic data will show that a majority of the applicants will be Caucasian males, with less than 35% minority applicants, and subjects who

used the Internet were more likely to complete the hiring process and be considered recruit applicants. One hypothesis was rejected; the typical applicant will have been recruited through the categories of internet and/or from banners outside of fire stations throughout the city. This hypothesis was found to be rejected due to the sources of People and Internet where the typical applicant was recruited.

The research questions answered included: what was the most commonly used recruitment source of applicants to NFR, what was the most productive recruitment source of recruit applicants to NFR, and what are common descriptors of the typical applicant to NFR? All questions were answered at the conclusion of this study. The category of People was the most commonly used source for recruitment. The category of Internet was the most productive source for applicants who made it through the entire application process. The typical applicant is a white 25 year old male who has completed some college but is without professional military or professional experience in firefighting or EMS.

Summary, Discussion, and Recommendations

This chapter will summarize the study approach, discuss the findings and provide recommendations.

Summary

The purpose of this study was to discover the most used recruitment sources from the applicants to NFR. Another desired discovery was to find the common descriptors of the typical applicants. A non-random research design was developed and used to collect data from the 2006 Norfolk applicant pool. The data was collected by administering the survey to the applicants who sat for the written exam of the hiring process.

In summary, the study findings included the common descriptors of the typical applicant and also the most commonly used source and most productive source. The typical applicant in this study was a 24-26 white male with some college background. As the independent variables of professional military and professional experience were not in the majority of the subcategories, these were not considered typical.

The category of People was the most commonly used recruitment source of applicants at 76%. With a NFR referral of 31% and a City of Norfolk referral combining NFR and others at 44%, this response should elicit more investigation in an employee referral program.

The Internet was the most productive source when analyzing recruit applicants. More recruit applicants cited this source as where they were recruited. Online recruitment has proven successful when measuring web site hits and resume acquisition. The estimated circulation of the specific web sites is greatly larger than the other type of media used, namely newspaper print and journal. Also, the

distribution area includes a national audience, which can be important for those applicants looking to relocate. The NFR Web site was visited by more than half of the 2006 applicants.

Examining all sources in this study was performed to evaluate the effectiveness of all activities of NFR recruitment. Although not a formal process, employee referral was determined to be successful and certainly an area that NFR could develop. The Internet was determined to be the most productive and would be expected to continue to be a strong recruitment source. This source is currently in place by NFR, but could be greatly improved to allow the applicants more user ability. Having military experience was not found to have great statistical importance, but may be an area that NFR can put more resources towards and explore the relationship between past experience and recruit applicant status.

The other resources were determined to be less commonly used and less effective overall for recruit applicants. Banners and Print Ads had a combined total of 41%, but Banners were determined to be more effective than Print Ads by 11%. Only one category of Print Ads was determined successful, and it was the "Virginia Pilot."

Both Job Fairs and Community Events were determined to only represent a combined 27% response from the applicants. These recruitment sources are often expensive and do not provide a large return of applicants to NFR

The category of television represented a 3% response and was determined to be an uncommon source as well as ineffective. This source was used due to the low impact on the budget, because the cost was free. The audience reached by the particular program could have been small and not typical of the applicants who were overall recruited.

Overall, the evaluation of recruitment sources was completed to allow NFR to make strategic choices when selecting which recruitment sources to employ during a hiring process. It was determined

that the categories of People and Internet were the most common and effective. The other sources were evaluated for their effectiveness and determined to be less than ideal when working with a small budget. The information included in this research will hopefully assist future decision makers within NFR to attract more applicants who will be successful through the process and eligible to be hired as employees.

Discussion

An applicant with past military experience would be expected to have a one in three chance of being successful in the application process and being considered a recruit applicant

A referral program would give compensation or money back to current employees when their referral applicant was retained successfully with the City of Norfolk after a certain amount of time. This type of formal program might help motivate the current employees to recruit qualified applicants.

Maximizing the amount of information about the application and hiring process on the NFR Web site would inform more than half of the applicants about NFR. Increasing the amount of information available to the applicants through the NFR Web site would be attractive to those applicants who were recruited through this medium.

Updating the web site to reflect the current terminology of the positions and integrating hyperlinks to the job application and other information would increase the ability to use the site. The status of an application and an updated calendar of recruitment events are two key items that applicants are looking for on the site and would prove helpful in retaining their interest. Possible inclusion of an online networking community like "MySpace" or "Facebook" could connect those interested applicants to actual NFR employees. This interaction could prove beneficial to those interested in talking to actual employees and mangers before applying. Direct

access to a recruiter including phone number, email and instant messaging would enable the applicant to talk with a recruiter and dispel any questions they may have about the application process or organization. Streaming video and/or live audio would be attractive to the younger worker who is comfortable with the latest technology.

Recommendations

It is recommended that NFR update its Web site to attract more applicants and answer questions either by descriptive text or hotlinks. A dedicated number to contact recruitment staff and possibly live chat would be attractive for interested applicants. The Web site was visited by more than half of the 2006 applicants and was the most productive source for recruit applicants. With additional information and ease of use, this source could become increasingly effective for little cost. Also, the Web site can continuously be updated to reflect the status of the hiring process and current recruitment events.

The source of People is effective in attracting applicants to NFR, but less effective in obtaining recruit applicants that successfully complete the entire hiring process. By creating a formal program within NFR, the current employees could become motivated to recruit qualified applicants. This type of program is beneficial for the employee and NFR.

It is recommended for NFR to reutilize the Banners due to their high visibility and also use the "Virginia Pilot" in combination with an online "Virginia Pilot" advertisement. The other subcategories of Print Ads were determined unsuccessful and should be reevaluated for cost before repeated implementation.

It is also recommended to only attend those events that are free to accommodate a small budget. Also, if NFR decides to spend some money in this area, concentrate on high school and

technical colleges due to the majority of applicant educational experience. Those events that had a high minority response would also be important for NFR to consider when selecting events to attend.

Conclusion

NFR has common and productive recruitment sources in the categories of People and Internet. Both sources can be amended to better serve the future NFR applicant. With a formal employee referral program, the employee will be better informed of the qualifications of the applicant and motivated to assist applicants during the hiring process. The Internet can easily be updated to include a better reflection of current recruitment activity and an opportunity for each applicant to contact the recruitment staff. Other recruitment sources that NFR currently uses can be analyzed for cost efficiency and productivity of applicants. Some sources may need to be eliminated for low use and production of recruit applicants. Low-cost or no-cost sources also need to be analyzed for production of recruit applicants and goal acquisition of NFR.

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Table A- Between –Subjects Factors

		N
Age	18-20	44
	21-23	47
	24-26	51
	27-29	26
	30-35	40
	36-40	23
	41-45	5
	46+	2
Gender		2
	Female	27
	Male	209
Race/Ethnicity		2
	Asian	2
	Birac	9
	Black	52
	Hispanic	9
	Indian	1
	Other	3
	Pacific	3
	White	157
Education Level	Assoc	9
	Bachelor	28
	GED	14
	High	64
	Master	4
	SoCo	119
Prof-Military	0	191
	1	47
Professional Exp	0	158
	2	27
	3	32
	4	21

Table B

Recruit Applicant Survey

Survey	Age	Gender	Race/	Education	Profes	Job Fair	Comm	Print Ads	Televis	Internet	Banner	People	Write-In
						Calvary Revival Church	Career Fair-i Norfolk		Perspectives Cable TV Show		Banners		
1	36-40	Male	White	High School							Banners		
5	24-26	Male	White	Some College									
7	36-40	Male	Black	High School	Navy		ITT-Norfolk				NFR Websi Banners		City of Norfolk Employees
9	24-26	Male	White	Bachelor			Brambeltc	VA Pilot	Norfolk Pe	NFR Website			Current or Retired NFR/Friend-Family
10	30-35	Male	Hispanic	Some College	Army					NFR Website			
18	30-35	Female	White	Bachelor	Navy					NFR Website			City of Norfolk Employees/Friend-Fam
20	24-26	Male	White	Bachelor						NFR Website			
22	24-26	Female	Black	Some College	Navy/Nur	TCC Job Fair-Va Bch	Flag Ship					Friend-Family	
24	30-35	Male	White	High School							Banners		
25	18-20	Male	White	High School								Friend-Family	
39	41-45	Male	Black	Some College									
40	18-20	Male	American	High School	EMT-Basic					NFR Websi Banners		Current or Retired NFR.	
46	24-26	Male	Black	Some College									
58	30-35	Male	Black	Some College	Air Force					Other Fire Website			
60	24-26	Male	White	Some College	FF-Vol/EMT-Shock Trauma					NFR Website			
64	18-20	Male	Black	High School								Friend/Family Member	
67	24-26	Male	White	Some College	Army/EMT-Basic					NFR Website			
73	30-35	Male	Black	Some College	FF-Vol/FF-Prov/EMT-Intermediate					NFR Website			
83	30-35	Male	Black	Some College							Banners	Current or Retired NFR.	
85	30-35	Male	White	High School	Army					NFR Website			
88	18-20	Male	White	Some College						NFR Website			City of Norfolk Employees/Friend/Fam
89	30-35	Male	White	GED	Navy/FF-Vol					NFR Website			
115	27-29	Male	White	Bachelor				VA Pilot		NFR Websi Banners		Friend-Family Member	
121	30-35	Male	White	Some College	Navy						Banners	Current or Retired NFR/Friend-Family	
130													
134	24-26	Female	White	Bachelor	FF-Vol			VA Pilot		NFR Website			

Survey Age Gend Race/ Education Profes Job Fair Comm Print Ads Televis Internet Banner People Write-In

Survey	Age	Gend	Race	Education	Profes	Job Fair	Comm	Print Ads	Televis	Internet	Banner	People	Write-In
135	36-40	Female	Black	Some College	FF-Pro/EMT-Basic					Other Fire Website			Current or Retired NFR
139	27-29	Male	White	Some College	FF-Pro/EMT-Basic								
141	24-26	Male	White	Some College	FF-Vol/EMTCC	Job Fair-Va Bch		Norfolk Pe		NFR Websi	Banners		Current or Retired NFR
145	24-26	Male	White	Some College	Marines			VA Pilot		NFR Websi	Banners		Current or Retired NFR/City of Norfolk
147													
169												Banners	
172	36-40	Male	Black	Some College	FF-Vol					NFR Website			Current or Retired NFR/City of Norfolk
173	36-40	Male	Hispanic	Bachelor								Friend-Family Member	
175	21-23	Male	Black	Some College								City of Norfolk Employees	
186	30-35	Male	White	High School	Navy					NFR Website			
187	24-26	Male	White	Some College	FF-Vol					NFR Website			
189	24-26	Male	Black	Some College						NFR Website			
191	30-35	Male	White	High School	FF-Pro					NFR Website			
200	18-20	Male	White	Some College						NFR Website			
201	21-23	Male	White	Bachelor	FF-Vol					NFR Website		Friend-Family Member	
212	21-23	Male	White	Some College						NFR Website		Friend-Family Member	
218	41-45	Male	White	Some College	Navy					NFR Website			
224	18-20	Male	White	Some College			Home-a-rama East Beach, Norfolk			NFR Websi	Banners		
231	24-26	Male	White	Some College	Navy					NFR Websi	Banners		Current or Retired NFR/City of Norfolk
235	27-29	Male	Hispanic	Some College	Air Force					NFR Website			Current or Retired NFR/Friend-Family
236	18-20	Male	Black	Some College						NFR Website		Friend-Family Member	
242	27-29	Male	White	Some College				Norfolk Pe		NFR Website			Current or Retired NFR/Friend-Family
247	27-29	Female	Hispanic	Some College									Current or Retired NFR
255	21-23	Male	Black	Some College				VA Pilot		NFR Website			Current or Retired NFR
261	24-26	Male	White	High School	FF-Vol					NFR Website			Friend-Family Member
264	36-40	Male	Black	High School									City of Norfolk Employees
266	24-26	Male	White	Bachelor	EMT-Basic								City of Norfolk Employees
268	18-20	Male	White	GED									Current or Retired NFR
284	24-26	Male	White	Some College	FF-Vol/EMT-Basic/Nurse								Current or Retired NFR

Appendix A

Recruitment Survey

In an effort to capture the demographic data of applicants, we ask that you fill this form out completely. Please mark "A" on your scantron for all that apply in each category.

For example under AGE, if you are 25 years old, you would mark "A" next to number 3 on the scantron sheet and continue to the next category of GENDER.

Age
1. 18-20
2. 21-23
3. 24-26
4. 27-29
5. 30-35
6. 36-40
7. 41-45
8. 46 +

Gender
9. Female
10. Male

Race/ Ethnicity   Select one or more if applicable
11. American Indian or Alaska Native
12. Asian
13. Black or African American
14. Native Hawaiian or Other Pacific Islander
15. White or Caucasian (non-Hispanic)
16. Hispanic or Latino
17. Bi-racial/Multicultural
18. Other

Education Level   Please check highest level completed
19. GED
20. High School
21. Some College
22. Associate
23. Bachelor
24. Master
25. Doctoral

Professional Experience
26. Army
27. Navy
28. Air Force
29. Marines
30. Coast Guard
31. National Guard
32. Firefighter-Volunteer
33. Firefighter-Professional
34. EMT-Basic
35. EMT-Shock Trauma
36. EMT-Enhanced
37. EMT-Cardiac Technician
38. EMT-Intermediate
39. EMT-Paramedic
40. Nurse (Any Level)

In an effort to focus our department efforts towards successful recruitment sources, please review the list below. Mark "A" on your scantron for all that applies to your specific recruitment with Norfolk Fire-Rescue.

For example under JOB FAIR, if you were recruited at Old Dominion University and through a family member, you would mark "A" next to both numbers 46 and 71 on the scantron sheet. Please mark as many that apply to your specific recruitment.

Job Fairs
41. Cavalry Revival Church Career Fair, Norfolk
41. Norfolk/WVEC Small Business Job Fair (Constant Center), Norfolk
42. ITT Technical Institute Job Fair, Norfolk
43. Regional Armed Forces Job Fair, Chesapeake
44. Military Job Fair, Hampton Roads Chamber of Commerce, Va. Beach
45. Military Officers Association Job Fair, Va. Beach
46. Old Dominion University Job Fair, Norfolk
47. Norfolk State University Job Fair, Norfolk
48. Tidewater Community College Job Fair, Va. Beach
49. Diversity Job Fair, Norfolk
50. MacArthur Mall Job Fair, Norfolk

Community Events
51. Brambleton Community Outreach Center, Norfolk
52. Civic Leaders Picnic, Norfolk
53. EMS Picnic, TEMS, Norfolk
54. EMS Week Display, various malls in Hampton Roads
55. Home-a-rama East Beach, Norfolk
56. Harbor Fest, Norfolk
57. Afr'am Fest, Norfolk

Print Ads
58. Compass
59. Virginia Pilot
60. Flag Ship
61. Going Ashore/TAPS
62. School Sports Poster

Television
63. Norfolk Perspectives Cable TV Show

Internet
64. Norfolk Fire-Rescue Web Site
65. Other Fire Web Site
66. EMS Web Site
67. Professional Organization Web Site (International Association Firefighters, International Association of Black Professional Firefighters)

Fire Station Banners
68. Posted at various locations throughout the City of Norfolk

People
69. Current or Retired Norfolk Fire-Rescue Employees (including retirees)
70. City of Norfolk Employees (Other than Norfolk Fire-Rescue employees)
71. Friend/Family Member

Other Categories/Write-in Remarks:

_____
_____
_____

Appendix B

Compiled Recruitment Sources Listing Highest Percentage to Lowest

Norfolk Fire-Rescue Web site	60%
Friend/ Family Member	32%
Current or Retired NFR Employees	31%
Banners	26%
Virginia Pilot	15%
City of Norfolk Employees (non NFR)	13%
Other Fire Web site	6%
Harbor Fest, Norfolk	3%
MacArthur Mall, Norfolk	3%
Norfolk Perspectives Cable TV Show	3%
Old Dominion University, Norfolk	3%
Tidewater Community College, VA Beach	3%
Afr'am Fest, Norfolk	2%
Calvary Revival Church, Norfolk	2%
EMS Picnic, TEMS, Norfolk	2%
EMS Web site	2%
Brambleton Community Outreach Center	1%
Civic Leaders Picnic, Norfolk	1%
Diversity, Norfolk	1%

EMS Week Display, Hampton Roads	1%
Home-a-rama East Beach, Norfolk	1%
ITT Technical Institute, Norfolk	1%
Military Job Fair, HRCC, VA Beach	1%
Norfolk State University, Norfolk	1%
Professional Organization Web site	1%
Regional Armed Forces, Chesapeake	1%
Military Officers Association, VA Beach	0%
WVEC Small Business, Norfolk	0%
Compass	0%
Flag Ship	0%
School Sports Poster	0%
Going Ashore/TAPS	Blank

Appendix C

Complete Recruitment Survey Results-Categories listing Highest subcategory to Lowest

Age

24-26	21%
21-23	19%
18-20	18%
30-35	16%
27-29	11%
36-40	9%
41-45	2%
46+	1%
Blank	3%

Gender

Male	85%
Female	11%
Blank	3%

Race/Ethnicity

White or Caucasian (non-Hispanic)	64%
Black or African American	21%
Bi-racial/Multicultural	4%

Hispanic or Latino	4%
Asian	1%
Native Hawaiian or Other Pacific Islander	1%
Other	1%
American Indian or Alaskan Native	0%
Blank	4%

Education Level

Some College	48%
High School	26%
Bachelor	11%
GED	6%
Associate	4%
Master	2%
Doctoral	Blank

Professional Experience

Firefighter-Volunteer	17%
EMT-Basic	15%
Military-Navy	11%
Firefighter-Professional	3%
Military-Army	3%

Military-Marines	3%
EMT-Paramedic	2%
EMT-Intermediate	2%
Military-Air Force	2%
Nurse	2%
Military-National Guard	1%
EMT-Enhanced	0%
EMT-Shock Trauma	0%
Military-Coast Guard	Blank
EMT-Cardiac Technician	Blank

People	**76%**
Friend/ Family Member	32%
Current or Retired NFR Employees	31%
City of Norfolk Employees (non NFR)	13%

Internet	**69%**
Norfolk Fire-Rescue Web site	60%
Other Fire Web site	6%
EMS Web site	2%
Professional Organization Web site	1%

Banners	**26%**
Job Fairs	**16%**
MacArthur Mall, Norfolk	3%
Old Dominion University, Norfolk	3%
Tidewater Community College, VA Beach	3%
Calvary Revival Church, Norfolk	2%
Diversity, Norfolk	1%
ITT Technical Institute, Norfolk	1%
Norfolk State University, Norfolk	1%
Regional Armed Forces, Chesapeake	1%
Military Job Fair, HRCC, VA Beach	1%
Military Officers Association, VA Beach	0%
WVEC Small Business, Norfolk	0%
Print Ads	**15%**
Virginia Pilot	15%
Compass	0%
Flag Ship	0%
School Sports Poster	0%
Going Ashore/TAPS	Blank

Community Events	**11%**
Harbor Fest, Norfolk	3%
Afr'am Fest, Norfolk	2%
EMS Picnic, TEMS, Norfolk	2%
Brambleton Community Outreach Center	1%
Civic Leaders Picnic, Norfolk	1%
EMS Week Display, Hampton Roads	1%
Home-a-rama East Beach, Norfolk	1%

Television	**3%**
Norfolk Perspectives Cable TV Show	3%

Appendix D-IRB Approval

UNIVERSITY OF RICHMOND INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF RESEARCH PARTICIPANTS
NOTICE OF ACTION

Date: 4/6/06

Name(s): Beth Bruner

Faculty ☐   Student ☒   Other ☐

Faculty Mentor: Marcia Gibson

Is this for a class? ☒ yes   ☐ no
If yes, department and course number HRM 533 U

Project Title: The 2006 Applicant of Norfolk Fire-Rescue:Validating Recruitment Sources

The IRB has reviewed your research protocol by ☐ full review ☒expedited review.
Your application is:

☒	Exempt from further review	Your project does not fall within federal or university guidelines requiring review. If the nature of the project changes, you must resubmit this project for further review.
☐	Approved	Please review the criteria for approval at the end of this form.
☐	Approved with conditions	Please respond via email to the Chair of the IRB how you plan to address the concerns outlined at the end of this form.
☐	Third party verification required.	
☐	Disapproved	The IRB has some concerns regarding your proposed research; therefore, your project cannot be approved at this time. Please contact the Chair of the IRB to discuss the issues outlined at the end of this form.
☐	Incomplete	A decision on your protocol has been temporarily withheld until the information listed at the end of this form is provided for IRB consideration. Please send this information to the Chair of the IRB via email.

Kathy HokeKathy Hoke
10/03/06
Kathy Hoke, Chair   Date
Institutional Review Board (8089)

Notes: Please respond by email to concerns at end. Concerns addressed in attached.

Final Approval 10/3/06
Conditions of Approval

If your project has been **approved** by the University of Richmond Institutional Review Board for the Protection of Human Participants (IRB), this approval is based upon the conditions listed below. It is your responsibility to ensure that your research adheres to these guidelines.

1. IRB approval is for a period of one year. If this research project extends beyond one year, a request for renewal of approval (http://as.richmond.edu/facstaff/irbresources.htm) must be filed.
2. All subjects must receive a copy of the **approved** informed consent form. Unless a waiver of signature was given, researchers must keep copies of informed consent forms on file for three years.
3. Any substantive changes in the research project must be reported to the chair of the IRB. Changes shall not be initiated with IRB approval except where necessary to eliminate apparent immediate hazards to the subject. Based on the proposed changes, a new review may be necessary.
4. Any adverse reaction or other complication of the research which involves real or potential risk or injury to the subject must be reported to the Chair of the IRB immediately.

If your project has been **approved with conditions** or **disapproved,** or if your protocol is **incomplete**, please respond to the following concerns/questions of the IRB. Please send revisions or additional information to the Chair via email.

You are providing conflicting information. You say in the IRB protocol that you will track respondents through the remaining steps of the application process. You then say on the consent form that "your answers cannot be linked to you personally at any time." Which is it? The consent form needs to be clear.

What will happen to the surveys when you are finished gathering data?

You do not say on the consent form that this is for a class. Is it to part of your master's thesis? Will it be a class paper? This needs to be clear on the consent form.

Exactly how will the survey be collected? We need to guarantee that confidentiality is maintained and that someone can turn in a blank survey if they choose.

How will you guarantee that participants do not feel coerced into completing the survey if "someone in charge" is asking them to complete it while they are taking a written test on which employability depends?

Beth Bruner
Biography

Beth Bruner, a firefighter/paramedic for the City of Norfolk for the past seven years has served as an instructor for various recruit firefighter classes involved in the Tidewater Regional Fire Academy. Mrs. Bruner has held a position as the Emergency Medical Services (EMS) Programs Coordinator for Norfolk Fire-Rescue Training Center. During that time, she helped Norfolk Fire-Rescue (NFR) receive accreditation for an Emergency Medical Technician (EMT)-Intermediate program from the Virginia Department of EMS. For the past three years, she has also participated in the Special Projects and Human Resource Committee for Norfolk Fire-Rescue.