

# **Improving the Candidate Selection Process at the Violet Township Fire Department**

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## CERTIFICATION STATEMENT

I hereby certify that the following statements are true:

1. This paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

2. I have affirmed the use of proper spelling and grammar in this document by using the spell and grammar check functions of a word processing software program and correcting the errors as suggested by the program.

Signed: \_\_\_\_\_

Printed Name: Michael J. Little

## ABSTRACT

The problem this study addressed was if the current candidate selection process at the Violet Township Fire Department fully evaluated potential new hires for the position of Firefighter/EMT-Basic or Firefighter/EMT-Paramedic. The purpose of this study was to identify dimensions and evaluate the current candidate selection process at the Violet Township Fire Department, and to develop revisions to the process if warranted. The research design consisted of a literature review and a survey of Ohio fire departments that were either township or volunteer. The survey was a 25% sampling size of the total departments meeting the criteria.

Evaluative research was used to answer the following questions:

1. Does the current selection process produce the candidates desired?
2. What components can be included in the selection process to improve and more fully evaluate potential candidates?
3. What processes are other civil service and non-civil service fire departments successfully utilizing in Ohio?
4. What costs will be incurred by the Violet Township Fire Department if changes to the process are implemented?

The survey elicited information about the candidate selection process. The survey and the literature review identified that the Violet Township Fire Department process was very similar to most other departments' processes. However, other departments' rate physical ability testing as an important tool in the evaluation process and nearly 50% include it in their process. The Violet Township Fire Department does not require such testing at this time.

Recommendations included (a) adding a physical ability testing requirement to the selection process, (b) conducting additional research into using written/aptitude testing, (c)

conducting additional research into using psychological testing/evaluation and, (d) repeating the survey to include all volunteer and township departments, or, just combination departments.

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## INTRODUCTION

### **Statement of the Problem**

Personnel costs are the single highest budget item for the Violet Township Fire Department. Because this is true, it is imperative for the department to fully evaluate candidates prior to hiring. Statistically, over the past two years, the current selection process has a 50% success rate. In other words, 50% of those hired over the past two years are still with the department. This rate may be due to a low quality candidate pool or flaws in the selection process. The current process may not fully evaluate potential candidates, especially in dimensions related to the fire service.

*The problem this study will address is whether the current candidate selection process at the Violet Township Fire Department (VTFD) fully evaluates potential new hires for the position of Firefighter/EMT-Basic (FF/EMT-B) or Firefighter/EMT-Paramedic (FF/EMT-P). The current process is comprised of an application, a personal interview and a background investigation. The background investigation includes a check with personal references, previous employment references, a driving abstract and a Bureau of Criminal Investigation (BCI) inquiry. This current process is not consistent. For example, the interview committee is not comprised of the same people each time, and the interview questions change from one hiring process to the next.*

In addition, the current process does not test the candidate's physical abilities, personality or behavior. Because of this lack in testing, the process may not allow for the selection of the most physically capable candidates. Furthermore, without personality or behavioral testing, the process may allow for the selection of candidates who possess traits that are in conflict with the traits of FF/EMT-B or FF/EMT-P or the department itself.

The current process has little cost to the department. They compensate those individuals who serve on the interview team with overtime for the full-time personnel and straight time for the part-time personnel. The costs of the driving abstract and the BCI inquiry are paid by the candidate. Therefore, if the Township adds other testing methods to this process, there will be more costs involved, specifically for the personality or behavioral testing.

An effective selection process will enable the department to develop a more complete evaluation of candidates before they are selected, thus allowing for the selection of the most qualified person(s) for the position(s). The research method for this study will be evaluative.

### **Purpose of the Study**

*The purpose of this study is to identify dimensions and to evaluate the current candidate selection process at the Violet Township Fire Department, and to develop revisions to the process if warranted. The results of this study will be submitted to the administrative staff for their review.*

### **Research Questions**

*The research questions this study will investigate are:*

1. *Does the current selection process produce the candidates desired?*
2. *What components can be included in the selection process to improve and to more fully evaluate potential candidates?*
3. *What processes are other civil service and non-civil service fire departments successfully utilizing in Ohio?*
4. *What costs will be incurred by the Violet Township Fire Department if changes to the process are implemented?*

## **BACKGROUND AND SIGNIFICANCE**

The Violet Township Fire Department (VTFD) is a combination department made up of three stations and located in the northwest corner of Fairfield County, Ohio. The Department serves approximately 40,000 residents in a 42 square mile area. It provides fire, rescue, prevention and advanced life support emergency medical services (EMS). The Department employs 12 volunteers, 23 part-time firefighters and 46 full-time firefighters. In 2008, the Department responded to approximately 4,300 runs (both fire and EMS). The operating budget for 2008 was \$8.8 million; 61% of this went to personnel costs.

The current selection process consists of an application for employment, a personal interview and a background check. The background check includes investigating personal and previous employment references, obtaining a driving abstract, plus running a Bureau of Criminal Investigation abstract. There is no physical agility or Candidate Physical Ability Test (CPAT) required. No psychological or aptitude testing is required either. This selection process is for the hiring of candidates as volunteers. Once hired as a volunteer, members must complete an orientation that includes proficiency in driving the vehicles and using the equipment properly. When this is completed, the volunteers have the opportunity to apply for part-time positions. When the need arises to hire full-time personnel, they are selected from the part-time pool of employees. It is imperative, therefore, that the process fully evaluates potential candidates. The argument can be made there is a lower quality candidate pool from which to choose. Also, candidates may not be willing to work in a volunteer position in order to attain a paid position. By the same token, the current process may not provide the in-depth evaluation needed to weed out the candidates that do not match the needs or personality of the department or the fire service.

Statistics indicate the current process has not proven reliable in selecting the most qualified candidates. Of the 17 selected in the past two years, four have not been able to complete the orientation book in the required 12 month period after being hired. Four others with advanced qualifications and experience, FF/EMT-B or FF/EMT-P, were unable to complete the same orientation in a shorter time frame (two to four months) as expected. One person had no credentials when hired and is currently attending both fire school and EMT-B school. Excluding the last person, only 50% of those hired have completed their orientation in the approved time frame. The orientation process includes completing various tasks including vehicle driving, tool use and care, review of Standard Operating Guidelines (SOG), review of the department's Systems Manual, review of the EMS protocols and daily operations at each station. The completion of this process varies according to each candidate's level of experience.

Perhaps the reason for this statistic is the selection process has not changed since 1986. This was the first year of full-time employment; prior to this date, the department was all volunteer personnel. Now candidates are hired into the system as volunteers and have 12 months to complete the orientation book. Minimum requirements for volunteer personnel include a 36-hour fire card and EMT-B. Once the orientation book is completed and a professional firefighter course has been finished, the employee may request to be tested for movement to part-time status. The minimum requirement for part-time personnel is FF/EMT-B. The part-time members have scheduled hours to work, and the Department selects future full-time employees from this pool. Full-time firefighters are required to have FF/EMT-P. This system of hiring gives the Department the opportunity to further evaluate personnel for open positions.

This hiring process and maintaining these personnel are the largest cost annually to the Department. The Department must hire the most qualified, physically fit people since their main

function is providing service to the community and representing the Department. It must be noted that any potential changes to the current process have to meet legal requirements including federal law such as the Americans with Disabilities Act (ADA), and/or, Equal Employment Opportunity Commission (EEOC) guidelines.

Results of this study will be presented to the VTFD administrative staff for their review and ideally will change the current selection process. As stated earlier, the majority of the budget is personnel costs. The Department must evaluate properly any potential candidates so as not to waste the time and money involved in hiring and training candidates that do not fit the needs of the Department. The Department also must find candidates who fit the fire service personality. Some of these characteristics include initiative, self-motivation, flexibility and dependability. Also included is the ability to work under stressful conditions, the ability to follow directions and to work as part of a team. *The potential impact this study could have on the Violet Township Fire Department is selecting those candidates who meet the qualifications for the position, and, who are competent, physically fit and who fit the personality of the fire service and the Department.*

## **LITERATURE REVIEW**

Vikesland (n.d.) questions, “Most of us would not get married after the first date, so why do so many companies hire employees with little knowledge of who they are hiring?” Employee selection is a difficult and complicated process for the fire department. It impacts not only the person(s) selected but the department as a whole. Edwards (2005) states, “Most managers admit that employee selection is one of their most complicated and important

decisions.” Vikesland (n.d.) agrees and writes, “It is one of your company’s most important decisions.” Personnel expenditures comprise the bulk of most budgets.

In 2008, Violet Township Fire Department spent 61% of its budget on personnel costs. Bates (2009) states in his research, “The hiring of a firefighter is a million dollar investment for the department.” His basis for this number includes the salary over 25 years, benefits, retirement contributions, training and equipment issued. This estimated investment may prove to be two to three times that amount. Billikopf (2003) sums up the hiring process best by stating, “Hiring the right person for the job may be the most critical management decision you will make.”

The selection process can consist of a number of steps depending upon the method a department chooses to use. Edwards (2005) documents seven “devices” in the selection process:

- Application Form
- Written Exam
- Physical Ability Test
- Interview
- Reference Check
- Background Investigation
- Medical Examination

In his article, Billikopf (2003) states a well-designed selection process will yield information about a candidate’s skills and weaknesses. In turn, this allows the employer to make a more informed selection. He goes on to say the candidate(s) can be evaluated using the application, interviews, tests, reference checks, letters of recommendation and physicals. He continues to write that some tools are better than others, but it is best to use a combination of them for the best results.

Likewise, the International Association of Fire Fighters (IAFF) Professional Fire Fighter Manual (1997) lists specific training and physical requirements for firefighters. Those requirements include passing a written test; tests of strength, physical stamina, coordination and agility; and a medical exam including a drug screening. The same manual also lists knowledge, skills and abilities expected of firefighters, FF/EMT-B and FF/EMT-P. Some of those include:

- Mechanical aptitude
- Meeting fire service physical and medical standards
- Ability to function in an atmosphere of discipline and teamwork
- Ability to perform physically arduous work requiring strength and agility during training, in performance of assigned duties and in all kinds of weather
- Ability to establish and maintain effective work relationships with superiors, other employees and the public

The National Fire Protection Association (NFPA) outlines other requirements for firefighters in *Standard 1001: Standard for Fire Fighter Professional Qualifications* (2007). It states that the Authority Having Jurisdiction (AHJ) may set the minimum educational, age, medical and physical fitness requirements for a firefighter. This standard also mentions that the physical fitness requirements shall be validated. Posthuma (2002) addresses legal acceptance by stating, “As a result of the statutory framework and the judicial decisions, it is now clear that employers must be prepared to justify the use of their selection procedures if they have adverse impact.”

The literature reviewed, therefore, seems to agree that the necessary components of the selection process include an application, interviews, reference checks, background investigations and a medical exam. The components not listed include written tests, physical ability/agility

tests and psychological/personality tests. In his article, however, Billikopf (2003) writes that tests can be used to measure knowledge, ability, skills, aptitude, attitudes, honesty and personality. The balance of this Literature Review will concentrate on three testing areas. They include psychological/personality tests, physical ability/agility tests and written/aptitude tests.

### **Psychological/Personality Testing**

These tests measure the candidate's intelligence, abilities and aptitudes, behavior, personality characteristics and group dynamics. Fischler (2001) found that measuring and analyzing the previously listed domains can tell the company (department) a lot about potential employees, and they can assist in making predictions about the future performance of an individual. He also states that the most important psychological characteristics are:

- Intelligence and problem solving skills
- Judgment
- Honesty and integrity
- Attitudes toward supervision
- Leadership
- Absence of bias
- Team orientation
- Absence of alcohol and drug abuse
- Stress tolerance

In her article for Knight-Ridder Newspapers, Stafford (2005) writes that pre-employment assessments are becoming more common in the work world. She writes that the tests are sometimes used as a first step to reduce applicant pool sizes. A survey done by Management

Recruiters International and quoted in her article says that nearly 30% of all companies use personality tests to assist with hiring decisions. She goes on to say that companies can be protected from charges of illegal discrimination in hiring by using a well-designed, pre-employment assessment tool.

On the other hand, Younts (2003) found her department had fallen short when assessing the psychological traits of firefighter candidates. Her department did not administer psychological testing and that left the department without any knowledge of the mental stability of its candidates. She also found that most authors in her literature review agreed that it is imperative to know the traits and core values of candidates before investing time and money to train them. Her research concluded that any test given must be not only specific to and/or related to the job, but it must also be validated by the department.

In contrast, the DiSC Classic Personality Assessment was used by Bryan (2006) to find the personality of the Forest Park Fire Department in Forest Park, Ohio. This test is used to evaluate the personality of candidates. The results of the assessment reflected a “high dominance/low influence culture” (Bryan, 2006). These people are very active in dealing with problems and are influenced by data and facts instead of feelings. The recommendation from his research was to administer the DiSC Personality Assessment to all future firefighter candidates before employment. The premise is to eliminate those candidates with a conflicting result as they may be dissatisfied with the job.

In addition, in 2004, Robertson researched the use of comprehensive examination and interview procedures during the hiring process. He found that properly identifying qualified candidates using these procedures increased the chances of selecting good personnel and decreased the chances of discipline or termination of the employee after hiring. He

recommended using recognized personality and psychological testing along with physical testing and interview procedures for the candidate selection process.

Another article written by Premier (n.d.) states "...organizations will not succeed in identifying, attracting, developing and retaining the right people without profiling emotional and social skill sets necessary for the particular job." The article goes on to state that organizations are relying on psychological-based testing to identify people "who have the propensity to serve..." (Premier, n.d.).

Gilliam (1999) also found there was a need for psychological fitness evaluation prior to hiring due to the increased incidents of workplace violence. He notes that law enforcement has long required the need for identifying psychological traits that predict success. His survey results showed that firefighters generally agreed that personality traits, psychological fitness and physical fitness were predictors of success. Furthermore, he found it necessary to identify the personality traits of his department so as to hire candidates with similar traits.

Through his survey, Bates (2009) found that the respondents felt psychological testing was effective in identifying the candidates' ability to get along and in analyzing their personality traits. One respondent to the survey felt his department had technically competent people, but they possessed values different from the organizational values.

The literature, therefore, suggests a number of reasons for the use of psychological/personality testing, but there may be some drawbacks to doing so. Billikopf (2003) states that the candidates can easily fake the answers, and the tests are offensive because they pry into personal areas not related to the job. Eisenberg and Katz (1999) suggest the employers who use tests such as the Minnesota Multiphasic Personality Inventory (MMPI) "could be in serious legal trouble." They state that the test is vulnerable to misinterpretation,

misuse and may violate the Americans with Disabilities Act (ADA). They continue to say that the test may be considered a medical exam which is prohibited until after a conditional offer of employment. Their conclusion is that using psychological tests, such as the MMPI, opens the door for legal problems.

Poskey (n.d.) takes a different stance and writes that using testing in the selection process reduces the possibility of being sued because:

1. The selection process is fairer.
2. It helps companies comply with federal requirements.
3. Companies do not hire problem employees.

The article goes on to say that he has not found a court case in which a company was found liable due to testing, as long as the test was validated and had no adverse impact against a protected class. He concluded that it is more important to use all available means to screen potential employees.

Another possibility for psychological testing is to use a psychologist who specializes in public safety. Public Safety Psychology is one such business, and it is based out of Albany, New York. The services provided include a battery of tests, an interview and a written report summarizing the psychologist's evaluation. The cost is \$250 to \$275 (B. McIntyre, personal communication, December 14, 2009) per evaluation plus any travel costs. It may be possible to have the testing done locally if there is a specialist in the area. One key component of the testing is that it should not be done until after a conditional offer of employment. This testing is considered a medical evaluation and is subject to following federal guidelines for such evaluations.

Polygraphs are another testing method to use when evaluating candidates. The cost of the test can range from \$200 to \$800 according to Lie Detector Tests, Incorporated (n.d.) based in Tampa, Florida. This company also provides service in Ohio. However, some pitfalls are associated with polygraphs. Most psychologists question the validity of the results (American Psychological Association, 2004). Their theory is that there is no evidence that a unique pattern of physiological reactions is related to deception. For example, honest people may be nervous when taking the test and results reflect deception, or, dishonest people may be calm when tested and appear truthful. In 1998, the Supreme Court voted that state and federal governments may ban the use of polygraph evidence in court (Biskupic, 1998). The Court's decision sends a signal to all employers that the accuracy of the polygraph may be in doubt. The Justices stated that there was no consensus that the test is reliable. *Application of the Employee Polygraph Protection Act of 1988 (29 CFR 801)* bans the use of polygraphs by most private employers, but the local, state and federal governments under section 29 CFR 801.10 are excluded (United States Department of Labor, 1991). Employers that are using or plan to use the polygraph should be aware of this decision and the fact that it casts doubt about the accuracy and reliability of the test.

### **Physical Ability/Agility Testing**

The IAFF and the International Association of Fire Chiefs (IAFC) developed the Wellness-Fitness Initiative (WFI) which includes the Candidate Physical Ability Test (CPAT). "The goal of the CPAT is to test for those who are physically prepared to be trained to perform the job of firefighter" (International Association of Fire Fighters, 2007). The CPAT was designed specifically for the fire service. It is a widely used and comprehensive physical ability test. The test is made up of eight events:

- Stair climb
- Hose drag
- Equipment carry
- Ladder raise and extension
- Forcible entry
- Search
- Rescue
- Ceiling breach and pull

Since firefighting is one of the most dangerous occupations in the United States and Canada (International Association of Fire Fighters, 2008), the research by the IAFF and the IAFC found there was a need for a high level of physical fitness to safely perform the necessary duties in the fire service.

Furthermore, Rosolen (2002) states that since the mid 1980s candidates must pass New Hampshire's Physical Ability Test (PAT). The problem with the PAT is that it was not validated by any organization. His research showed that the CPAT has been validated by the United States Department of Justice, and it is becoming the nationally accepted physical test for candidates to complete.

Wright (2005) also questioned the effectiveness of his department's PAT (Cary Fire Department, Cary, North Carolina). He found that the department's PAT did not "accurately evaluate an applicant's physical ability to meet the strenuous physical demands required of firefighters" (Wright, 2005). His recommendation was to adopt the CPAT as the department's physical ability test for new candidates.

However, in her research, Marohl (2001) found the CPAT is being used to ensure candidates are physically capable of performing the duties of a firefighter. She also notes that the testing process must be valid, and the CPAT meets that requirement as stated previously.

There are drawbacks to physical ability/agility testing if the process is not validated. Wright (2005) documented three requirements the test must meet to be considered valid:

1. The test must be legal.
2. The test must be reflective of the essential job functions of a firefighter.
3. The test should not create disparate impact on any protected group.

Edwards (2005) adds that the PAT can be a relevant predictor of successful job performance. He also cautions that tests of strength may adversely impact women, certain races and applicants with disabilities.

### **Written/Aptitude Testing**

Edwards (2005) also addresses the written testing process and writes that most written tests are considered cognitive ability tests. This type of test measures verbal comprehension, reasoning ability and mathematical skills. He cautions the test's level of difficulty must relate to the job for which the candidate applied. He also states properly constructed and administered exams have positive results related to validity and reliability.

In the research survey for his Ohio Fire Executive paper, Bates (2009) found that 86% of the respondents used some form of written test. Of that number, more than half rated this process effective, mostly effective or highly effective. In the same survey, he also found the written test was one of the top two most commonly used components in the hiring process.

Therefore, the literature review suggests that various testing methods may be beneficial to fully evaluate candidates applying for the position of firefighter. Two common themes

emerge about testing. One is the process must be validated. The second is the tests must be related to the job for which the candidates are applying.

### **Township Law/Department Policies**

The Ohio Revised Code (O.R.C.), chapter 505.38, section A, paragraph 2 (Appointment of firefighting personnel), states that no person can receive an appointment unless he/she has passed a physical exam by a licensed physician or other healthcare worker as listed in this section. According to the O.R.C., a person passing this exam meets the physical requirements necessary to perform the duties of a firefighter. This is true as long as the township is not Civil Service because if the township is, Chapter 124 of the O.R.C. applies. Under this chapter, examinations “may include an evaluation of such factors as education, training, capacity, knowledge, manual dexterity, and physical or psychological fitness” (Ohio Revised Code, Chapter 124.23, Paragraph D). In the same manner, there is nothing written in Chapter 505 that prohibits the township from testing candidates for firefighter positions.

The Violet Township Policy Manual does not specify any type of physical testing procedure for firefighter positions. The policy states that personnel are at will employees. Policies regarding firefighting personnel are guided by the Ohio Revised Code, Chapter 505.38.

### **Cost to the Township**

As with any change, there are associated costs. The costs may be to the township or to the applicant. That decision has to be made if any changes are made. Pearson Education (2009) is a supplier of the MMPI testing materials. The MMPI is one of the more common psychological testing methods used. The required Administration Manual for the department is \$55. The testing booklets come in packages of ten and are priced at \$38 per package. Answer

sheets are in packages of 25 and cost \$20-\$22 per package. The cost to score the test ranges from \$13.50-\$21 per test and the price is dependent upon the amount of tests to be scored. Using the lower end of the cost for answer sheets and scoring, testing 100 candidates could cost as much as \$1,810.

As stated earlier in the Literature Review, the cost for a public safety psychologist evaluation can be \$250 to \$275 per candidate. The cost for a polygraph ranges from \$200 to \$800. Again using the lower end of the pricing, testing the top twenty candidates would cost \$5,000 for the psychologist's evaluation and another \$4,000 for the polygraph testing.

In addition, the CPAT is administered at a certified site and the cost is generally the responsibility of the candidate. The Miami Valley Fire/EMS Alliance (n.d.) conducts testing for fire departments in the Dayton, Ohio area. The cost of the CPAT is \$50. As a comparison, the Los Angeles Fire Department (n.d.) charges applicants \$150 to take the CPAT.

Furthermore, Ergometrics (2009) is a company that provides video based aptitude testing for the fire service and other job disciplines. The company has a one-time setup fee of \$150 and a testing fee per applicant that ranges from \$25-\$28 depending on the number of applicants. Again, taking the low end of the fee, testing 100 applicants can cost \$2,500. The fees cover all the needed testing materials, grading and a comprehensive analysis of each applicant. This testing model evaluates the applicant's situational judgment, human relations, teamwork and listening/communication skills. Equally important, multi-tasking ability, problem solving, safety orientation and the handling of difficult and stressful situations are assessed. Excluding the CPAT, if the department chooses not to charge the candidates for the testing, the cost could be well over \$4,000 for 100 candidates. This cost does not include psychological evaluation/testing or polygraphs.

The literature review is very clear about the cost of personnel, and this area is the single highest budget item for most departments. The selection process is difficult, at best, without testing procedures. The review suggests that a high priority is placed upon picking the right person(s) the first time and a well-designed process can aid in the selection of that person(s). Firefighting is a physically demanding job that also encompasses a mental/psychological component and mechanical aptitude skills. The literature suggests that a diversified testing process that includes physical, written and psychological facets may be the best way to evaluate candidates. However, there are some drawbacks, especially with psychological testing. Some authors suggest that candidates may not answer questions truthfully in an attempt to better their scores. Others state that this type of test may be illegal as it constitutes a medical exam, which is not allowed until a conditional employment offer is made. Based on the literature, it appears that physical ability testing and written or aptitude testing tend to be the most common methods in use. The key to both is that the tests are valid and directly related to the job for which the candidate applies. The other area to consider is the cost to the department. Based on the figures above, testing may be as high as \$15,000 for 100 candidates. This figure includes testing only the top twenty candidates by psychologist evaluation and polygraph.

It will be imperative, therefore, for any department to research the laws that exist. This review looked at township law since the author's department is a township fire department. The other factor to consider is the cost of any testing. The bottom line is for the department to use the information presented as a tool to evaluate its current process and to make changes if needed.

## PROCEDURES

A survey tool was used to collect data from other departments in Ohio regarding their current candidate selection process. A copy of the survey is included in Appendix 2 of this document. The information collected includes the items used in the selection process, department size and type, and personnel hired and retained over the past five years. A cover letter was also included with the survey and is Appendix 1 of this document.

The targeted population was the township and volunteer fire departments in Ohio. They were selected since the Violet Township Fire Department is a township department and hires volunteers as well. The addresses of all Ohio fire departments were found on the State of Ohio, Department of Commerce website (State of Ohio, n.d.). The Excel file listed more than 1,200 departments. A query searching for only township and volunteer departments narrowed this number to 411 departments. Due to the cost of mailing and printing the surveys, a decision was made to randomly survey 25% of the 411 departments. Address labels were printed and numbered from 1 to 411 beginning with the letter "A" and progressing in alphabetical order. A table of random numbers was generated. This table is included in Appendix 3 of this document. The starting number was blindly selected. From this point, numbers were selected by moving down the column and then to the top of the column to the right until 103 numbers were selected. The labels selected corresponded to the numbers selected from the table.

The surveys were sent the first week of January, 2010, and responses were requested to be returned by January 29, 2010. Fifty-eight responses were received which is a 56.31% response return. The results were collected and separated using the Ohio Fire Chiefs' Association six geographical regions. A cumulative total of the results is reported in this document in Appendix 4.

### **Definition of Terms**

**Adverse Impact.** This is a hiring that is not justified by the Equal Employment Opportunity Commission's Uniform Guidelines on Employee Selection Procedures.

**CPAT.** This is an abbreviation that stands for Candidate Physical Ability Test. The test "was developed to allow a fire department to fairly obtain a diverse pool of candidates who are physically capable of performing the tasks required in recruit school" (IAFF, 2007).

**DiSC Classic Personality Assessment.** DiSC is an acronym that stands for the four areas of personality assessed which includes dominance, influence, steadiness and conscientiousness.

**SOG.** This is an abbreviation that stands for Standard Operating Guidelines. It may also be written as SOP for Standard Operating Procedures. Either way, it is "the official method of dealing with any given situation as prescribed by department directives, or as understood through exposure to such a procedure over a period of time" (Violet, 2007).

**Combination Department.** This is a department that employs personnel made up of volunteer, part-time and full-time people.

### **Limitations of the Study**

This study is limited by the sheer spectrum of the subject. The hiring process can and may include a number of steps. Each of these steps may need further research of its own before inclusion into the process. This study is an overview of what processes are available in the hiring process. This will be addressed further in the recommendations section of this paper.

A survey was also done to complement the results of this research. The questions in the survey are general in nature asking about hiring processes and demographics of other departments. The results of this survey, although valid, can be interpreted in different ways but still provide the reader with significant information. A more in-depth and pointed survey may be

needed to further the research and to assist in making an informed decision about the hiring process. Future surveys may need to center around a specific facet of the process, such as, psychological testing, to elicit more in-depth information regarding the benefits or detriments. Future surveys need to collect information from departments more similar in size and type to Violet Township. Most of the responding departments were smaller, employed fewer personnel and served a smaller population.

This study was specific to Violet Township Fire Department. Other departments may or may not be able to use these results to properly evaluate their selection process.

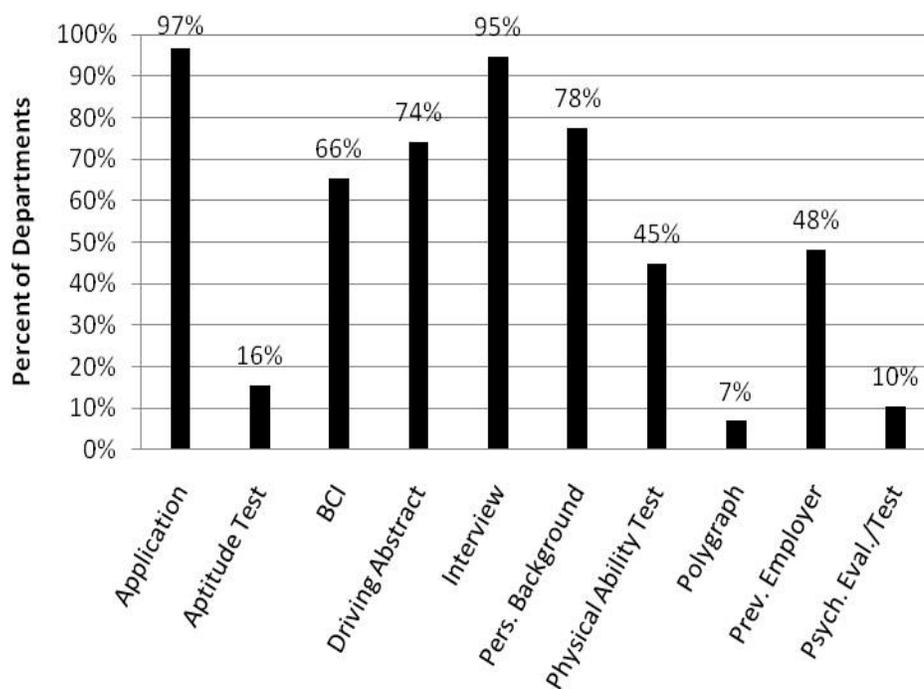
## **RESULTS**

Research question 1 asked if the current process was producing the desired candidates. Based on the statistics over the past two years, only 50% of those hired have been retained and continue to work at a satisfactory level. This is the only objective information available so it makes it difficult to arrive at a definite conclusion. One could surmise that the process is not producing the quality desired if the expectation is for a higher retention rate. The other side is that the system works to rid the department of those that are not qualified.

A survey was done to collect information from other departments in Ohio regarding their hiring processes. The survey was sent to township or volunteer departments. The survey pool was developed from the State of Ohio, Department of Commerce website. The initial pool of departments numbered 411 and a 25% sampling of these departments was done. The sample size included 103 departments. Fifty-eight departments responded to the survey for a 56.31% response rate. The cover letter and survey are included in Appendix 1 and Appendix 2. The complete survey results are included in Appendix 4. The results of this survey relate to research

questions 2 and 3. Question 2 asked what components could be added to the process to improve and more fully evaluate potential candidates. Question 3 asked what processes other Civil Service and non-Civil Service departments were utilizing.

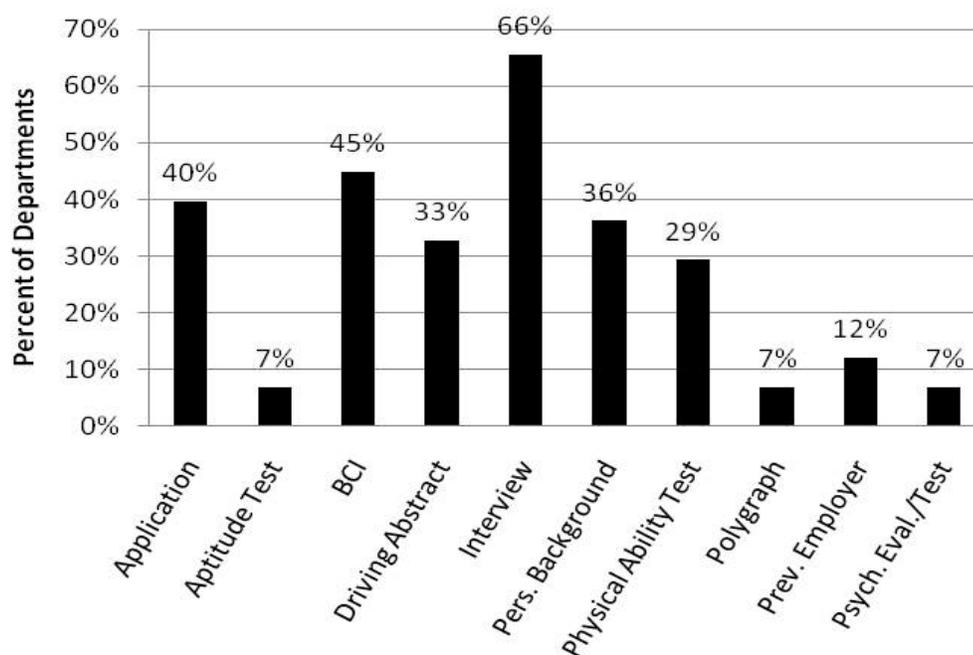
Questions 1-4 of the survey solicited information about the departments' hiring process and what components are included. The current selection process for the Violet Township Fire Department consists of an application for employment, a personal interview and a background check. The background check includes checking personal and previous employment references, obtaining a driving abstract, plus running a Bureau of Criminal Investigation (BCI) abstract. Question 1 asked what components were included in the hiring process. The most used were applications (97%) and interviews (95%). Personal background checks, driving abstracts and Bureau of Criminal Investigation checks were the next most used components. Less than 50% of the departments surveyed used a physical ability test or previous employer reference checks. The least used components were the polygraph and psychological testing/evaluation. Figure 1 shows the complete results for this question.



**Figure 1.**

Components included in the hiring process.

Question 2 asked what three components the department felt were most important for evaluating potential candidates. The top three components in order were the interview (66%), the BCI abstract (45%) and the application (40%). The next three components, in order of importance, were the personal background check, the driving abstract and the physical ability test. As in question 1, polygraphs, psychological testing/evaluation and aptitude testing ranked equally at the bottom. The results are shown in Figure 2.



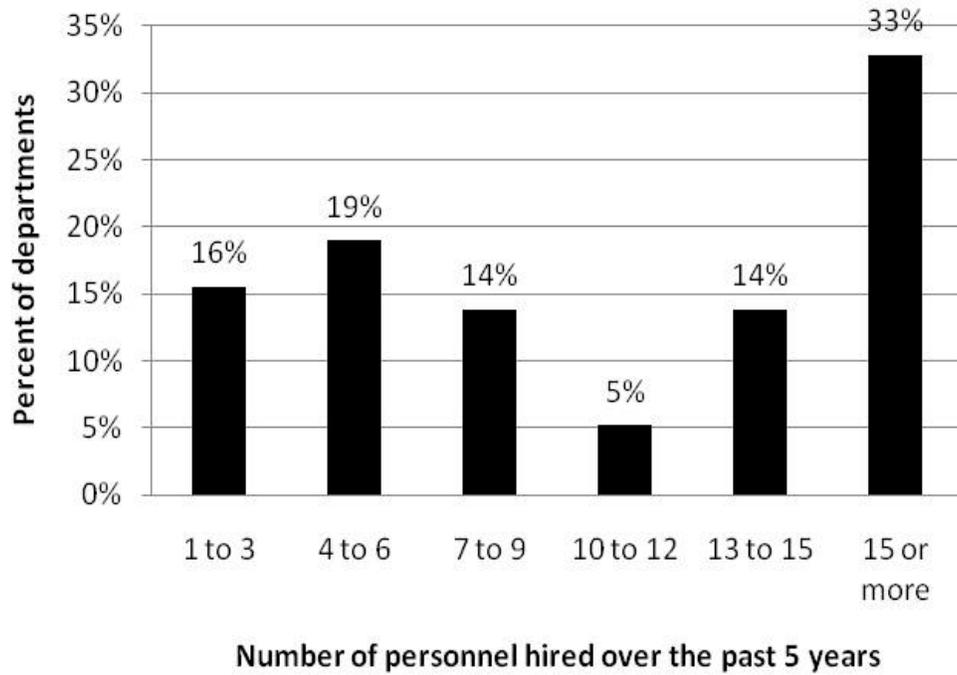
**Figure 2.**

The three most important components used for evaluating potential candidates.

Question 3 elicited more information about psychological testing/evaluation, such as the type of testing used. Of the responding departments, 90% do not use any type of testing in this category. A written test is used in 7% of the departments and 7% use a psychological interview. The total percent is greater than 100% since some departments use both a written test and an interview. Question 4 asked what type of physical ability testing was used. Department developed testing is used in 45% of the departments and the CPAT is used in 3%. Over half (52%) of the departments do not use any type of physical testing.

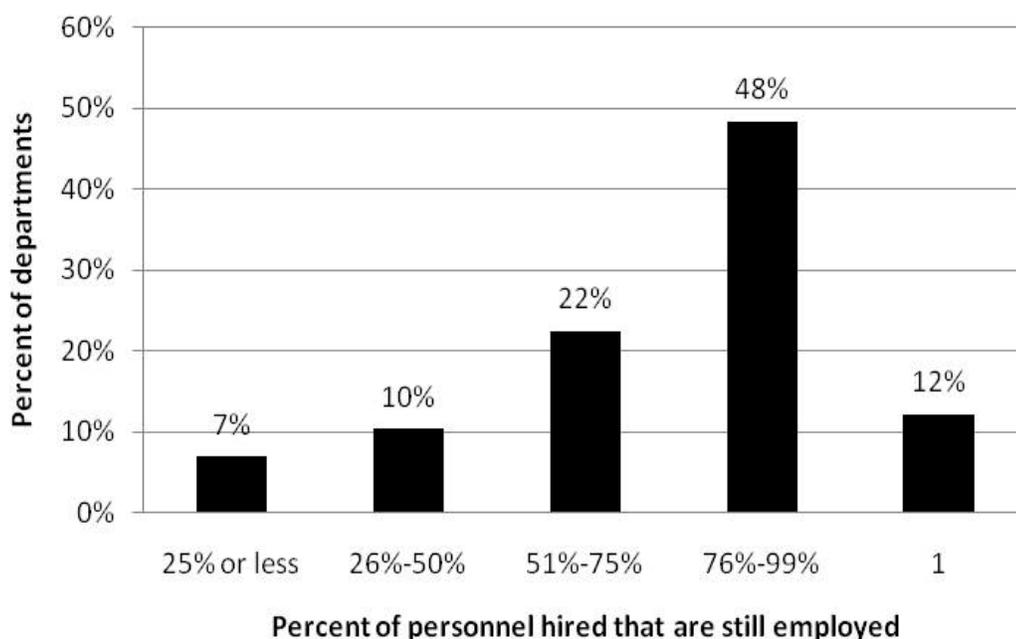
Questions 5 and 6 asked about hiring and retention over a five year period. Of the responding departments, 33% had hired 15 or more personnel over the past five years, and 50% had hired 10 or more (this number includes the 33% previously stated). The respondents'

retention rates were fairly high as 48% of the departments had retained 76-99% of those hired. The retention rate soars to 82% when looking at the departments that retained 51% or more of those hired over the same five-year period. Figures 3 and 4 show these results.



*Figure 3.*

The number of personnel hired over the past five years.



**Figure 4.**

Percent hired that are still employed and rated at satisfactory or better performance (the 1 on the horizontal axis equals 100%).

Questions 7-11 were asked to gather demographic data about the departments. Question 7 asked if the department was career, combination or volunteer. Just over half (52%) were volunteer departments and 45% were considered combination. The other 3% were career. The Violet Township Fire Department is considered a combination department. The response to question 8 found that 93% of the departments were not under Civil Service rules. In question 9, the survey results showed that 86% of the departments employed fifty or less people. Only 3% of those surveyed employed 76-100 people; this is the same range as Violet Township. The majority of the respondents (64%) have only one station. Violet Township has three stations and only 7% of the responding departments had the same. The last question asked for information about the population served by the department. Violet Township serves a population that ranges

from 35,001-40,000 people, but only 2% of the departments fell in this area. The majority (71%) serves populations of 10,000 people or less.

Research question 4 asked what costs would be incurred by the department if changes are made to the current process. This information was found during the literature review. The addition of various testing processes can add thousands of dollars to the cost of the hiring process. Adding written psychological testing and aptitude testing to the process is over \$4,000. The use of polygraphs adds \$200-\$800 per person, and psychological evaluations range from \$250-\$275 per person. The total cost is dependent on how many people the department chooses to test, but it could be a significant budget item, especially in smaller departments. The other option is to have the candidates share the cost or pay the complete cost of any testing.

## **DISCUSSION**

The selection of personnel can be the most important decision a department makes. The cost of personnel encompasses the bulk of most department budgets. Also, there is time involved to orient the new personnel, and the possibility exists that some of these persons will not be retained. Because of these reasons, it is vital to fully evaluate potential candidates during the selection process. Therefore, the use of a combination of selection tools was the prevailing opinion in the literature review. Edwards (2005) cites seven “devices” that should be in the selection process: the application; a written exam; a physical ability test; the interview; a reference check; a background investigation and a medical exam. The survey results showed that most of the responding departments used the application (97%) and the interview (95%) in their process. It is interesting to note that an application is not required by all departments. The other items that scored high in the survey include the personal background check, obtaining a

driving abstract and a Bureau of Criminal Investigation (BCI) check. The survey does not ask about medical exam requirements, but it is part of the process at Violet Township after a conditional offer of employment. The two items not included from Edwards' list are the physical ability test and the written test. Of the responding departments, less than half (48%) use a physical ability test according to the survey. Only 16% of the respondents use a written/aptitude test. One department only requires an application and that is their complete selection process.

According to the survey, the three most important items to include in the selection process are the application, the interview and the BCI check. The physical ability test is the fifth most important item. The literature recommends the use of the CPAT if a physical ability test is included in the selection process. The survey found that 48% of the respondents used a physical ability test. Of that 48%, only 3% used the CPAT, and the remainder used their own department-developed testing. The CPAT was recommended in the literature since it is a validated test and specific to the fire service. In the literature review, most feel it is important to use a combination of selection tools to provide a well-rounded view of potential candidates. The IAFF (1997) specifically discusses the need to evaluate physical ability, stamina and strength. They also state the importance of evaluating the candidate's ability to work with others as part of a team. The NFPA guidelines allow the Authority Having Jurisdiction (AHJ) to set the minimum requirements for firefighter candidates. If a department chooses to follow the NFPA guidelines, an application may be all that is required as one department respondent in the survey showed. Based on the literature review, the necessary components in the selection process are an application, an interview, reference checks, background checks and a medical exam.

Psychological testing proved to be an interesting area of debate. Much of the literature review encourages the use of some form of testing whether it is written or an oral evaluation by a

psychologist. Bryan (2006) suggested using the DiSC Personality Test to evaluate candidates and to compare their results to the department's as evaluated by the same test. The idea is to eliminate those candidates whose personalities do not match the department as they may become dissatisfied with the job. Gilliam (1999) feels testing is needed due to the increased incidence of workplace violence. His theory is that selecting people with similar traits will decrease the potential for the violence. Bates (2009) survey indicated that testing could assist in evaluating the candidate's ability to get along and to analyze his/her personality traits. My survey, however, is dramatically the opposite. Of those responding, 90% do not use any type of psychological testing in their selection process. There is support in the literature review for not using psychological testing. Some suggest that candidates can easily fake answers. The tests and grading are expensive, and if an evaluation by a psychologist is done, this increases the expense. Another major hurdle is the legal question. Eisenberg and Katz (1999) suggest that the test may be considered a medical exam and as such may only be used after a conditional offer of employment. If they are used prior to an offer, the department may be in violation of the law.

The top six survey items used in the selection process include the application, an interview, personal background, driving abstract, Bureau of Criminal Investigation check and previous employer background. These are that same six items that the Violet Township Fire Department uses in their selection process. The top six items considered the most important for evaluation from the survey include the same items except the physical ability test replaces the previous employer background.

The demographics of the respondents in the survey are somewhat dissimilar to Violet Township. Violet Township is a non-Civil Service, combination department that employs approximately 80 personnel. It has three fire stations and serves a population greater than

35,001. Less than half of the respondents (45%) are a combination department and 93% are non-Civil Service. Only 3% employ a similar number of people and 7% have three fire stations like Violet Township. Only 2% of the respondents serve a population of 35,001 or more.

The literature review is fairly clear as to the items that should be included in the selection process for candidates. Some authors question the value of using the written/aptitude testing or the psychological testing processes. However, most are in agreement that a physical testing aspect should be included in the process. Based on the survey results, less than half of the departments have a physical testing requirement; interestingly, this component is in the top six of the most important items used in candidate evaluation. Based on the information from the literature and the survey, it appears that the Violet Township Fire Department has an appropriate candidate selection process in place. However, the demographics of the survey are somewhat dissimilar to Violet Township as written above.

## **RECOMMENDATIONS**

Recommendations for the Violet Township Fire Department that will aid in evaluating and making changes to their candidate selection process include:

- Require a physical-ability test in the process. This can be a department developed test, or, the candidate can be required to have a CPAT certification. The addition of this test allows for an objective evaluation of the candidate and may determine whether he/she can meet the physical demands of the job.
- Conduct additional research related to the use of written/aptitude testing, specifically do the benefits of using such testing in the process outweigh the cost.

- Conduct additional research on the use of psychological testing/evaluation; specifically do the benefits of using the testing justify the cost.
- Repeat the survey including all the volunteer and township fire departments versus the 25% sample size that was done for this research, or use only combination departments in the survey sample.

The candidate selection process is generally not considered a dynamically changing area. Most use the same methods and steps that have been used for years. From time to time, it is important that this process is evaluated just like SOGs and other departmental policies. The department must use a valid and fair process that evaluates potential candidates both objectively and subjectively. The process must also meet all state and federal hiring requirements. The department has to be assured that potential candidates are being fully evaluated prior to hiring. Personnel are the single highest cost to any department and that investment needs to be evaluated fully before money is spent on it for the next 25-30 years.

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**APPENDIX 1 – SURVEY COVER LETTER**

FD Name  
Address  
City, OH Zip

December 30, 2009

Dear Chief,

My name is Mike Little and I am a Battalion Chief with the Violet Township Fire Department in Pickerington, Ohio. I am currently attending Class 9 of the Ohio Fire Executive program sponsored by the Ohio Fire Chiefs' Association. As a requirement of the program, I am doing a research paper. My subject is the hiring process.

I have enclosed a short survey to elicit information about your department and its hiring practices. I am asking for you, or your designee, to fill out the survey and return it to me in the return envelope that came with the survey. A response by Friday, January 29, 2010 would be greatly appreciated. If you want the results of this survey, I will be happy to provide them to you. Please enclose a note with your request and I will send the results as soon as they are available. No data collected from individual departments will be reported separately. All the responses will be reported as grouped data.

I would like to thank-you in advance for taking the time to read this letter and complete the survey. Your assistance will help to enhance and complete my research efforts.

Sincerely,

Michael J. Little  
Battalion Chief  
Mobile: (614) 554-2086

mike.little@violet.oh.us

**APPENDIX 2 – HIRING PRACTICES SURVEY**

1. What items does your department include in the hiring process? (Check all that apply)
  - Application
  - Aptitude Test
  - Bureau of Criminal Investigation Check
  - Driving Abstract
  - Interview
  - Personal Background Check
  - Physical Ability Test
  - Polygraph
  - Previous Employer Background Check
  - Psychological Evaluation/Test
  
2. Of those selected above, which three items are most important when evaluating candidates? (Check only three)
  - Application
  - Aptitude Test
  - Bureau of Criminal Investigation Check
  - Driving Abstract
  - Interview
  - Personal Background Check
  - Physical Ability Test
  - Polygraph
  - Previous Employer Background Check
  - Psychological Evaluation/Test
  
3. If your department does a psychological evaluation/test, is it a/an:
  - Written test (such as the Minnesota Multiphasic (MMPI))
  - Interview with a psychologist or psychiatrist
  - Not Applicable to your department
  
4. If your department does a physical ability test, is it a/the:
  - Candidate Physical Ability Test (CPAT)
  - Department developed test
  - Not Applicable to your department

5. In the past five years, how many personnel has your department hired?
- 1 to 3
  - 4 to 6
  - 7 to 9
  - 10 to 12
  - 13 to 15
  - 15 or more
6. Of the hires in the past five years, how many continue to work at a satisfactory level or above?
- 25% or less
  - 26%-50%
  - 51%-75%
  - 76%-99%
  - 100%
7. Is your department:
- Career (Only Full-time Employees)
  - Combination (Mix of Volunteers, Part-time and Full-time Employees)
  - Volunteer (Only Volunteer Employees)
8. Is your department guided by Civil Service requirements?
- Yes
  - No
9. How many members are on your department?
- 1-25
  - 26-50
  - 51-75
  - 76-100
  - 101-125
  - 126-150
  - 151-175
  - 176-200
  - 200 or more

10. How many stations are in your department?

- 1
- 2
- 3
- 4
- 5 or more

11. What is the population served by your department?

- 1-5000
- 5001-10000
- 10001-15000
- 15001-20000
- 20001-25000
- 25001-30000
- 30001-35000
- 35001-40000
- 40001-45000
- 45000 or more

12. Please provide your FDID number.

I would like to thank-you for completing this survey. Your responses will assist me in completing my research project for the Ohio Fire Executive course sponsored by the Ohio Fire Chiefs' Association.

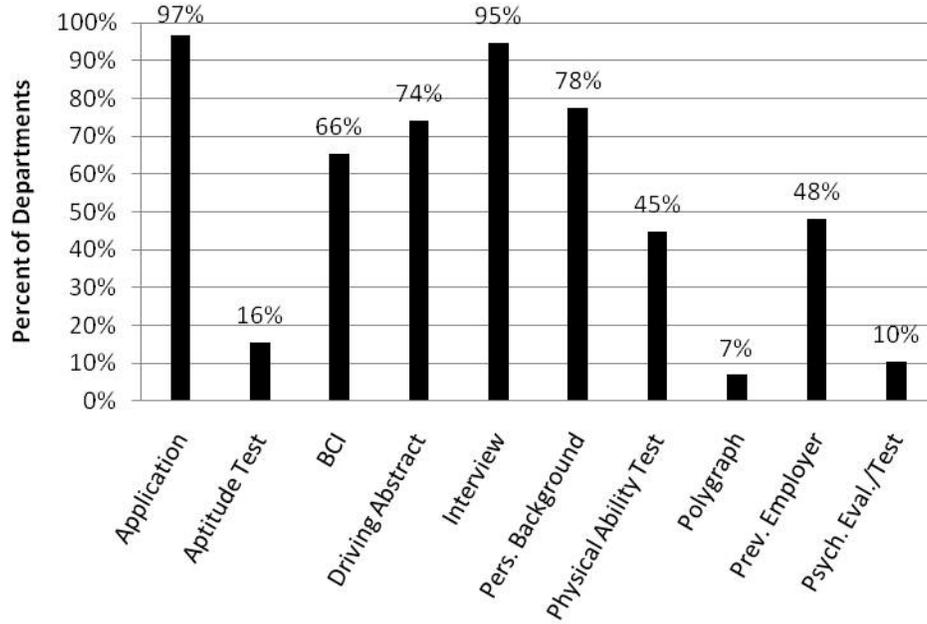
**No data from individual departments will be reported separately.  
All responses will be reported as grouped data.**



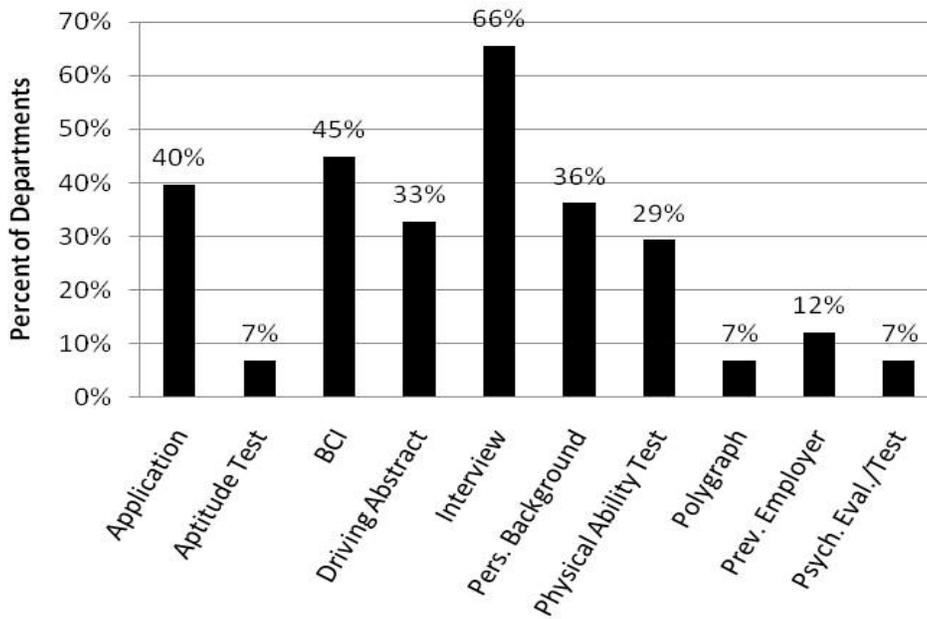
Random Number Set generated on December 28, 2009 from the website <http://www.randomizer.org/form.htm> (Urbaniak & Plous, 2008). My daughter selected the starting number by closing her eyes and pointing to a number on the chart. The number she picked is highlighted. From the starting point, numbers were selected by moving down the column to the bottom and then over to the top of the next column to the right and down. This was repeated until 103 numbers were selected.

**APPENDIX 4 – SURVEY RESULTS**

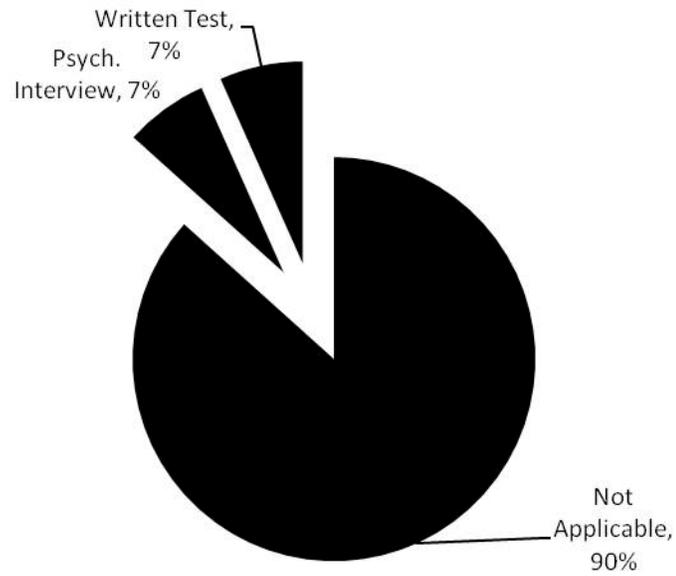
*Figure 1. Components included in the hiring process*



*Figure 2. The three most important components used for evaluating potential candidates.*



*Figure 3.* Types of psychological testing (the total is greater than 100% since some departments use both a written test and an interview).



*Figure 4.* Types of physical testing (the total is less than 100% due to the non-response of some of the departments).

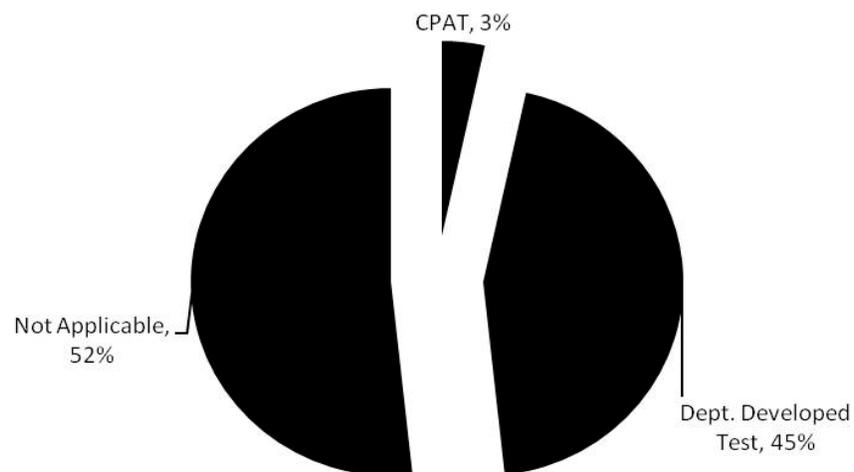


Figure 5. The number of personnel hired over the past five years.

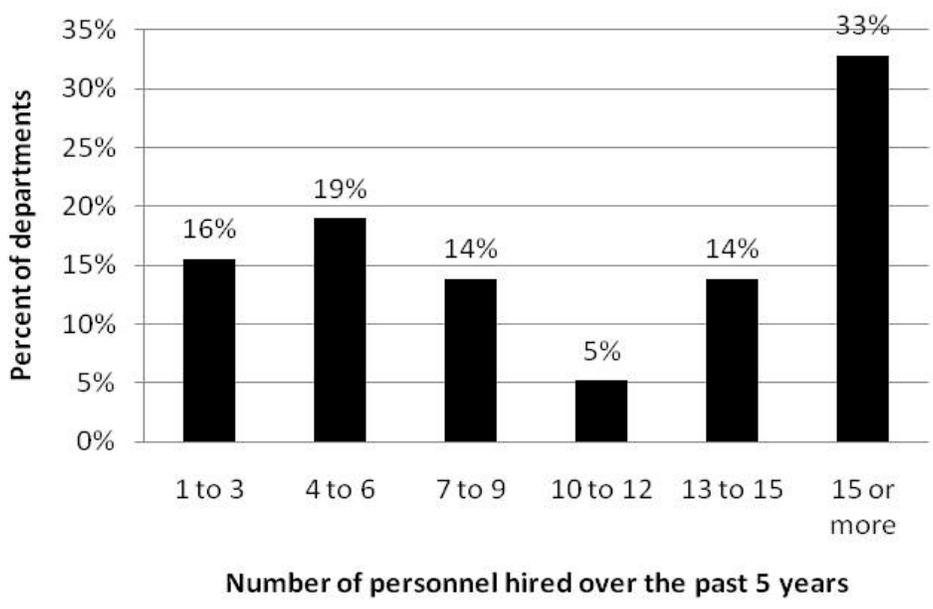


Figure 6. Percent hired that are still employed and their performance is rated as satisfactory or better (the 1 on the horizontal axis equals 100%).

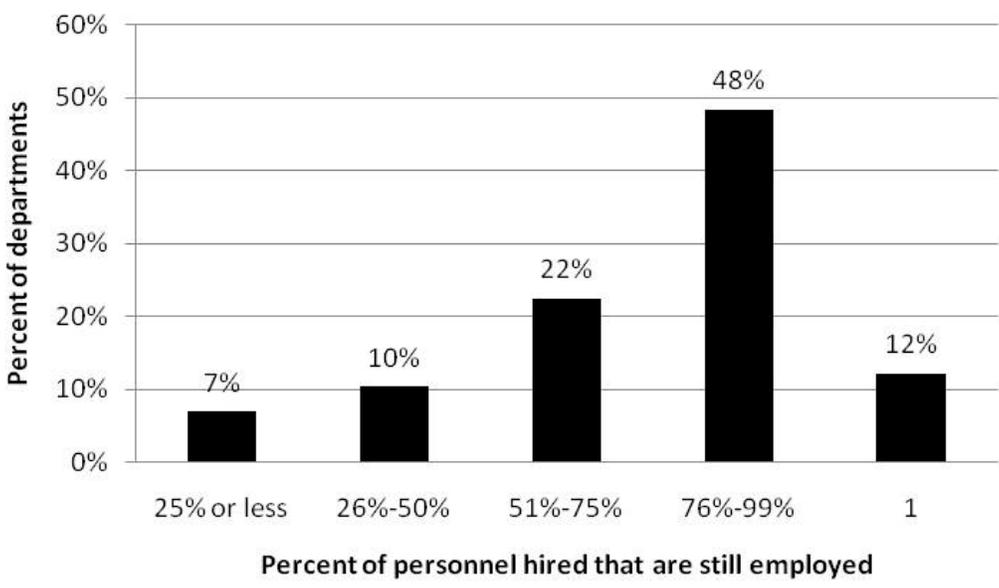


Figure 7. Types of departments.

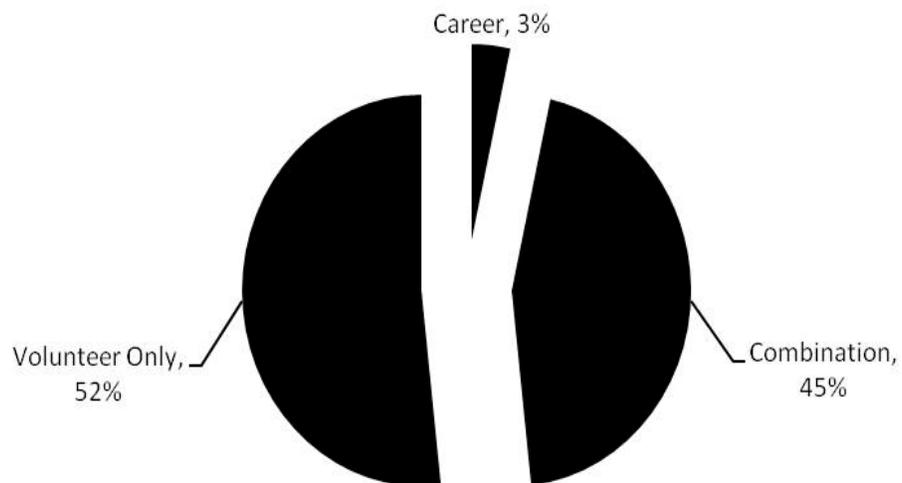


Figure 8. Civil service (yes) versus non-civil service (no).

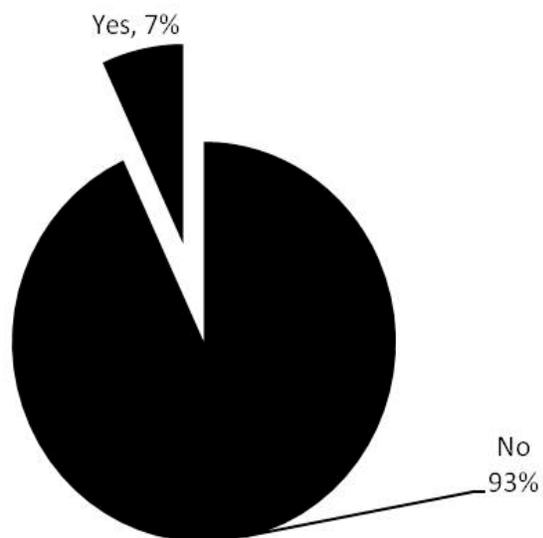


Figure 9. Number of employees in the department.

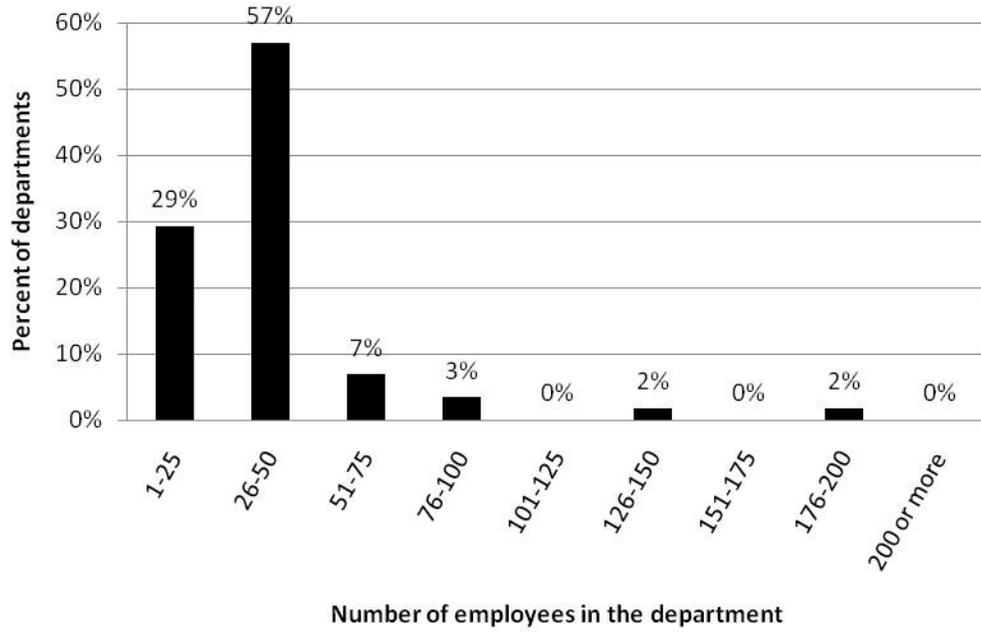


Figure 10. Number of stations in the department.

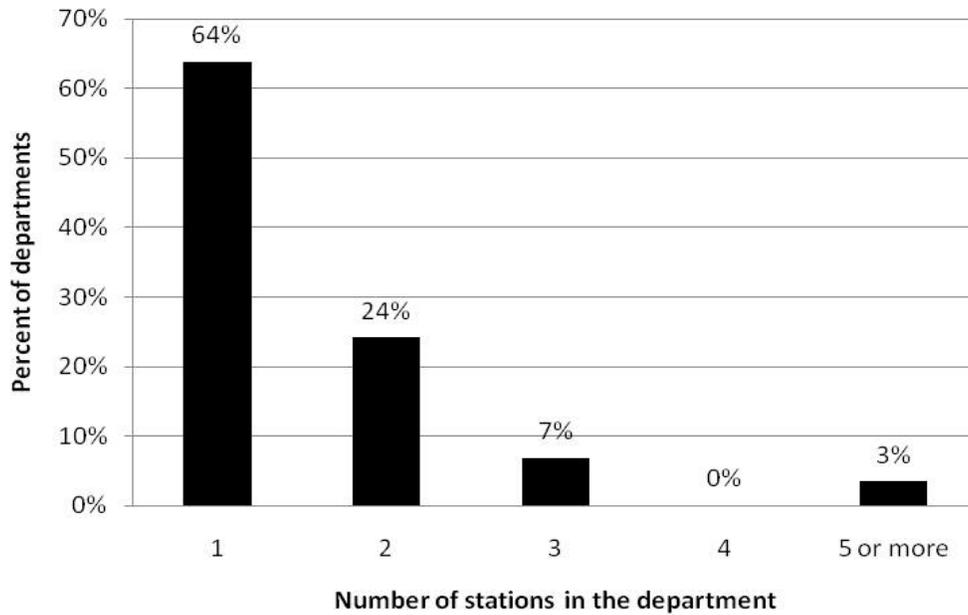


Figure 11. Population served by the department.

