

THE IMPACT OF HUMAN RESOURCE DEVELOPMENT ACTIVITIES ON THE CAREER DEVELOPMENT AND PROFESSIONALISM OF TEXAS PEACE OFFICERS

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CHAPTER ONE

Description Of The Study

Introduction

My purpose in this study is to explore the impact that education and training have on the careers of peace officers, so that sound human resource practices may be set using empirical evidence of the consequences of policy alternatives. Although, it is generally agreed that some education and training are needed for the modern peace officer, there is not universal agreement on how much, if any, college should be required, how much basic pre-service training should be required, and how much inservice training should be required. It is my intent to determine the value of these activities to the careers of peace officers.

NEED FOR THE STUDY

The field of Human Resource Development encompasses both activities of formal education, that is, college and training and other developmental activities (Campbell, 1987, p. 10). Nadler,

who is credited with coining the term in 1969, defined it as "organized learning experiences in a definite time period to increase the possibility of improving job performance and growth" (1984, p. 1.3). In much of this study college education and training will be looked at separately, but their intent is the development of people. In this study when both education and training are being referred to often the term human resource development or HRD will be used.

One way to look at the issue of the value of education and training is through human capital theory (Becker, 1964, 2nd ed., 1975; Woodhall 1987). The idea of human capital refers to the fact that human beings invest in themselves or other people, by means of education, training, or other developmental activities, which raises their future productivity and income increasing their lifetime earnings.

Training is becoming for the workplace what education has been for society at large. Training is seen by some as the panacea for all of the problems of the workplace. This problem is being exacerbated by overly enthusiastic training practitioners that espouse the idea that training is a cure all. The danger of this kind of rhetoric can obviously be seen in the field of corrections in which the public, after having its expectations raised about rehabilitation, demanded results. Corrections officials espoused a similar view of the role of rehabilitation a

decade ago to attract money and support for their programs. When they promised too much and could not deliver the reaction was swift and devastating to those programs. Much of the current "educational reform" has been motivated by a similar thermodynamic reaction.

Leaders in the field of human resource development call for higher and higher commitments saying that it provides a competitive edge to companies. The American Society for Training and Development (ASTD) has noted that employers are spending \$30 billion per year on formal training, or approximately 1 to 2 percent of their payroll. "ASTD believes that this is not sufficient and suggests that employers aim for an ultimate goal of four percent (American Society of Training and Development [ASTD], 1989, p. 1)."

These figures are an underestimate if one considers on-the-job training. Mincer (1989) estimates that the combined costs of formal and informal training is \$296 billion. He found that much more informal training time was conducted than formal with a conservative estimate of over 200 hours per year for informal training. Informal training then is over six times the number of hours of formal training. (p. 14)

The desire to increase productivity through training is certainly understandable because of declines in the increases in labor productivity since 1965. Labor productivity increased 3%

per annum from 1950 to 1965. Since 1965, it has increased 1.7% per year (Lillard & Tan, 1986, p. 1). The emerging interest in training policies is based, in part, on the belief that a greater investment in training will halt declines in labor productivity through enhancing job knowledge and skills. This interest in training policies is also affected by interest in offsetting declines in the international competitiveness of U.S. industries.

The drumbeat for increased education and training has been as strong in law enforcement as any field. This has been spurred for the most part by the advocates of professionalization in policing (Walker, 1977). Many of the current leaders in law enforcement who can remember the time in the not too distant past when they entered the field with absolutely no training are also strong advocates of training. This has led in some cases to people coming to the position that you are either for training or against training with no middle ground tolerated. The battles over mandatory training for new officers entering the field were hard fought in every state in the union. A new battle is on the horizon for mandatory inservice training.

Because of these differing philosophies about the importance and role of training, there is wide variance in the amount of inservice training that officers receive. Data from 1985 showed that over half of the officers in the State of Texas received no

inservice training in a one year period. This has been viewed by some as cause for alarm.

In the field of compensation, there are those that argue that pay for knowledge is a viable way to encourage employee development when that is part of an organization's strategic plan. (Lawler & Ledford, 1985; Ziskin, 1986; Feuer, 1987) In the field of human resource development many advocate the position that training contributes to the performance of employees and the organization. The current situation in many Texas law enforcement agencies is a reflection of these espoused-theories.

Many agencies have for years had a practice of providing financial rewards to encourage officers to obtain additional training and education. These programs were devised to serve several stated purposes:

1. contribute to the "professionalization" of law enforcement;
2. improve the performance of officers and the department; and
3. reduce the organization's exposure to litigation for failure to train their personnel.

The rationale of these programs in getting people to attend training has been based upon the assumption that extrinsic rewards are effective motivators for learning. No one has compared the actual effects of these programs which vary somewhat from agency to agency. For instance, one agency may pay an additional \$50 per month for an associate's degree and \$100 for an bachelor's degree,

while another may pay \$100 and \$200, while another may pay \$1 per college hour, and another may pay a like amount for Intermediate and Advanced Certificates issued by the State law enforcement licensing agency. The issuance of those certificates is based upon a matrix which includes both formal education and training hours with years of experience.

Some agencies have adopted standards that serve as goals for their agency. A typical such goal/standard is that every officer will receive a minimum of forty hours of in-service training every year. The National Advisory Commission on Criminal Justice Standards and Goals has set this as a standard since 1973 (p. 404).

These incentive programs have not been adopted statewide because of the large cost and possibly because there is no empirical data as to their effectiveness in encouraging training or in improving organizational performance. In order to have more training delivered to officers, the State licensing agency for Texas peace officers in 1989, has passed rule 211.100 with language that requires that officers must be provided at least 40 hours of training every two years (Texas Commission on Law Enforcement Officer Standards and Education [TCLEOSE], 1991). This use of a mandatory regulation has obvious negative reinforcement overtones as opposed to the compensation supplements discussed above. It seems rather obvious that additional study of

the impact of compensation strategies can be of use to the planning of human resource development programs in law enforcement and in the workplace in general.

In terms of cost alone, this increased level of training will have a significant impact upon Texas Law Enforcement. If one assumes that the approximately 50,000 peace officers all comply with the 20 hour per year training mandate and one only figures the officer's time at \$10 per hour, the cost per year is in excess of \$10,000,000. This does not include the costs of trainers, facilities, equipment, incentive pay for higher certification achieved, and replacement costs which are usually at time-and-a-half pay. These figures alone strongly suggest that solid empirical data is needed to determine the benefits of such large expenditures.

While training impact is frequently evaluated at a micro level to determine impact, little research has been conducted to determine the consequences of additional training and education to accomplish some abstract goal like professionalization of an occupation. The loose coupling between program components and generally specified aims is what makes analysis of outcomes, especially difficult.

In a review of the literature of transference of training to the job, Baldwin and Ford (1988) found little evidence of learning being put into practice. Estimates are that not more than 10% of

the expenditures for training and development actually result in transfer to the job. (Baldwin & Ford, 1988, p. 63) If it is difficult to demonstrate the effective transference of training to the job in tightly controlled and closely coupled studies, (Baldwin & Ford, 1988; Brinkerhoff, 1987), then the problems of demonstrating a generalized benefit from education and training are difficult.

Large amounts of resources are being invested in both the education and training of law enforcement personnel and those aspiring to a law enforcement career. The driving forces behind these investments are: (1) the desire for law enforcement to be recognized as a profession, (2) civil liability caused by improper behavior by officers, and (3) a sincere desire to do a better job. Several National Commissions have strongly advocated additional requirements for pre-service education and training and inservice training (Commission on Accreditation for Law Enforcement Agencies, 1987; National Advisory Commission on Criminal Justice Standards and Goals, 1973; American Bar Association, 1972; National Advisory Commission on Civil Disorders, 1968).

To make rational determinations about these issues, policy makers need comprehensive information about the amounts and kinds of education and training possessed by different demographic groups, the determinants of education and training, and their effects on the careers of peace officers.

There is on the horizon an opportunity to make a paradigm shift in policing. It requires a move away from the bureaucratizing and militarizing models of policing to thinking about the function of policing as problem-solving (Goldstein, 1979; Eck & Spelman, 1987; Spelman & Eck, 1987; Kelling, 1988; Kelling & Moore, 1988; Kelling, Wasserman, & Williams, 1988; Goldstein, 1990). Making this paradigm shift requires the acceptance of an expanded vision of policing from simply responding to crime scenes after the crime has been committed to proactively defining and framing problems in a way that allows communities to solve them. This expanded vision requires the acceptance of what Goldstein (1990) refers to as these "realities about policing."

Policing consists of dealing with a wide range of quite different problems, not just crime.

These problems are interrelated, and the priority given them must be reassessed rather than ranked in traditional ways.

Each problem requires a different response, not a generic response that is applied equally to all problems.

Use of the criminal law is but one means of responding to a problem; it is not the only means.

Police can accomplish much in working to prevent problems rather than simply responding efficiently to an endless number of incidents that are merely the manifestations of problems.

Developing an effective response to a problem requires prior analysis rather than simply invoking traditional practices.

The capacity of the police is extremely limited, despite the impression of omnipotence that the police cultivate and others believe.

The police role is more akin to that of facilitators, enabling and encouraging the community to maintain its norms governing behavior, rather than the agency that assumes total responsibility for doing so. (p. 179)

To bring this paradigm shift to fruition will require changes in the recruitment, selection, education, training, and development of personnel, in addition to organizational changes. This new police role will require personnel who can function independently, who are skilled at solving problems, who are creative and imaginative, who can make good judgments in choosing among alternatives, and who have the "intellectual capacity to do more thinking about police work" (Goldstein, 1990, p. 166).

RESEARCH QUESTIONS

Our society is investing tremendous amounts of resources in the education and training of people for professional careers. The questions that remain to be answered are: Is more better? Is more professional education and more professional training a universal good with no diminishing returns that should be sought ad infinitum? What are the outcomes of these activities at a macro level? Does this professional education and training contribute to the positive development of a profession/occupation that contributes to the community? Do these developmental activities have an effect on the career of the professional?

This study will look at the impacts upon the law enforcement profession that are made by education and training. The specific questions that will be explored are:

1. Do officers who have more hours of college have a different professional orientation or a different career path experience?
2. Do officers who have more hours of in-service training differ in terms of professional orientation or differ in career path experience?
3. What is the relationship between college education and training?

From these research questions I draw the specific hypotheses in the next section.

Hypotheses

The following hypotheses will be tested during this project.

1. Peace officers who have more hours of college will score higher on professionalism inventories.
2. Peace officers who have more hours of college will be promoted more frequently.
3. Peace officers who have more hours of college will have higher rank.
4. Peace officers who have more hours of college will have more years of experience in a supervisory capacity.

5. Peace officers with a higher grade point average (GPA) will receive more promotions.
6. Peace officers with a higher grade point average will have a higher rank.
7. Peace officers with a higher grade point average will have a higher current salary.
8. Peace officers with a higher grade point average (GPA) will have had a greater gain in their salary.
9. Peace officers with a higher grade point average will have more years of specialized experience.
10. Peace officers who have more hours of college will be more likely to have worked in a specialized career assignment.
11. Peace officers who have more hours of college will make higher salaries
12. Peace officers who have more hours of college will have made greater gains in their salary from the beginning of their career.
13. Peace officers who have more hours of inservice training will have a higher score on professionalism inventories.
14. Peace officers who have more hours of inservice training have received more promotions.
15. Peace officers who have more hours of inservice training will have a higher rank.

16. Peace officers who have more training will have more years of experience in a supervisory capacity.
17. Peace officers who have more hours of inservice training will have more specialized career assignments.
18. Peace officers who have more hours of inservice training make a higher salary.
19. Peace officers who have more hours of inservice training have made greater gains in their salary from the beginning of their career.
20. Peace officers who have more hours of college will have received more hours of inservice training.
21. Peace officers who work for a department with an educational incentive plan will have more hours of college.
22. Peace officers who work for a department with a TCLEOSE Certification incentive plan will have more hours of college.
23. Peace officers who work for a department with a TCLEOSE Certification incentive plan will have more hours of training.

DESIGN OF THE STUDY

The study looked to see if officers with more education and training are more professional and have different career paths than officers with less training and education. The survey

instruments used inventories of professionalism and collected specific data about their career paths (specializations, promotions, salary) and education and training backgrounds. Salary was looked at in terms of human capital theory.

The relationship between training and education was also examined. The study then tried to see if the actual training and education levels varied between individuals in agencies with incentive programs and individuals in agencies without incentive programs. Correlations with motivation items on a questionnaire would reveal the role of intrinsic motivation as compared to extrinsic motivation on the effect of HRD activities systems and the efficacy of expectancy theory.

The methodology used survey data of law enforcement personnel to determine if those with more education and/or training make a larger contribution to the profession in terms of their careers.

DELIMITATIONS AND LIMITATIONS

The sample was restricted to Texas Peace Officers which makes generalizations to peace officers in other states and federal jurisdictions and other occupations subject to routine cautions. The sample was also restricted to large to moderate size local governmental agencies which suggests cautions in this area also.

SIGNIFICANCE OF THE STUDY

This study has significance for state law enforcement policy makers in setting human resource standards and in engaging in human resource planning, administrators of law enforcement agencies in setting policies for their agencies, professional associations in determining appropriate practices to advocate to legislators and state agencies, criminal justice educators and trainers may gain useful information about the influence of their activities, and peace officers trying to decide whether to invest in human resource development activities. Its significance to those outside of criminal justice is probably limited to occupations that are approaching professionalization in a corresponding manner to law enforcement and to the extent that their occupation is similar to law enforcement.

PLAN OF THE STUDY

The plan for this study is presented below.

In Chapter Two, I situate education and training in the field of law enforcement, discuss human capital theory, summarize the literature and research on police professionalization, and summarize research linking education and training with job performance, in general, and law enforcement performance, in particular. A discussion of personnel selection validity is included.

In Chapter Three, I provide the rationale for using a survey to gather my data, describe the survey and the sample, and explain how the data will be analyzed. In Chapter Four, I present the data and analyze it. The data presented will contain both descriptive and inferential statistics.

In Chapter Five, I will present explanations, interpretations, conclusions, and recommendations based upon the data analyzed. In the next chapter, I will begin with a review of the literature.

CHAPTER TWO

Review of the Literature

Introduction

In this chapter, I review the literature concerning professionalization, both in general, and specifically in policing to position police professionalization in the larger notion of professionalism. In addition, the role of human capital theory as a way to understand the utility of human resource development activities is discussed. A review of the police education and training literature is also discussed to situate these activities as the primary tools for professionalization, enhancement of human capital, and career development. Since the present study has broad implications for personnel practices, a discussion of validity issues is included.

PROFESSIONALIZATION

There has been a long on-going debate whether policing is a craft or a profession (Wilson, 1968; Price, 1977; Walker, 1977; Sapp, 1978; Crank, 1990). Wilson (1968) contended that policing is more like a craft because of its generalist, task-oriented work as subordinates in a bureaucratic, quasi-military organization, learning their jobs through apprenticeship, and in the absence of

professional referents to guide the development of values and ideas about practice. What are the differences between craftsmanship and professionalism?

Stephen Graubard in the preface to Professions in America made the following observations of Alfred North Whitehead's approach to distinguishing crafts from professions.

The professions are as characteristic of the modern world as the crafts were of the ancient. Alfred North Whitehead, in developing the distinction between the two, recognized the importance of specialization and institutionalization in creating the professions, but he saw these as secondary developments. For him there had been a prior necessity which was the leap from being satisfied with customary procedures to that of seeing the necessity of organizing and using intelligence in new ways. A craft, he explained, was "an avocation based upon customary activities and modified by the trial and error of individual practice." A profession, in contrast, was "an avocation whose activities are subject to theoretical analysis, and are modified by theoretical conclusions derived from that analysis." An intellectual revolution separated these two activities, and Whitehead's concern was to document it, suggesting its importance for contemporary civilization. (Lynn, 1965, p. v)

The first classic work on professionalism was done by Flexner in 1910. He set six criteria to define professions:

- they involve essentially intellectual operations with large individual responsibility;
- they derive their raw material from science and learning;
- this material they work up to a practical and definite end;
- they possess an educationally communicable technique;
- they tend to self-organization;

they are becoming increasingly altruistic in motivation. (Houle, 1983)

Sixty years later Rose (1974) gave a different six criteria:

association with high-status knowledge;

association with universities;

association with high social class;

association with activities that have high value to many people;

association with beliefs in processes that have acquired a high degree of mystique; and

association with power bases.

Through the years, these characteristics have evolved and include:

a service orientation which does not advance the self-interest of the professional at the expense of the client;

an association with the client based on a dispassionate assessment of the client's needs;

a specialized and largely theoretical body of knowledge acquired during an extended period of formal education;

standards for entry, for professional practice, and for ethical conduct; and

a strong professional association or other mechanism for maintaining professional standards. (Sagen, 1986, p. 129)

These notions of professionalism are dualistic, an occupation either is or is not a profession. Houle (1981) makes a distinction between "professionalism" and "professionalization" with the former being a static concept and the latter being a more

dynamic concept. The notion of professionalism uses canons while the professionalization approach use the idea of characteristics. Absolute criteria are here called **canons** and dynamic ones are called **characteristics**. For example, a canon might be, "A profession must have a clearly formulated code of ethics." A characteristic might be, "A professionalizing occupation should be concerned with the continuing refinement of ethical standards that characterize its work" (p. 27). Characteristics, by their dynamic nature, can take the form of goals for a professionalizing occupation.

From the approach that occupations are professionalizing which is an on-going process which is never fully achieved, we can move away from seeing if occupations meet absolute canons. This approach is called the "process approach" by Cervero (1988). The questions and inquiries about an occupation then move toward, "To what extent does the occupation possess this characteristic and how is it working toward its further refinement?" (Houle, 1981, p. 27)

Wilensky (1964) offers the sequence of steps by which an occupation develops into a recognized profession:

1. full-time activity at the task,
2. establishment of university training,
3. national professional association,

4. redefinition of the core task, so as to give the "dirty work" over to subordinates,
5. conflict between the old timers and the new men who seek to upgrade the job,
6. competition between the new occupation and neighboring ones,
7. political agitation in order to gain legal protection, and
8. development and implementation of a code of ethics.

Most of the focus in law enforcement literature has been on the establishment of college education programs. Most of the emphasis by law enforcement leaders has been on law enforcement training programs.

Houle (1981) considers the professionalizing process as complex along with the lifelong learning to which it gives rise. He lists fourteen characteristics under three categories of characteristics: conceptual characteristic, performance characteristics, and collective identity characteristics associated with the professionalizing process which should be looked at in understanding the goals of pre-service preparation and in the active years of practice.

Conceptual Characteristic

1. Defining its function.

The most dominant characteristic is a concern with clarifying its defining function or functions. (p. 35).

The Performance Characteristics

2. Mastery of theoretical knowledge.

The second characteristic of professionalization is that the practitioners of a vocation should seek mastery of the information and theory that comprise the knowledge base of the profession.

(p.40)

3. Capacity to solve problems.

A third characteristic of a Professionalizing vocation is that its practitioners seek to be able to use theoretical bodies of knowledge to deal with a category of specific problems that arise in the vital practical affairs of the vocation. (p. 42)

The ultimate test of the success of a professional is the ability to solve problems (or to decide that they cannot be solved), and those problems usually involve vital and deeply significant outcomes. Thus, the practitioner must be psychologically prepared to live in a world of uncertainty. Knowledge is growing at a far more rapid pace than is the capacity of the human mind to absorb it. As this expansion occurs, new frontiers requiring further study are discovered. The professional's essential task is not to apply a specific fact or principle to a particular case but to deal with it by the use of a synthesis of all relevant knowledge. As each problem presents itself in its own way (even though it may fit into a familiar general category), the professional must take account of the total pattern of circumstances presented and treat it in a unique fashion, with an awareness that the outcome is always in doubt. (p.43)

This fits in with the paradigm shift in policing toward problem-oriented policing mentioned in Chapter One.

4. Use of practical knowledge.

The fourth characteristic of professionalization is that practitioners have available to them and actually use a substantial body of knowledge and technique that have grown out of the vocation's practical application. (p.45)

5. Self-enhancement.

A fifth characteristic of professionalization is that the practitioners of a vocation should, throughout their years of pre-service learning and work, seek new personal growth of knowledge, skill, and sensitiveness by the arduous study of topics not directly related to their job. (p.47)

The Collective Identity Characteristics

Those who seek seriously to professionalize an occupation try in many ways to establish its collective identity by building systems and structures that foster and maintain conceptual and competency characteristics. Form is important in all such endeavors, but less so than the spirit with which those who seek professionalization try to suffuse it. For example, restricted membership associations, accreditation of instructional programs, licensure of practitioners, and similar devices and procedures are common to many crafts. The professionalizing occupations are distinctive from these other vocations because their leaders seek to encourage and regulate standards of practice based on a profound central mission and on advanced and esoteric bodies of knowledge. (p. 49)

6. Formal training.

The sixth characteristic of professionalization is that formal procedures are established to transmit the essential body of knowledge and technique of the vocation to all recognized practitioners before they enter service throughout their careers.

In the modern era the placement of specialized courses of study in universities or other higher education institutions . . . has become such a dominant method as to be, in the opinion of many people, the hallmark of professionalism itself. (p. 51-52)

7. Credentialing.

The seventh characteristic of professionalization is that formal means are used to test the ability of individual practitioners to perform their duties at an acceptable level. (p. 54).

8. Creation of a subculture.

The eighth characteristic of professionalization is that the vocation nurtures for its members a subculture with distinctive attributes. (p. 57)

9. Legal reinforcement.

The ninth characteristic of professionalization is that legal support or formal administrative ruling protects the special rights and privileges of practitioners. (p. 59)

10. Public acceptance.

The tenth characteristic of professionalization is that the general public is encouraged to become aware of the noble character of the work done by the practitioners of the occupation. (p. 61)

11. Ethical practice.

The eleventh characteristic of professionalization is that a tradition of ethical practice, reinforced by a formal code, is established. (p. 63)

12. Penalties.

The twelfth characteristic of professionalization is that penalties (including denial of the right to practice) are established and enforced for those practitioners who are incompetent or who fail to act in terms of accepted ethical standards. (p. 66)

13. Relations to other vocations.

A thirteenth characteristic of professionalization is that the relationship of the work of the occupation's practitioners and that of the members of allied occupations is clearly established and maintained in practice. (p. 67)

14. Relations to users of service.

The fourteenth and final characteristic is that the formal relationships between practitioners of the vocation and their clients is clearly defined. (p.70)

It is interesting to note that Houle (1981) does not consider law enforcement to be a professionalizing occupation. In the following passage, he lists law enforcement as one of the nonprofessionalizing occupations. Even though there are legal restrictions required for admission.

All occupations are controlled by general laws--such as those having to do with child labor and minimum wages--and people who work in many nonprofessionalizing vocations, such as farm operators, labor leaders, and law enforcement officers, also receive special support of various kinds or are governed by legislation that applies only to them. (p. 59)

How does the role of higher education and training relate to professionalism? Education, both formal and informal play a significant role in defining, selecting, developing, screening, and maintaining professionals and in the professionalizing process of occupations. How much education and training is necessary has always been a controversial issue. Some of the original work by Flexner in 1910 was focused on the key issue of whether doctors ought to be high school graduates. (Houle 1983, p. 263)

It would be interesting to speculate how different the evolution of the practice of medicine would have been if the educational standards would have been frozen at the 1910 level. The use of research by practitioners would surely have been severely limited.

Abbott makes the following observations about the role of academic knowledge in the professions. "The academic knowledge system of a profession generally accomplishes three tasks-- legitimation, research, and instruction--and in each it shapes the vulnerability of professional jurisdiction to outside interference" (1988, p. 56-57). The academic knowledge of a profession helps legitimate the profession by its presence. Research allows for the discovery of new practices which helps maintain the profession. Most dominant professions retain the ability to instruct themselves.

The role of continuing professional education is crucial to the refinement and maintenance of competence. Continuing professional education should work hand-in-hand with the basic higher education pre-professional education phase. The higher education phase should prepare the individual for continuing professional development. According to Houle (1981, p. 83-82), there is little relationship between success in professional training programs and professional competence at age 35.

It seems likely that at least part of the discrepancy between basic education and later demonstration of competence is a result of the amount and quality of continuing education undertaken by practitioners. Consequently it is probable that one way in which a basic professional program might enhance later competence would be by ensuring the fact that, during the years spent in the school's subculture, the students' personal commitment to lifelong learning is firmly established both by curricular changes and by efforts to alter the customs and behavior patterns of the students. (Houle 1981, p. 84)

At least part of this is caused by new professional information. Studies by Zelikoff in 1969 of the electrical engineering profession found that only 5% of the 1935 curriculum was still valid and 45% of the 1960 curriculum was obsolete (Houle 1981, p.85). If this is the case for other professions, then an essential ingredient of professional education has to be a basic education that emphasizes a continuous exploration and search for answers to questions that professionals face as preparation for the continuing education and development process that must be part of a professional's career. When the basic education is

completed, continuing education starts. Life long learning is the key to the professionalizing process.

Winston Churchill has noted that, "The most important thing about education is appetite. Education does not begin with the university and it certainly ought not to end there" (Houle 1981, p. 129). The role of both pre-service and continuing education has to be to create and encourage either "innovators" or "pace setters" to use Houle's terms (1981, p. 152-164). Professions should not be guided by the interests and values of either the "middle majority" or the "laggards."

Not everyone agrees that professionalization is a goal to be sought. Critics of professionalization have seen a shift from the notions of altruism and service to a pursuit of power and prestige.

With the pursuit of power and prestige, professions have taken on characteristics inimical to service: hierarchies of power; less and less direct contact between professional and client; highly specialized languages; great monetary expenditures required in preparatory education; an increase in internal talk as contrasted to interaction with the larger community; and an overall exclusivity marked by racism, sexism, and classism. (Noddings, 1990, p. 402)

POLICE PROFESSIONALIZATION IN HISTORY

The term professionalism of police was used in England in the middle of the 19th century. (Emsley, 1983, p. 82) This usage of the term is early since the occupation only started in the 19th century.

Police professionalization literature has focused primarily on three basic dimensions: professional knowledge, professional autonomy, and the service ideal. It has more specifically limited its professionalization efforts to the notions of education and training as the vehicles to bring about professionalism (Walker 1977 p. ix-x).

According to Walker despite the rhetoric of professionalization, the American police have not developed along the lines of the legal, medical, and education professions, but rather have evolved along bureaucratic lines. In many different departments which have the outward appearances of professionalism (using the latest equipment and technology with the most attractive uniforms), have most severely limited the autonomy of the officer in the field. Police administrative efforts at efficiency spawned out efforts to wipe out corruption have had a negative effect on the development of professionalism among the rank-and-file (1977, p. 33). In the attempts by administrators to address the problems of corruption in the nineteenth century, they chose the military model as a method of reform. "The militarization of the American police would be one of the dubious accomplishments of professionalization." (Walker 1977, p. 42)

The difference between the bureaucratization of the police and professionalization was more than a matter of semantics. Bureaucratization entailed the development of formal and elaborate internal procedures (civil service, training programs, etc.)

that subjected the police officer to more direct control and supervision. The control of the rank and file was in fact regarded as the great accomplishment of police reform. But this was not the same as professionalization, if by that concept we mean enhancing the independent judgment of the practitioner. The police in the 1920s, however, were not evolving in the same direction as the recognized professions. Rather, police officers were regarded as objects to be controlled and directed by chief administrators. If anything, it was the police chiefs who were professionalizing, and doing so at the expense of the rank and file. (Walker 1977, p. 136)

In responding to the critics of policing since the beginning of this century who were concerned with corruption, excessive force, and abuse of discretion, it was inevitable that the straightening out of an inefficient, corrupt, disorganized police agency would require gaining control over the actions of members of the organization as a first step. As Goldstein (1990) has noted:

It did so by placing a high value on police being apolitical and by advocating centralized control, tight organization, pinpointed responsibility, strong discipline, efficient use of personnel and technology, and higher standards of recruitment and training. It sought to achieve a higher level of operating efficiency by emphasizing standard operation procedures, fast responses efficient use of time, smooth flow of paperwork, and clean, modern facilities. The push toward greater operating efficiency gathered momentum as various new technologies (in motor vehicles, telephone systems, radio communications, data processing equipment, and ultimately computers) were adapted to police work. Thus, for several decades (especially 1949 through 1970), a concern with developing techniques to increase the control and efficiency of the police agency occupied those in the forefront of policing. (Goldstein, 1990, p. 7)

The police professionalization movement created increased formalization and centralization of department structure, as police departments became professionalized and not police officers (Bordua and Reiss, 1966; Regoli, Crank, Culbertson, & Poole, 1988). Chiefs increased their control of the department which reduced the autonomy and ability to use discretionary judgment of their subordinates (Regoli, et al, 1988). The professionalization of the department thus has served to obstruct the professionalism of the personnel.

Price (1977) discusses at length the use of the rhetoric of professionalism to discourage change and innovation in law enforcement. The development of true professionalism would result in the loss of control that chiefs now exercise. Price's observation that the rhetoric of professionalism was removed from the reality fits nicely with Argyris and Schon's (1974) ideas of "espoused-theory" versus "theory-in-use." What has become known in policing as professional practice is better characterized as acting like professionals by being "rule-appliers" (White, 1972, p. 76-77).

The notion of professionalization in police circles as practiced in the last 30 years has put what Goldstein (1990) termed a "low ceiling on the meaning of professionalism in the police field" (p. 17).

The idea of policing as a calling did not emerge until the late nineteenth century. The creation and formation of professional associations and journals did not really get underway until the twentieth century. The notion of the service ideal has been slow to develop (Walker 1977). "The idea of professionalization gained hegemony in police circles" around the turn of the twentieth century (Walker 1977, p. xiv).

True professionalism requires a change in the means of control from external organizational controls to internal controls. The professionalization process in policing has been focused on controlling unacceptable behaviors. Articulation of acceptable behaviors were vague and ambiguous. (White, 1972)

Some have argued that good policing is based upon common sense that cannot be trained or learned. This craftsmen view of policing is that skills are only honed through experience. As Stephens (1988) has noted, this view is essentially anti-intellectual. Schon (1983) in looking at the notion of professional thinking in The Reflective Practitioner has tried to move beyond the naive theory of common sense as the explanation of professional practice. In his subsequent work, Educating the Reflective Practitioner (1987), he takes an in-depth look at teaching and learning of professional knowledge and skill.

One of the common ingredients to both the bureaucratic notions of police professionalization and the professional model

of developing professionalism is the importance of police training. The next section briefly reviews what has been said on this key factor.

POLICE TRAINING

The first occurrence of police training was in Buffalo in 1871, but it did not last. The first sustained formal police training was in Cincinnati in 1886 which established a program of seventy-five hours of classroom instruction over a three-month period (Walker 1977, p. 12). The Cincinnati program also used a six months probationary period after which they were required to pass a test with a score of 70 and a physical exam (Walker 1977, p.42).

It is ironic that the first association to formally call for police training was the National Prison Association in 1888 (Walker 1977, p. 39).

The rise of civil service in the selection of police officers was developed to end the political machine influence on policing. The use of meritocratic standards discriminated against the lower classes and helped to break the patronage power of the political machines in city governments (Walker 1977, p. 45).

Police reformers in the Progressive Era began to call for formal training programs. August Vollmer was the most renowned proponent. Arthur Woods, Police Commissioner in New York City

from 1914 to 1918, was another proponent of police training recognizing the enormous discretion that officers exercise. "The policeman is in a very real sense a judge" (Walker 1977, p. 71).

Vollmer though was the acknowledged leader of progressive policing when he introduced the idea of college-level training for police officers. His program in the beginning at the Berkeley, California Police Department where he was chief of police was essentially a police academy with one major difference. Other police academies were taught by veteran police officers while his officers were taught by University of California professors. (Walker 1977, p. 72)

Discussions of police training are frequently focused on either pre-service or inservice training. I will deal with both rather briefly in turn.

PRE-SERVICE TRAINING

The amount of training recommended from various blue ribbon commissions has been a minimum of 400 hours which has now been achieved in many states. In 1967, the President's Commission of Law Enforcement and Administration of Justice recommended that an "absolute minimum of 400 classroom hours" be established for basic police training (The Challenge of Crime in a Free Society p. 112).

In 1973, the National Advisory Commission on Criminal Justice Standards and Goals (NACCJSG) recommended that by 1975 400 hours should be the minimum amount of training required by states for all entering police officers (Police p. 392). Standard 16.3 on Preparatory Training in Police goes on to advocate as a minimum a four-month field training program involving extensive coaching, an additional two weeks of training after six months, and an additional two weeks of training after one year of service (pp. 392-393).

Opposition to the 400-hour standard came from cost conscious law enforcement administrators. These administrators were often short of personnel and trying to get by with a low level of funding. They had no evidence that 400 hours of training was any better than 320 hours of training. They had no guarantee that more sitting in a classroom produced more knowledgeable and/or effective personnel. Obviously, people could not be making arrests when they were sitting in training class.

The minimum number of hours in the curriculum for basic training in Texas is 400 hours, although many academies teach more hours than this. Approximately two-thirds of the trainees receive more than the 400-hour minimum basic training. (Campbell, 1989)

The minimum number of hours for beginning a police career pales besides those of other occupations. Bowden commented in 1978 that when a doctor receives 11,000 hours of training, an

embalmer 5,000 hours, and a barber 4,000 hours compared to police officer's 200 hours it seem that a police officer would appear to be "only marginally a semi-skilled worker masquerading as a professional" (pp. 32-33).

INSERVICE TRAINING

The NACCJSG (1973) also promulgated a standard on formal continuing inservice training of 40 hours per year.(p. 404) Each agency was also to have one employee to serve as training instructor to provide regular informal training sessions of the one-day variety (p. 404).

HUMAN CAPITAL THEORY

The idea of human capital is that the decision to spend scarce resources on education or training is an investment decision. The choice between alternative investments is made when the expected earnings exceed those of alternative investments. Workers possess a stock of human capital like the organization possesses facilities and equipment as physical capital. The education and training stocks are depleted over the working lifetime just as inventories are depleted and equipment is depreciated. Human resource development stocks contribute to production conceptually in the same way as do the components of physical capital.

Investment in human capital benefits economically both the individual and society. The individual through increasing opportunities for employment, advancement, and increased lifetime earnings. The society benefits through increased productivity of the workforce. (Woodhall, 1987a)

Leslie and Brinkman (1988) in their book, The Economic Value of Higher Education, conducted a metaanalysis of the research in this area. They found that there were three predominant ways to estimate the monetary yields of college:

1. *Earnings differentials* between college graduates and high school graduates which for 1983 was about \$6,000 per year, of which 79 percent was attributable to the college experience.
2. *Net Present Value* of a college education which is the present value of a college education after costs are subtracted and corrections are made to adjust for inflation. In 1979, this ranged from \$60,000 to \$329,000 for men and from \$44,000 to \$142,000 for women.
3. *Private rate of return* which is the annualized lifetime yield on the investment or put more simply it is the same as the annual rate paid on a savings account. Leslie and Brinkman found that college does pay off for individuals who invest in higher education. The internal rate of return on the private investment in an undergraduate degree is of the order of 11.8-13.4 percent. The return on 1 year of graduate study is 8 percent, 7.2 percent

for a master's, and 6.6 percent for a doctorate (p. 41). They contend that the rates of return studies have consistently and greatly overstated most higher education costs and thus have greatly understated return rates (p. 67). Alexander (1976) argues persuasively that the economic benefits of education are much greater than what we have been able to determine through rate of return analyses.

Mincer (1974) shows that it is years of experience rather than age that should be used in explaining variations in earnings. If one simply holds age fixed, estimates of the return for education will be biased downward because at a given age those with less education have more experience because they entered the labor market earlier. The best point to measure the effect of schooling on the earning of a cohort of men is about eight years after they leave school. Mincer (1974) finds that at this point about one-third of the difference in earnings can be explained by education. When experience is controlled for the explanatory power goes to over 50 percent. Mincer points out that if the quality of schooling could be controlled for the explanatory power of the human capital model would be greater.

Much of the human capital literature has focused primarily on formal schooling. Mincer (1989) found after analyzing several data sets that the rates of return for training generally exceed those usually observed for schooling investments. (p.20) He found

that job training accounted for 66 percent of the 8.5 percent observed growth in wages. (p. 18) "The effect of training on wage growth was greater (9.5%) at younger ages (working age 12 years or less) than at older ages (3.6%). The difference reflects greater intensity of training among young workers" (pp. 6-7).

A study conducted by the Bureau of Business Research at the University of Texas (Devereux, et al, 1987) found that the net social gain to Texas per college graduate was \$60,000 more than what could be obtained by investing in non human capital. (p. 11) They also found that a sustained 10 percent increase in funds for higher education would result in a gain of \$1 billion for Texas. (p. 11) Some might argue that if this is the case, "Why not invest 50 percent more and have a gain of \$5 billion or 100 percent more with a \$10 billion gain or 1000 percent more with a \$100 billion gain?"

It is not clear that all occupations will show a higher return in terms of salary based on investment in higher education. "For those in the `helping' professions as teaching and the ministry, monetary returns may be limited, nonexistent, or even negative" (Leslie & Brinkman, 1988, p. 182). Policing may fit into this category.

Critics of human capital theory argue that education serves as a screening device because people who participate in education have higher innate ability, come from a higher social class, have

different personal characteristics (such as, attitudes toward authority, punctuality, or motivation), or work in more urban areas. Many of the estimates of the return adjust for this using the "ability adjustment" or "alpha coefficient" (Woodhall, 1987a, p. 23) which represents the proportion of extra earnings which is assumed to be due to education. Regression analysis and earnings functions suggest that an appropriate value is between 0.66 and 0.8. (Woodhall, p. 23; Hinchcliffe, 1987, p. 286-287) Psacharopoulos (1987) argues that the alpha coefficient is closer to 1.0 than the 0.60 argued by some critics.

From the employers' point-of-view and from a policy point-of-view, it does not really matter if the higher productivity associated with education obtained by applicants is the result of the educational experience or some screening hypothesis. (Winkler, 1987) The employer has no need to try to separate out the relative weights of causes because the correlation identifies the more successful human resources which is their main objective.

CONNECTIONS BETWEEN EDUCATION AND TRAINING

Lillard and Han (1986) report that, "Earnings rise with the level of schooling completed (p. viii)." They also report that the probability of getting training on the job "rises with education to a peak at 16 years or less of schooling (p. 27)." One implication that they report is that receiving training in the

workplace is associated with future productivity and income growth (p. 27).

Training causes income to increase 11.9 percent the first year with its effects declining 1.1 percent per year until its effects reach zero by the 11th year after training (Lilliard and Han, 1986, pp., 55-56). The effects of company provided training persist over 13 years (p. 58).

If levels of earnings are indicators of job performance, then level of schooling has been shown to be an important determinant of performance. Lillard and Han in their massive study for the U.S. Department of Labor in 1986 found schooling to be an important determinant of earnings. "The returns to schooling are on the order of about 11 percent (p. 45)."

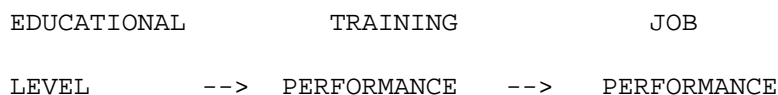
It can be argued that training performance is a valid indicator of job performance. There has been some research tying training performance to job performance.

Empirical evidence indicates that success in training usually correlates positively with later performance on the job (Severin, 1952). Thus, in selecting those who perform best in training, the employers are also to some extent selecting those who will perform better on the job. (Hunter and Schmidt, 1982)

Research comparing college education with a state peace officer licensing examination that is based upon training objectives derived from a statewide task analysis supports the notion that education is positively correlated with the knowledge

necessary to perform the job and training performance. (Campbell, 1989)

The model of how educational level would affect the performance of law enforcement officers would look like the following diagram.



Lillard and Tan (1986) found that education and training were complementary.

This analysis confirmed the importance of formal schooling as determinant of post-school training. . . . the likelihood of getting most kinds of training rises with the level of educational attainment, except for the most highly educated group (those with postgraduate degrees). This suggests that both sources of "training" are strongly complementary. (p. 66)

They conclude their study calling for more research about the complementarity between formal schooling and post-school training (p. 70).

Mincer (1962) found a positive relationship between formal education and training received on the job. He explained this finding because employers think education confers greater capacity and motivation for training.

Alexander (1976) theorized that the education and training connection may be because the employer responds to employee's

willingness to invest in himself, "since employer investment in the worker appears to increase in about the same proportion as the worker's self investment in schooling" (p. 445).

Carnevale and Goldstein (1983) found that better educated workers receive a disproportionately large share of training. Workers with four or more years of college were 18 percent of the labor force, but 35 percent of the trainees (p. 55).

One of the prime debates of the 1970s in the development of criminal justice personnel has been the issue of whether the modality should be by a "training curricula" emphasizing technical skills or an academic curricula emphasizing a broadened understanding of the profession and society. (Tenney, 1971; Carter, 1978; Jamieson, 1978) Several (Tenney, 1971; Beto & Marsh, 1974; Carter, 1978; Jamieson, 1978) recommended the development of professional curricula by colleges and universities that emphasized the integration of practical and theoretical learning.

Distinctions between general education and vocational training are primarily distinctions made by educators. The crucial common component is that learning, growth, and development occurs in both school settings and training settings. Both approaches reap substantial financial rewards in one's future vocation. (Lillard & Tan, 1986; Woodhall, 1987b)

POLICE EDUCATION LITERATURE

There has been a long on-going debate on the issue of whether a college education makes a better police officer. This debate reached its height in the late 1960s and early 1970s as various groups set about to improve law enforcement which had fallen to an all time low in the public's eyes. This ties in with larger societal issues about the role and efficacy of formal education. These issues are generally met with a great deal of rhetoric and position taking based upon one's value system.

In 1966 there were 39 baccalaureate programs in law enforcement. In 1968 the Law Enforcement Assistance Administration was established which resulted in 376 baccalaureate programs being in place in 1978 (Sherman, 1978, p. 36).

The National Advisory Commission on Criminal Justice Standards and Goals (NACCJSG) in 1973 issued their report on the Police which attempted to establish as a national goal a college degree for employment in law enforcement by asserting: "Every police agency should, no later than 1982, require as a condition of initial employment the completion of at least four years of education (120 semester units or a baccalaureate degree) at an accredited college or university" (p. 369).

One method recommended by the NACCJSG to encourage the raising of the educational level of police officers was Standard

15.2 which recommended that both financial assistance to attend college and incentive pay for the attainment of specified levels of college be provided. Incentive pay was to be at least 2.5 percent of the employee's current salary for each 30 semester hours of college work. (1973, p. 372) This study will look at the pervasiveness and effectiveness of these programs.

Similar recommendations were made about this time by several bodies: Governors' Mutual Assistance Program for Criminal Justice in 1973, Advisory Commission on Intergovernmental Relations in 1971, Police Foundation in 1972, American Bar Association in 1972, National Advisory Commission on Civil Disorders in 1968, and the Commission on the Causes and Prevention of Violence in 1969. (Hoover, 1974, p. 6-8)

Hoover (1974) makes the following three arguments about raising the educational standards for law enforcement. First, the magnitude of crime has risen to the point that more qualified personnel are necessary to cope with it. Second, the nature of the police function involves conflict resolution skills which require the officer to balance crime fighting with "social work." This role conflict is handled better by someone with a college education because education encourages a broader social perspective. Third, "the use of police discretionary power within the restraining intent of the Bill of Rights is a delicate and

comprehensive intellectual task (p. 209)." Hoover states that this third reason is the most important. (pp. 207-209)

In Hoover's 1973 sample taken in four large states California, Michigan, New Jersey, and Texas about 10 percent of those entering law enforcement had a bachelor's degree. Despite these recommendations by 1982, only about 15 percent of the nation's larger police agencies were found to require or even prefer any college for entry (Sapp, 1988). This is an improvement of only 3.4% since the early 1970s (p. 9).

To encourage police officers to achieve a college-level education the NACCJSG (1973) in Police recommended that departments provide "financial assistance to defray the expense of books, materials, tuition, and other reasonable expenses" (p. 372). In addition, they recommended that incentive pay should "amount to at least 2.5 percent of the employee's current salary for each 30 semester units of college work completed" (p. 372). Many departments have adopted a version of this program, although no precise figures of how many have been published. It is also unclear as to whether this motivation has been effective in achieving the stated objective.

Miller and Fry (1976) found that having a college education did not change the perceptions of peace officers about professionalism, work strain, or job satisfaction.

Saunders (1970) argued that there was a police manpower shortage arising because of a lack of quality. He felt that law enforcement careers require the same type of foundation as education, medicine, and the law.

The qualities which law enforcement leaders claim to look for in recruits are the very ones which liberal education is believed to nurture: knowledge of changing social, economic, and political conditions; understanding of human behavior; and the ability to communicate; together with the assumption of certain moral values, habits of mind, and qualities of self-discipline which are important in sustaining a commitment to public service. (pp. 82-83)

Similar ideas were reflected by the American Bar Association's conclusions in The Urban Police Function:

Police agencies need personnel in their ranks who have the characteristics a college education seeks to foster: intellectual curiosity, analytical ability, articulateness, and a capacity to relate the events of the day to the social, political, and historical context in which they occur. (NACCJSG, 1973, p. 368).

Beginning in the late 60s there has been an on-going debate about the contribution of education to lowering or raising police cynicism. (See Niederhoffer (1967); Wilt and Bannon (1976); and Regoli (1976); Lester, 1982; Lester, 1987; Regoli, Crank, & Poole, 1987)) Others focused on the impact of education on various attitudes that education might affect (See Finckenauer (1975); Miller and Fry (1976); Weiner (1976); and Wycoff & Susmilch (1979); Lester, 1987))

One of the prevailing notions of the time coming out of the poor handling of civil disorder situations was that police

officers had "a bad attitude." Education, it was hoped would fix their "attitude problem." The evidence sought then to establish the efficacy of education to law enforcement was to try to discover if there was an attitude difference based upon educational level. Wycoff and Susmilch (1979) in reviewing this area found that education did not generally have a strong impact upon attitudes.

Baehr (1968) reported in a study of 500 Chicago patrol officers that higher performance ratings were related to higher education levels among long tenured officers. Weirman (1978) found that Michigan State Troopers with at least a bachelor's degree received higher performance ratings than those with less than an associate's degree.

Cohen and Chaiken (1973) in their review of background characteristics of police officers in New York City looked at departmental records for specific performance data. Educational level at the time of appointment was found to be significantly related to promotions and disciplinary actions, but not to awards or other performance measures. (p. 57)

Education after appointment was also looked at by Cohen and Chaiken (1973) which they found to be inversely related to total complaints, trials, substantiated complaints, departmental charges, civilian complaints, times sick, and injury disapprovals.

They also found later education to be positively related to promotions. (pp. 61-65)

Cascio (1977) also went beyond attitude type indicators in his survey of 940 Dade County officers. He found that college tended to be "associated with fewer injuries, fewer injuries by assault and battery, fewer disciplinary actions from accidents, fewer preventable accidents (especially for blacks), fewer sick times per year, fewer physical force allegations, and so forth" (p.90).

The issue of type of degree is important because the material learned and the learning experience itself varies with the major. Wycoff and Kelling's (1978) study of the Dallas Police Department found that the types of degree held were: Liberal Arts - 38.2%, Technical - 44.2%, and Police Science - 17.6% (p. 58).

Wycoff and Susmilch (1979) tried to control for the quality of the institution attended by using a modified Carnegie Code ranging from research universities to junior colleges. In a review of administrative data for 882 police officers in Dallas found there was a small but statistically significant positive relationship between level of education and supervisor rating. They also found a negative relationship between education and number of sick days (pp. 29-30).

Sapp (1988) in advocating the need for college degree for peace officers used the following argument.

It is perhaps too early to tell if law enforcement's failure to meet this target is suggestive of an impossibly high goal or an insufficient commitment by the law enforcement community. However, it may be time for a new initiative to increase the educational requirements for entry into policing. Thomas Amman suggests that by 1995 between one-third and one-half of the adult population will have at least two years of college education. As the educational level of the general public increases, the level for law enforcement must also increase. (p. 9)

Sapp (1988) goes on to scold law enforcement for not doing more than trying to recruit college-educated applicants while maintaining a high school or GED entry-level requirement. "The only true measure of law enforcement's commitment to education is the establishment of a specific requirement for college education at the entry level."(p. 9)

A thorough review has recently been concluded by the Police Executive Research Forum (Carter, Sapp, & Stephens, 1989) on the this whole area of police education. Their monograph provides testimony from many quarters of the need for higher educational standards for police officers.

This monograph The State of Police Education: Policy Direction for the 21st Century has summarized many of the hypothesized advantages of college education for police.

1. It develops a broader base of information for decision making.
2. It allows for additional years and experiences for maturity.
3. Course requirements and achievements inculcate responsibility in the individual.

4. Both general education courses and coursework in the major (particularly a criminal justice major) permit the individual to learn more about the history of the country, the democratic process and an appreciation for constitutional rights, values and the democratic form of government.

5. College education engenders the ability to flexibly handle difficult or ambiguous situations with greater creativity or innovation.

6. In the case of criminal justice majors, the academic experience permits a better view of the "big picture" of the criminal justice system and both a better understanding and appreciation for the prosecutorial, courts and correctional roles.

7. Higher education develops a greater empathy for minorities and their discriminatory experiences through both coursework and interaction within the academic environment.

8. A greater understanding and tolerance for persons with differing lifestyles and ideologies which can translate into more effective communications and community relationships in the practice of policing.

9. The college-educated officer is assumed to be less rigid in decision-making in fulfilling the role of the police while balancing that role with the spirit of the democratic process in dealing with variable situations a greater tendency to wisely use discretion to deal with the individual case rather than applying the same rules to all cases.

10. The college experience will help officers communicate and respond to crime and service needs of the public in a competent manner with civility and humanity.

11. The educated officer is more innovative and flexible when dealing with complex policing programs and strategies such as problem-oriented policing, community policing, task force responses, etc.

12. The officer is better equipped to perform tasks and make continual policing decisions with minimal, and sometimes no, supervision.

13. College helps develop better overall community relations skills including the engendering of respect and confidence of the community.

14. More "professional" demeanor and performance is exhibited by college-educated officers.

15. The educated officer is able to cope better with stress and is more likely to seek assistance with personal or stress-related problems thereby making the officer a more stable and reliable employee.

16. The officer can better adapt his/her style of communication and behavior to a wider range of social conditions and "classes."

17. The college experience tends to make the officer less authoritarian and less cynical with respect to the milieu of policing.

18. Organizational change is more readily accepted by and adapted to by the college officer.

POLICE CAREER PATHS

Waldron (1973) in his survey of larger police agencies concerning promotional practices for the position of sergeant found that only 6.58 percent required any college as a minimum qualification for promotion (p. 73). Most of those with educational requirements mandated one year or less.

Cohen and Chaiken (1973) found that officers in New York City with some college education at the time they joined the department were promoted faster than officers with no college education. Officers with one year of college at appointment were more likely to be promoted to sergeant, lieutenant, and captain than officers with no college. There was virtually no

relationship between appointment or promotion with the Detective Division. (pp. 57-59)

Cohen and Chaiken also looked at later education and found that it was significantly related to advancement. They found that 57.1 percent of the college graduates were promoted to sergeant, lieutenant, or captain compared to 22.2 percent of the officers with some college and 12.0 percent of the high school graduates. (p. 61) They also found that only 9.3 percent of the college graduates were still assigned to patrol while over one-third of the high school graduates and high school equivalency (GED) personnel were assigned to patrol. (p.61-64)

A 1978 study by Madell and Washburn found that the type of degree was related to promotions in the Los Angeles Police Department. A larger percentage of officers with Business degrees and with Police Science degrees were promoted than officers with Liberal Arts degrees (p. 42). Madell and Washburn felt that this was explained by the "success orientation" of individuals with Police Science degrees (pp. 41-42).

Rogers (1974) found in a nationwide survey that 12.3% of the police chiefs had at least a bachelor's degree (pp. 61-62). A 1976 survey by the International Association of Chiefs of Police (IACP) found that 18.9% of the chiefs had at least a baccalaureate degree.

Research by Enter (1986) of the career paths of 117 police chiefs serving municipalities of over 100,000 population found that 73.5% of the chiefs had at least the baccalaureate degree recommended by the President's Commission on Law Enforcement and the Administration of Justice in 1967 (p. 112). He also found that 33.3% had at least a masters degree, 6.8% a law degree, and 2.6% a doctorate.

Enter (1986) found that those achieving the position of police chief from outside the department were more likely to have a college degree than those being promoted from within. Ninety-six percent of the "Outsider" chiefs had a degree, while only 63.3% of the "Insider" chiefs did (p. 112-113). When looking at graduate degree only 25.3% of the "Insiders" had a graduate degree while 79.9% of the "Outsiders" had a graduate degree (p. 114).

Enter (1986) also looked at the idea that those with a college degree were promoted more rapidly than those who did not. He found that those with a college degree were promoted more rapidly (p. 114-115).

He also found that the chiefs from the larger cities generally had more education (p. 115). Type of government was also relevant with chiefs from municipalities that were "reform" (council-manager/commission) were more likely to have a higher education than mayor-council type governments (p. 115).

Enter also explored the majors and the types of degree that chiefs had. He found that as the level of the degree moved up from associate through graduate degrees that the majors were less and less likely to be in law enforcement or police science (p. 115-119).

Smith and Ward (1986) found that educational level was correlated with ability to handle stress among military police personnel, but concluded that this finding is confounded with rank since education acts as a "selection" criterion for promotions. "Those persons with greater success educationally also exhibited greater abilities to handle stress. Subsequently, these same persons had a greater probability of promotion or movement into highly stressful jobs" (p. 316).

Robnett (1989) found in a survey of 112 Texas cities that 17.8 percent used college education as a criteria in promotions for management and command positions. Of the non-civil service cities the number was higher with 24.1 percent using college as a criteria while civil service cities used it as a criteria in only 5.6 percent of the agencies. (p. 67) In promotions for sergeant and lieutenant the numbers were slightly higher at 19.6 percent. (p. 72)

Outside of police circles training has been associated with career progression. A Department of

Defense study of management training found that those civilians who participate in training programs are more likely to be promoted than those who do not, even though this training is aimed at current job performance (Smith, 1981, p. 167).

Robnett (1989) in his survey of 112 agencies in Texas found that 16.1 percent required supervisory and/or management training prior to promotion. (p. 78) He also found that 47.3 percent of the agencies provided training prior to promotion to supervisory candidates. (p. 80) He also found that 77.7 percent require supervisory and/or management training after promotion and 91.1 percent provide it. (p. 85) One-third of those provided college training after promotion. (p. 90)

The issue of career paths is related to the notion of professionalism in terms of specialization. The use of lateral entry outside of chief's positions is rare. (Waldron, 1973). While it is seen as a characteristic of a profession, Sapp (1978) states is "so rare as to be almost nonexistent" in law enforcement (p. 24).

VALIDITY ISSUES

One the prime obstacles to raising the educational standards for police has been the fear that this will have a disparate impact upon minorities. If an adverse impact upon minorities were

shown, then the employer must demonstrate that the selection criteria is valid.

If one were to raise the entry standards for entry into the police profession, it is incumbent on those raising the standards to thoroughly understand validity issues in terms of personnel selection. Legal requirements in terms of court decisions and the Equal Employment Opportunity Commission (EEOC).

The determination of the validity of a selection standard is fraught with several problems and questions. Those problems and questions are:

- does the standard have adverse impact;
- is the standard valid;
- is the standard a bona fide occupational qualification;
- is the criterion measure an accurate measure of job performance; and
- how strong does the relationship have to be?

The legal requirement to prove validity arises when there is a showing of adverse impact upon some group protected by the Equal Employment Opportunity Commission (EEOC) guidelines or by the Age Discrimination in Employment Act (ADEA). Those groups are race, color, religion, sex, and national origin under EEOC and age under ADEA. It is important to note under the law all persons have a race, sex, and national origin. Employment decisions are not to be based on these factors in their decision-making.

There are two key methods that a plaintiff tries uses to establish that an adverse impact exists. The EEOC guidelines and some court rulings have used the "four-fifths rule" which is: "A selection rate for any race, sex, or ethnic group which is less than four-fifths of the rate for the group with the highest rate is generally regarded as evidence of adverse impact (EEOC, 1978)." The second method is one approved by the Supreme Court in Hazelwood which ruled that the employer's proportions for occupational classifications should be within three standard deviations of those proportions found in the relevant labor force. Once adverse impact has been established by the plaintiff the defendant must establish that the selection standard is a bona fide occupational qualification through validation of the standard.

In general, a valid test is one that measures what it is supposed to measure. In the more specific employment sense the American Psychological Association's Division of Industrial-Organizational Psychology (1980) used in their Principles for the Validation and Use of Personnel Selection Procedures the following definition. "Validity is the degree to which inferences from scores on tests or assessments are justified or supported by evidence. It should be noted that validity refers to the inferences made from the use of a procedure, not to the procedure itself (APA, 1980, p. 2-3)." While some in the field assert that

one particular technique of establishing validity is preferred, they assert that the traditional distinctions between criterion, content, and construct validity cannot be logically separated.

The APA makes that clear in the following paragraph.

A particular problem is the compartmentalization of validity into the categories of criterion-related, content, and construct. The three are really inseparable aspects of validity, not discrete types of validity. Although the three may represent differences in strategy, they do not necessarily indicate differences in concept. For example, aptitude tests are typically associated with criterion-related validation. In their development, items or components are frequently chosen on the basis of content sampling. Construct considerations are usually a major factor in defending the domain from which the items or components are sampled. Also, as mentioned earlier, prediction is often thought of as closely associated with criterion-related validation. In employment situations the use of scores from a procedure developed on the basis of content also has a predictive basis. That is, one measures performance in a domain of job activities which will be performed later. Furthermore, constructs may be said to underlie all predictions and so render score interpretations meaningful. (p.3)

Validation efforts should be based upon objectives and job analysis. The objectives of the validation effort should be stated and used as a guide for determining strategies and evaluating the success of the validation effort. Using a job analysis as the basis for the selection system will enhance the likelihood of finding a significant relationship between the predictors and criteria and is essential to a content oriented strategy or a construct oriented strategy.

Criterion-related validity is a "statistical statement of the existence of a relationship between scores on a predictor and scores on a criterion measure (APA 1980, p. 23)." A criterion by APA definition is "some measure of job performance, such as productivity, accident rate, absenteeism, reject rate, training score, and so forth. It also includes subjective measures such as supervisory ratings (APA 1980, p. 23)."

Content Validity

The following quote from the American Psychological Association provides a clear explanation of content validity.

Content validity is a relationship between job performance and a test that is self-evident because the test includes a representative sample of job tasks. (A typing test is content-valid for a stenographer's job.) What constitutes a representative sample of tasks is determined through a job analysis. (APA 1980, p. 23)

Construct Validity

Construct validity is a demonstrated relationship between underlying traits or 'hypothetical constructs' inferred from behavior and a set of test measures related to those constructs. Construct validity is not established with a single study but only with the understanding that comes from a large body of empirical evidence. (APA 1980, p. 23)

Criterion Validity

The choice of good criterion for job performance is the most difficult issue of validating a selection standard. In some jobs this is relatively easy, such as, sales where you have a clear measure, amount of sales. In other occupations, choosing a criterion that is an accurate measure of job performance is extremely difficult. In many jobs, a supervisory rating with all of its measurement weaknesses is the only choice. In the field of law enforcement, this avenue is aggravated by the fact that performance evaluations are extremely poor indices. The reasons for this were discussed in a 1986 article in which law enforcement was one of the few occupations in which the correlations between a cognitive selection test were substantially different depending on whether one used training performance as criterion or supervisory ratings. (Hirsh, Northrop, and Schmidt 1986, p. 416-419)

According to Arvey (1988) conducting criterion studies for educational standards is very difficult because there is usually not any or enough employees below the educational standard making comparisons impossible because of this lack of variability on the predictor. A review of 83 court cases and EEOC decisions that involved consideration of educational requirements by Meritt-Haston and Wexley (1983) found that education requirements were

likely to withstand court scrutiny under the following

circumstances:

1. A relatively high educational degree was being challenged. That is, Master's and Ph.D. degrees were more likely to be given court approval than lower level degrees.

2. A highly technical job, a job that involves risk to the safety of the public, or a job that requires advance knowledge was being challenged.

3. The organization offers some rational assertion of validity, evidence of criterion-related validity, or an effective affirmative-action program. The converse of this, obviously, is that organizations will likely be unable to defend their use of education requirements for lower level jobs when they fail to present any validation evidence or convincing rationale.

Schlei and Grossman (1985) found, "Decisions continue to follow the trend of relaxing stringent validation requirements for highly skilled and professional jobs while maintaining such requirements for relatively low skilled positions (p. 27)."

Another issue is how strong must the correlation between the predictor and criterion variables be. An additional concept that is beginning to come into play is the use of utility analysis in assessing the validity of a selection device. This allows some value to be attached to a correlation of .20 or .40. Is either of these strong enough to be valid? Cascio (1987) and others have argued that a selection test with a fairly low correlation but high utility has great utilitarian value. The courts are starting

to pay more attention to this concept as professionals develop the research data.

McLaughlin and Bing (1987) discuss the politically sensitive nature of balancing the need for selecting the most competent with the need to attract minorities to law enforcement. Moran (1988) in commenting on the validation problems of written entry tests and recent court decisions stated, "this suggests that now is the time for an attempt to substitute a four-year college degree for the exam" (p. 285).

Kelling, Wycoff, and Pate (1980) have identified the problems of measuring police performance as one of the main obstacles for police personnel research. "The inability to measure quality police performance at an individual level is perhaps one of the most serious and perplexing problems facing police researchers and practitioners" (pp. 48-49).

Education with all of its dedication and focus on research has failed to provide the evidence that is necessary to change entrance requirements. This is primarily because of the difficulty in finding a suitable criterion to use as a measure of performance. Saunders (1970) observes that the value of a college education cannot be empirically demonstrated for any occupation.

To increase the entrance requirements for law enforcement without such evidence has made administrators very nervous because of EEOC requirements and the fact that the police personnel field

is a highly litigious arena to begin with. It seems that other occupations have not let this stop them from establishing an educational standard without empirical proof (NACCJSG, 1973, p. 368).

In the general labor pool, it is clear that requiring a college degree has adverse impact upon minorities. (Arvey and Faley 1988, pp. 252-263) Is this true for law enforcement?

A recent study by Carter and Sapp (1990) found that the educational level of minorities in law enforcement was slightly higher than whites. This is supported by research in Texas that blacks entering law enforcement in the last two years have a higher educational level than whites (Campbell, 1992). This is not true of Texas Hispanic law enforcement officers. This is not to discount the fact that minorities in the total labor pool have a lower educational level. The definition of the labor pool for law enforcement is not the total population. In terms of recruiting blacks, one-fourth of young black males have a felony conviction on the record, an automatic disqualifying factor by law. The current educational requirement already has some adverse impact upon minorities because graduation from high school is required. A third factor is that the majority of law enforcement officers in Texas are hired based in part on an entrance examination. Failure to pass these types of examinations automatically excludes individuals. Typically, these tests are

highly correlated with educational level. When someone does not pass an entrance examination, they have few choices they can try to improve their test taking skill or give up. The setting of an educational standard on the other hand gives individuals a goal and guidance as to what they specifically need to do to obtain employment.

In terms of whether minority peace officers need to obtain the same educational level to perform at the same level as whites, the answer is probably yes. This is based upon extensive research done around selection tests which has concluded that differential validity of selection tests is a myth. (Schmidt & Hunter, 1986) If a test is valid and predictive of success for a job, it is valid and predictive for all ethnic groups.

Minorities wanting a career in law enforcement may be better served in terms of advancement by having a stronger educational background. Encouraging minorities to obtain a college education will benefit them. A study using 1970 data found that the earnings and occupational status of black females showed sizable gains as educational level increased to include some college. (Christian & Stroup, 1981)

None of this is to detract from the strong need for law enforcement to recruit and attract minorities to law enforcement. The strongest push for law enforcement education has come from the Johnson administration's desire to improve law enforcement to meet

better the needs of minorities. Programs such as the recently proposed Police Corps which is similar, in concept, to the Reserve Officer Training Corps (ROTC) that the military has successfully used to upgrade their profession and the number of minority officers. Programs like this would pay for the college education of those desiring a law enforcement career which should increase the educational opportunities for minorities.

CHAPTER THREE

Methodology

Introduction

The purpose of this study is to examine the effects of human resource development activities on peace officers. This chapter will focus on explaining the rationale for the methodology selected, discuss sample criteria and procedures, instruments, data collection procedures, and methods of data analysis.

A number of studies have been done on the topic of the effects of college education upon police officers, but none have looked at the impacts of human resource development activities, including training of peace officers using a large data set. The focus on professionalism, career path, and human capital theory is a unique combination of outcome measures which offers opportunities for analysis using a triangulation of outcomes. Dependent variables are career progression, salary, and level of professionalism.

RATIONALE

Studies of educational impact in law enforcement have generally shown some impact, but have not been widely accepted as providing the empirical evidence necessary to make important policy decisions. Studies of training impact in law enforcement have been virtually nonexistent. Quantitative studies are needed to affect public policy decisions.

To help focus the research instrument on the research questions and hypotheses, a pilot study was conducted. The next section has a brief discussion of this effort.

PILOTING OF INSTRUMENTS

The initial instrument was piloted at three different locations in the spring and summer of 1992. Two classes of students in the Law Enforcement Management Institute program were given the survey instrument. The first was a class called Module Two held in Denton, Texas at Texas Woman's University. The second was a class called Module Three held in Huntsville, Texas. Both of these classes contained peace officers from all regions of the State. In addition, participants in a meeting of the Texas Law Enforcement Academy coordinators, held in conjunction with the International Association of the Directors of State Law Enforcement Training were given the surveys. This group contained

law enforcement trainers from all over the State. The return from these three events was 79 completed surveys.

In addition to completing the instrument, participants were asked to make comments on the instrument as to clarity of meaning, typographical errors, or anything else that they perceived to be a problem with the instrument. Also, several of the people completing the questionnaire were informally interviewed to obtain their reactions.

Results of Pilot

Feedback about the instrument were that it was too long, and that the use of scantron sheets made it difficult to complete the questionnaire. After consultation with University of Texas Faculty and staff at the Center for Survey Research at the University of Texas, it was decided to drop the use of scantron sheets, to reduce the number of items, and to reformat the survey in a booklet format to make it easier to complete. Appendix A.1 contains comments taken from the piloted groups.

Confirmatory Factor Analysis

A confirmatory factor analysis was run on both the professionalism items developed by Hall (1968), modified by Snizek (1972), and later modified for policing by Regoli and Poole (1980) and the craftsmanship items developed by Crank (1990). The result of this process resulted in the dropping of the craftsmanship

items because the constructs could not be confirmed by factor analysis. The professionalism constructs were confirmed for use in the final instrument.

The pilot process made the initial instrument shorter and more user friendly. In the next sections, I will describe the variables included in the final instrument.

VARIABLES

One of the big problems that has been identified in the research on the effects of college education upon police performance has been the lack of clear definition of the concept of a college education. (Hoover, 1976; Hudzik, 1978) Another major problem is controlling for all of the various extraneous variables that interfere with the effects of the college experience. The last major problem is finding useful and measurable outcome variables. This section will try to address these three concerns and define the proposed variables.

Descriptive and Extraneous Variables

The variables discussed in this section are those that need to be analyzed to ascertain any interaction effects which may come into play. Some of these variables can be classified as organizational variables, such as, department type and agency

size. Crank (1987) found no effect for organizational variables except for organizational size and hiring policy.

Cohen and Chaiken (1973) did a thorough job in discussing and controlling for extraneous variables in their study of the effects of background characteristics upon performance. Some of those background factors that they studied were: race, age, I.Q., civil service exams, family descriptors, father's occupation, employment history, military history, personal history, marital status, children, debts, psychological disorder, pre-service education, later education, incidents involving police and courts, recruit score, unsatisfactory probation, and marksmanship.

Regoli and Poole (1980) found differential responses to the professionalism scale used here based upon whether a department was classified as rural or urban.

Age is the subject's present age. Levels of promotion and salary could be related to this data.

Gender is the subject's gender. Levels of promotion and salary could be related to this data. Research by Adler (1990) indicates that women have not achieved as high a rank in American policing as men.

Ethnic background is the subject's ethnic background using the following five categories: African-American, American-Indian, Hispanic, Asian-American, and Anglo. Levels of promotion and salary could be related to this data.

Hours of basic training is the number of hours of basic training received. It has been found by Campbell (1989a) to impact on the performance on a state licensing test based upon a content valid, job related basic training course.

Years of experience is the reported years of experience in law enforcement. Levels of promotion and salary could be related to this data.

Length of service is divided into five career stages: (1) less than five years, (2) five to nine years, (3) ten to fourteen years, and (4) 15 to 19 years, and (5) 20 years or more.

Type of department is divided into two categories: (1) municipal and (2) sheriffs. Different types of departments have different types of personnel practices regarding salary, promotions, selection, etc. (Robnett, 1989)

Civil service status of department is a yes or no category. Since a civil service department comes under various, statutory regulations about personnel practices, there will be some differences in personnel practices regarding salary, promotions, selection, etc. (Robnett, 1989)

Size of department is the three largest of the six categories used by the Commission on Law Enforcement Accreditation (CALEA, 1990): (1) 50 to 199, (2) 200 to 999, and (3) 1000+. Crank (1987) found that size of the department affected the professionalism scores of Illinois police chiefs.

Training certification levels gathers information about the prevalence of the different TCLEOSE certifications among the sample.

Previous experience in the criminal justice system is also gathered. In addition, off-duty employment is examined as part of the conditions that affects participation in training and educational endeavors.

The number of agencies worked for is also included as a factor of career development. Law enforcement does not encourage mobility between agencies.

Percentage of coursework taken before entering law enforcement is a measure of the utility of college earned pre-service.

Emphasis of curriculum is a measure of the type of coursework taken using the typology developed by Hoover.

1. Criminal Justice and/or Law Enforcement.
2. Liberal Arts (English, Humanities, Arts, History, Economics, Languages).
3. Social science (Sociology, Psychology, Political Science, Anthropology).
4. Social Professions (Social Work, Education, Business Administration).
5. Natural Science (Chemistry, Math, Statistics, Physics, Agriculture). (1976, p.16-17)

College major is another measure of the type and the emphasis of coursework taken.

Departmental practices was determined by a departmental survey that a departmental designee completed.

Independent Variables

This section will discuss the proposed independent variables.

Number of hours of college is a measure of the duration of college.

Grade point average is a measure of the intensity of the learning.

Number of hours of training is the number of hours of in-service training beyond the basic training academy.

Motivation to attend training is an estimated percentage of the training attended that was sought out by the officer as opposed to departmentally prescribed. In addition, specific items are included asking for the impact of various departmental practices upon attending training and college.

Whether department has a college incentive pay program is examined as a motivator.

Whether the department has a certification incentive pay program is looked at as a motivator. TCLEOSE intermediate and advanced certificates are awarded based upon number of college

hours, number of training hours, and number of years of experience.

Dependent Variables

Choosing appropriate, meaningful, and measurable dependent variables that indicate superior police performance is the most difficult part of this research. Others have noted this same difficulty.

Kelling, Wycoff, and Pate (1980) have identified the problems of measuring police performance as one of the main obstacles for police personnel research. "The inability to measure quality police performance at an individual level is perhaps one of the most serious and perplexing problems facing police researchers and practitioners" (pp. 48-49).

The use of supervisory evaluations has proved to be problematic for law enforcement criterion studies. (Hirsch, Northrop, & Schmidt, 1986) Supervisors do not have the opportunity to consistently monitor subordinates in police work and there are difficulties involved in trying to get a good criterion measure of job performance for police work. (pp. 416-419)

Since professionalism is one of the espoused goals of education and training programs for law enforcement, a measure of professionalism using the instruments developed by Hall (1968) and

modified by Snizek (1972), Regoli and Poole (1980), and Crank (1990) is an appropriate way to test hypotheses about the impacts of education and training.

The utility of education and training in furthering the career of those receiving it can be accurately measured by gathering data about their career progression and salary. Human capital theory states that investments in education and training pay returns on this investment in the form of higher wages.

(Woodhall, 1987; Leslie & Brinkman, 1988; Mincer, 1989)

Number of promotions is one measure of career progression.

Rank is a measure of career progression.

Years of supervisory experience is a measure of career progression.

Number of special assignments means special internal assignments as indicating additional special knowledge, skills, or abilities. Cohen and Chaiken (1973) found that those with a college degree were much less likely to be assigned to patrol. Examples of special assignments are: criminal investigations, criminal and civil warrants, training, field training officer, research, planning, crime analysis, juvenile, crime prevention, administration, emergency communications, detention, and other. To count as a special assignment, it should involve an assignment of continuous duty of at least one year.

Current base salary measures the economic payoff for investments in human resource development.

Salary gain is the difference between their entry salary and present salary.

Professionalism scores as measured by the professionalism instrument developed by Hall (1968) and modified by Snizek (1972) and Crank (1990). This concept uses five constructs (1) service, (2) regulation, (3) calling, (4) referent, and (5) autonomy.

Alienation is also measured in the instrument in Appendix A.1. This construct has been used repeatedly in the literature (Regoli, 1976; Regoli, Crank, Culbertson, & Poole, 1987; Regoli, Crank, Culbertson, & Poole, 1988) and relates closely with job satisfaction.

INSTRUMENTS

The proposed instrument is contained in Appendix A.2. The items on the Departmental Information survey completed by the departmental designee is in Appendix A.3. The items on professionalism are from the previous research by Hall (1968), Snizek (1972), Regoli and Poole (1980), Regoli, Crank, Culbertson, and Poole (1987 & 1988), Crank (1990), and Crank, Payn, & Jackson, (1991).

In the initial pilot study, items on a Craftsmanship Inventory by Crank (1990 and 1991) were included, as a new

alternative version of the professionalism inventory. However, a confirmatory factor analysis during the pilot failed to substantiate the proposed constructs, and it was dropped.

The items on background data were created by me and modified after the pilot study to gather data for the testing of the hypotheses.

DATA COLLECTION AND SAMPLE

This is a crucial step that must be done with care to control for possible intervening variables and build a solid base for generalizations of the results. The sampling technique used was a random sample from the larger local law enforcement agencies in the State. The sample was randomly selected from the Texas Commission on Law Enforcement Officer Standards and Education (TCLEOSE) files of licensed peace officers. TCLEOSE is the licensing agency of peace officers and county jail officers in the State of Texas.

A letter was mailed to 36 Chiefs and Sheriffs of the largest local agencies in the State asking for their participation and the appointment of a designee who could assist in the distribution and collection of the survey instruments. The letter was from the Executive Director of TCLEOSE and signed by me. Included with the letter was a one page synopsis of the study and a copy of the survey instrument. See Appendix A.4 for copies of the letter and

synopsis, and Appendix A.5 for lists of the chief administrative officers. For a list of the designees, see Appendix A.6 for those who agreed to participate.

The size of the sample was determined by using a formula described by Nowack (1990). The formula is for determining sample size to generalize to an entire population at a 95 percent level of confidence. The

formula is:

$$(\text{population size})(.96)/(.0025(\text{population size}) + .96)$$

$$(47,749)(.96)/(.0025(47,749) + .96 =$$

$$45,839/119.37 + .96 =$$

$$45,839/120.33 = 380.94 \text{ or } 381$$

The number of returned surveys needed for generalization purposes is 381, if the total population was to be sampled. Since the cost of a random survey was high and the return rate was predicted to be fairly low, another approach was taken. The approach taken was to draw randomly the sample from the largest agencies in the State which will represent just short of the majority of the peace officers in the State with 21,065 of the 47,749 peace officers in Texas. If you use Nowack's (1990) formula with the 21,065 as the population base, the required number does not vary much.

$$(21,065 \times .96)/(.0025 \times 21,065 + .96)$$

$$20,222/53.62 = 377$$

So, we need 377 returned surveys to generalize to the population with 95 percent confidence level. Not knowing precisely what the return rate might be, we chose to estimate a return rate of between 55 and 60 percent in determining the number of surveys to send out.

The sample was randomly drawn from each department by randomly drawing a starting point from the TCLEOSE roster and then

choosing every 32nd peace officer. This resulted in a proportional representation of officers from each department consistent with the number of peace officers within the department. These 36 departments had 21,065 peace officers and the sample was 658. The total number of peace officers in the State is 47,749.

After the designee was appointed, a letter was sent to him or her along with a list of the randomly selected peace officers in their department who were to receive the instrument and the number of copies of the instrument needed for distribution. The designees were instructed to contact the researcher if someone was unavailable for replacement. Less than a half-dozen did so because one of the selectees had left the department or in one case was on injury leave. They were replaced by taking the person immediately preceding them on the TCLEOSE roster.

The data was then entered into a personal computer database program to prepare for analyses when sufficient returns were received.

ANALYSIS OF DATA

In addition to the general descriptive methods, the following methods were used for hypothesis testing: analysis of variance, chi square, Pearson's R, and factor analysis. For determining if a result is statistically significant, the .05

level was used as the standard for determining if the result could have been caused by chance. The SPSS Data Analysis System is the software chosen for data analysis.

In the next Chapter, I will present the data received from this process and will analyze it.

CHAPTER FOUR

Reporting the Data

Introduction

The major purpose of this study is to understand the impact of human resource development activities on the careers of peace officers in Texas. The findings of this study will provide information and guidance to administrators and planners of human resources in Texas State government and local governments.

These purposes were accomplished by (1) gathering descriptive data about the careers of peace officers in the larger local governmental agencies and (2) by postulating the following research questions and hypotheses for testing using the gathered data.

RESEARCH QUESTIONS

This study will look at the impacts upon the profession that are made by education and training. The specific questions that will be explored are:

1. Do officers who have more hours of college have a different professional orientation or a different career path experience?

2. Do officers who have more hours of in-service training differ in terms of professional orientation or differ in career path experience?
3. What is the relationship between those who receive college education and training?

From these research questions I draw the specific hypotheses in the next section.

Hypotheses

The following hypotheses will be tested during this project.

1. Peace officers who have more hours of college will score higher on professionalism inventories.
2. Peace officers who have more hours of college will be promoted more frequently.
3. Peace officers who have more hours of college will have higher rank.
4. Peace officers who have more hours of college will have more years of experience in a supervisory capacity.
5. Peace officers with a higher grade point average (GPA) will receive more promotions.
6. Peace officers with a higher grade point average will have a higher rank.
7. Peace officers with a higher grade point average will have a higher current salary.

8. Peace officers with a higher grade point average (GPA) will have had a greater gain in their salary.
9. Peace officers with a higher grade point average will have more years of specialized experience.
10. Peace officers who have more hours of college will be more likely to have worked in a specialized career assignment.
11. Peace officers who have more hours of college will make higher salaries
12. Peace officers who have more hours of college will have made greater gains in their salary from the beginning of their career.
13. Peace officers who have more hours of inservice training will have a higher score on professionalism inventories.
14. Peace officers who have more hours of inservice training have received more promotions.
15. Peace officers who have more hours of inservice training will have a higher rank.
16. Peace officers who have more training will have more years of experience in a supervisory capacity.
17. Peace officers who have more hours of inservice training will have more specialized career assignments.
18. Peace officers who have more hours of inservice training make a higher salary.

19. Peace officers who have more hours of inservice training have made greater gains in their salary from the beginning of their career.
20. Peace officers who have more hours of college will have received more hours of inservice training.
21. Peace officers who work for a department with an educational incentive plan will have more hours of college.
22. Peace officers who work for a department with a TCLEOSE Certification incentive plan will have more hours of college.
23. Peace officers who work for a department with a TCLEOSE Certification incentive plan will have more hours of training.

DATA COLLECTION

The data was gathered from the thirty-six (36) largest local governmental law enforcement agencies in the State.

The findings of this study will be presented in two major sections. The first section will contain the descriptive information obtained, and the second section will answer the hypothesized questions.

The peace officers to be surveyed were identified randomly from the lists of peace officers that TCLEOSE maintains of all licensed peace officers in the State of Texas. The thirty-six

agencies selected are the largest law enforcement agencies operated by local governments.

Thirty-six agency administrators were contacted by cover letter, with a brief explanation of the study, and a sample survey. They were asked to appoint a contact person for distributing the surveys to a sample of agency peace officers. Those contact persons were sent a letter of explanation, along with copies of the surveys, and a list of officers to be surveyed.

The number of people surveyed at each agency was based on the proportion of peace officers the agency represented in the overall sample. By taking every 32nd peace officer in the department, the sample varies from four in Carrollton to 140 in Houston. The total population sampled includes 21,065 peace officers with 658 surveys distributed and 460 returned which included four blank ones or a 70.4 per cent survey return rate. This leaves 456 completed for a final return rate of 69.3 percent. The sample breakdown is shown in Table 4.1 below.

The return rate for larger agencies was lower than for smaller agencies. This can be partially explained by the logistics of distributing and collecting surveys from a department with over 4500 officers and scattered over a wide area in a city with many substations. It is also probable that in the larger agencies the anonymity of an officer was more prevalently seen which allowed greater freedom in not filling out the survey

because of less fear of discovery. This is illustrated by the offer of one of the chief's designees in one of the smaller departments. He was concerned that he was missing one of the surveys, so he offered to read the surveys and ascertain who had not returned his or her survey, and to get them to return it. I told him that it was not necessary to protect our pledge of voluntariness and anonymity.

Representativeness of the Sample

A comparison was made of the sample to TCLEOSE data which is where the sample was drawn from and represents every licensed peace officer in the State of Texas.

AGENCY	Number of Peace Officers	Sample Size	Returned Surveys	Percent Returned
Abilene PD	162	5	5	100
Amarillo PD	261	8	8	100
Arlington PD	370	12	9	75
Austin PD	859	27	23	85
Beaumont PD	243	8	8	100
Bexar County S.O.	938	29	18	62
Brownsville PD	160	5	5	100
Carrollton PD	129	4	3	75
Corpus Christi PD	383	12	12	100
Dallas County S.O.	486	15	11	73
Dallas PD	2880	90	48	53
El Paso County S.O.	198	6	5	83
El Paso PD	828	26	16	62
Fort Worth PD	1046	33	21	64
Galveston PD	166	5	5	100
Galveston Co. S.O.	287	9	9	100
Garland PD	215	7	6	86
Grand Prairie PD	152	5	5	100
Harris County S.O.	1796	56	34	61
Houston PD	4565	142	73	51
Irving PD	261	9	9	100
Longview PD	127	4	4	100
Lubbock PD	299	9	8	89
McAllen PD	163	5	5	100
Midland PD	162	5	5	100
Montgomery Co. S.O.	301	9	9	100
Odessa PD	164	5	5	100
Pasadena P.D.	205	6	6	100
Plano PD	186	6	6	100
San Angelo PD	160	5	5	100
San Antonio PD	1543	48	35	73
Tarrant County S.O.	581	18	13	72
Travis County S.O.	286	9	6	67
Tyler PD	161	5	5	100
Waco PD	192	6	6	100
Wichita Falls PD	150	5	5	100
TOTALS	21,065	658	456	69.3%

The following Tables indicate that the sample was comparable to the population. It was over represented by females, see Table 4.2 and Figure 4.1 which probably indicates that they are more likely to return their surveys and the urban nature of the sample. It was slightly under represented by white males, see Table 4.3 and Figure 4.2. This may have been caused by the urban nature of the sample.

It was also under represented in groups of officers under the age of 25 and of officers over 50. This is explained by the fact that most of these departments are civil service which have a maximum beginning age of 35 with strong encouragement and incentives to retire after twenty years or at 55 (See Table 4.4 and Figure 4.3). Ninety-one percent of the sample is under civil service.

The sample officers were more likely to have worked with only one department (See Table 4.5 and Figure 4.4). They also have more years of experience than the total listing by TCLEOSE of officer population in Texas (See Table 4.6 and Figure 4.5). This type of stability is another characteristic of civil service departments.

Taken altogether the sample represents the urban local law enforcement agencies in Texas. The results of

Table 4.2

Gender Comparison with Sample and TCLEOSE Data

	Percent Sample	Percent TCLEOSE Population*	Percent P.O. Population
Male	82.6	87.8	91.5
Female	17.4	12.2	8.5

*These figures are based on the total TCLEOSE licensing population of 62,290 on 8-17-92, including jail and reserve licensees.

**These figures are based on the total TCLEOSE licensed peace officers population of 47,749 on 8-17-92, excluding all other licensees.

Figure 4.1 Insert

Table 4.3

Ethnic Comparison with Sample and TCLEOSE Data

Ethnic Category	Percent	Percent
	Sample	TCLEOSE Population*
African-American	7.8	7.9
American-Indian	2.4	0.2
Asian-American	0.7	0.2
Hispanic-American	17.8	15.3
Anglo-American	71.3	76.8

*These figures are based on the total TCLEOSE licensing population of 62,290 on 8-17-92, including jail and reserve licensees.

Insert Figure 4.2

Table 4.4

Age Comparison with Sample and TCLEOSE Data

Age Group	Percent Sample	Percent TCLEOSE Population*
Less than 25	2.9	6.1
25 to 29	13.6	15.6
30 to 34	21.9	18.1
35 to 39	20.8	16.6
40 to 44	18.4	15.4
45 to 49	13.2	11.5
50+	9.2	16.7

*These figures are based on the total TCLEOSE licensing population of 62,290 on 8-17-92, including jail and reserve licensees.

Insert Figure 4.3

Table 4.5 Number of Previous Jobs

Number of Previous Jobs	Percent Sample	Percent TCLEOSE Population*
One	82.1	60.9
2 to 10	17.9	30.1

*These figures are based on the total TCLEOSE licensing population of 62,290 on 8-17-92, including jail and reserve licensees.

Figure 4.4 Insert here

Table 4.6

Employment Years Comparison Between Sample and TCLEOSE Data

Years of Experience Group	Percent Sample	Percent TCLEOSE Population*
Less than 5 years	17.8	31.2
5 to 9 years	21.9	26.2
10 to 14 years	23.9	20.4
15 to 19 years	17.3	10.6
20+	19.1	11.5

*These figures are based on the total TCLEOSE licensing population of 62,290 on 8-17-92, including jail and reserve licensees.

Figure 4.5 Inserted Here

this data analysis should be generalizable to agencies of this size without problem.

It should be noted that most agencies in Texas are smaller than those represented in the sample. There are some State agencies, such as, the Texas Department of Public Safety, Alcohol Beverage Commission, Parks and Wildlife Commission which contain large numbers of peace officers who were not included in this sample. They were not included because the logistics of sampling are more difficult with agents scattered all over the state, and their mission is different from the local agencies reviewed here.

The smaller agencies may differ from the larger ones in the sample. The larger agencies in the sample are more likely to be civil service type agencies with more formalized human resources practices.

DESCRIPTIVE DATA FROM SURVEY

Items two through 26 make up the professionalism scale talked about in Chapter Three. The specific constructs that make up the scale are as follows:

1. **service** which measures belief in the importance of the policing occupation to society;
2. **regulation** which measures the ability to judge the competence of officers;
3. **calling** which measures the belief in the respondent's calling to the field and the dedication of officers;
4. **referent** which taps the use of professional organizations as major referents.
5. **autonomy** which measures the belief about the person's ability to make independent decisions about their work performance.
6. **alienation** which measures one's satisfaction with their job.

The individual results are reported in Appendix B.1. Table 4.7 shows the mean score and standard deviation for the six constructs.

Table 4.7

Descriptive Statistics For Professionalism Composite Indices

<u>Construct</u>	<u>Mean</u>	<u>SD</u>
Service	3.736	.591
Regulation	3.804	.619
Calling	3.286	.616
Referent	2.8232	.750
Autonomy	3.752	.596
Alienation	3.997	.774

Items 27 through 35 were concerned with the officers' motivations in seeking training. The chart in Appendix B.2 shows that in terms of the mean response that seeking job skills was most important, with enjoyment of training being second, and TCLEOSE intermediate and advanced certificates being third. In looking at the mode of the responses others showing high importance are advancement, job skills, TCLEOSE certification, and the TCLEOSE 40 hour requirement for 40 hours of inservice every 24 months. If the median is used the three top motivators are job skills, enjoyment, and TCLEOSE certification.

Item 36 asked for the number of years since basic training. The range was from zero years to thirty-five with a mean of 11.97, a mode of 10, a median of 11, and a standard deviation of 7.6.

Item 37 asked for the number of hours in basic training. This item was not responded to by 92 of the officers or 20.2 per cent of the sample. The most logical explanation for this is the lack of recall of this information. The mean for this item from the 364 respondents who recalled their basic training hours was 571, with a mode of 400 (the State mandated minimum from 1982 through the present), a median of 531, and a standard deviation of 267.3.

Item 38 recorded the type of basic training academy. The type of basic academy was broken into six categories state,

regional, college, local (county or municipal), other, and did not attend basic. This data is reported in Appendix B.3.

The amount of inservice is recorded in item 39. Eight categories of data were provided. This item, as did item 37 concerning basic training, had a high number of missing data responses with 11.6 percent not choosing one of the eight options. The reasons for this are probably the same as item 37. For purposes of analysis, this item was recoded into a new variable called TRAIN. Table 4.8 shows these groupings.

Item 40 asked for the percentage of inservice training that they sought out as opposed to their department assigning them to attend. The responses ranged from zero to 100 percent, with a mean of 37, a mode of zero, a median of 30, and a standard deviation of 29.7. This item also had a high number of missing cases with 60 or 13.2 percent being left blank. The second highest response after zero was 50 percent.

Items 41 through 47 asked whether they had one of seven TCLEOSE certifications or licenses that are available to peace officers beyond the peace officer license. The percentage of respondents saying that they had a particular license or certification is shown in Table 4.9 below. The percentage reported is the valid percentage which excludes missing data for an item. The missing data on these items ranged from 2.6% to 4.2% depending upon the item.

Item 48 asked for the years since college. The data was asked for in six categories. Table 4.10 contains this information.

Item 49 requested the total hours of college. The mean number of hours was 73.9 and the median 64, and a standard deviation of 58.9. Thirty percent report a college degree.

Item 50 asked for the percentage of college hours received prior to employment as a peace officer. Forty-two percent of the officers received 90% or more of their college hours prior to employment. On the other extreme over 13 percent had received no college hours prior to employment. The data is provided in the Appendix B.4.

Table 4.8 Amount of Inservice Training

<u>Amount</u>	<u>Frequency</u>	<u>Percent</u>
Zero	8	2.0
1 to 100	56	13.9
101 to 200	43	10.7
201 to 300	54	13.4
301 to 400	50	12.4
401 to 500	49	12.2
501 to 600	29	7.2
601 to 700	18	4.5
701 plus	96	23.8

Recoded Inservice Training

<u>Amount</u>	<u>Frequency</u>	<u>Percent</u>
Zero to 200	107	26.6
201 to 400	104	25.8
401 to 600	78	19.4
601 plus	114	28.3

N=403

Missing 53 11.6%

Table 4.9

Certification Levels Of Sample

Intermediate Certification	80.8%
Advanced Certification	57.7%
Instructor License	22.3%
Crime Prevention Certification	10.2%
Investigative Hypnosis License	0.9%
Jail License	20.5%
Management Institute Certification	2.0%

Table 4.10

Years Since College

<u>Years Since College</u>	<u>Frequency</u>	<u>Percent</u>
Did not attend	59	13.0
Currently attending	31	6.8
One year ago	24	5.3
Two to five years ago	82	18.1
Six to ten years ago	99	21.9
Eleven plus years ago	158	34.9
Missing	3	0.7

Item 51 gathered their grade point averages into six categories. The data is displayed in the Table 4.11 below.

Items 52 through 63 were concerned with the officers' motivations in seeking college. The chart in the Appendix B.5 shows that seeking job skills was most important, with enjoyment of learning being second, and TCLEOSE intermediate and advanced certificates being third. These are the same top three motivations as identified earlier as the top three motivations for seeking training.

Items 64 through 68 ask officers to estimate the percentage of their college that came in a particular area. There were five areas identified:

1. Criminal Justice and/or Law Enforcement.
2. Liberal Arts (English, Humanities, Arts, History, Economics, Languages).
3. Social Science (Sociology, Psychology, Political Science, Anthropology).
4. Social Professions (Social Work, Education, Business Administration).
5. Natural Science (Chemistry, Math, Statistics, Physics, Agriculture).

Table 4.11

Grade Point Averages

Grade Point Average	Frequency	Percent
No College GPA	62	14.0
0.0 to 1.0	1	0.2
1.1 to 1.9	8	1.8
2.0 to 2.49	53	12.0
2.5 to 2.99	102	23.1
3.0 to 3.49	150	33.9
3.5 to 4.0	66	14.9
Missing	14	3.1

The complete results for items 64 through 68 are contained in the Appendix B.6. The mean percentage of the coursework by major areas taken from item 64 through item 68 gives an approximate percentage of the course taken from the different areas of the curriculum. In addition, item 69 also dealt with curriculum content. Item 69 asked for the major of the officer. The vast majority were criminal justice or law enforcement majors. Table 4.12 displays these results about course work content.

Item 70 asked them in what areas if any did they have the most prior criminal justice experience. Seventy percent reported no criminal justice experience prior to becoming a peace officer. Table 4.13 displays those results.

Item 71 asked the officers how many hours a week did they work at an off-duty security job. Fifty-six percent reported that they did spend some time working at an off-duty job. Complete results are shown in Appendix B.7.

Item 72 asked the officer how many years of prior experience did they have as a reserve law enforcement officer. Nearly eleven (10.8) percent reported at least one year of experience as a reserve. Of those reporting

Table 4.12

Percentage of Coursework by Areas

<u>Major Area</u>	<u>Mean</u>	<u>Approximate Percent</u>
Criminal Justice	3.39	33.9
Liberal Arts	2.12	21.2
Social Sciences	1.86	18.6
Social Profession	1.24	12.4
Natural Sciences	1.20	12.0

Major

<u>Major Area</u>	<u>Frequency</u>	<u>Percent</u>
No college or major	54	12.6
Criminal Justice	223	52.1
Liberal Arts	42	9.8
Social Sciences	26	6.1
Social Professions	56	13.1
Natural Sciences	27	6.3

N=428

Table 4.13

Prior Criminal Justice Experience

<u>Prior Experience</u>	<u>Frequency</u>	<u>Percent</u>
None	319	70.7
Clerical	14	3.1
Emergency Communications	13	2.9
Corrections	47	10.4
Reserve Law Enforcement	20	4.4
Probation or Parole	2	0.4
Other	36	8.0

N=451

Missing= 5

reserve experience, 63 percent were for two years or less.

Item 73 asked for the number of agencies worked for. The results indicated that 17.9 percent worked for more than one agency. Seventy-four percent of those who worked for more than one agency only worked for two agencies. Two individuals (0.5%) reported working for five agencies. Table 4.5 displays those results.

Items 74 through 86 records the number of years of experience in the different areas of law enforcement. Each area will be displayed individually below in Table 4.14 showing the percentage that worked at least one year in the specialty. The areas are: patrol, detention, emergency communications, administration, criminal investigation, civil warrants, criminal warrants, field training officer, training, crime prevention, research, planning, and crime analysis, juvenile, and other.

Item 87 records their total experience as a peace officer which ranges from one year to 35, with a mean of 12.3, a mode of 10, a median of 12, and a standard deviation of 7.60.

Table 4.14

Percent with Experience in a Specialization

<u>Specialization</u>	<u>Frequency</u>	<u>Percent</u>
Patrol	400	88.3
Detention	111	24.5
Emergency Communications	36	7.9
Administration	55	12.1
Criminal Investigation	156	34.4
Civil Warrants	7	1.5
Criminal Warrants	35	7.7
Field Training Officer	105	23.1
Training	52	11.5
Crime Prevention	20	4.4
Research and Planning	17	3.7
Juvenile Officer	24	5.3
Other Specialty	104	23.0

Item 88 asked for the number of promotions received. While 47.3 percent did not report receiving a promotion, 52.7 percent reported receiving at least one promotion. Table 4.15 displays those results.

Item 89 asked for the number of demotions received. Only six officers or 1.3 percent reported receiving a demotion.

Item 90 asked for their current rank. Over 45 percent were at a rank higher than officer. Table 4.16 displays those results.

Item 91 asked for their birth year. The range was from 1925 to 1971, with mean being 1954, the mode 1962, and the median 1956. This computes to a mean age of 38, a mode of 31, a median 37, and a standard deviation of 8.4. The graph in Figure 4.1 below displays those results.

Item 92 asked them to state their ethnic status into one of five categories. Table 4.3 displayed those results.

Items 94 through 104 asked them their years of experience at the different ranks within the organization. Table 4.17 displays the percentage and number of those who have any level of experience at a particular rank.

Table 4.15

Promotions

Number of Promotions	Frequency	Percent
None	214	47.3
One	134	29.6
Two	61	13.5
Three	31	6.9
Four	8	1.8
Five	4	0.9

N=452

Missing= 4

Table 4.16

Current Rank

<u>Current Rank</u>	<u>Frequency</u>	<u>Percent</u>
Officer	249	54.8
Corporal	70	15.4
Sergeant	90	19.8
Lieutenant	29	6.4
Captain	11	2.4
Major	1	0.2
Deputy Chief	4	0.9
Chief Administrator	0	0.0

N=454

Missing= 2

Table 4.17

Experience as A Supervisor

Supervisory		
<u>Position</u>	<u>Frequency</u>	<u>Percent</u>
Corporal	116	25.7
Sergeant	135	30.1
Lieutenant	38	8.4
Captain	15	3.3
Major	2	0.4
Deputy Chief	2	0.4
Asst. Chief	2	0.4
Chief Deputy	2	0.4
Constable	1	0.2
Chief	2	0.4
Sheriff	1	0.2

Item 105 records the total years of supervisory experience for the sample. The range is from 0 to 32 years of experience, the mean is 3.44, the mode after zero is two, the median is zero, and the standard deviation is 5.45.

Item 106 asked their beginning salary as a peace officer. This item has one of the highest levels of missing data with 99 cases missing. The explanation for this is because of two reasons. One, it is difficult to remember salaries years later, and second, people are reluctant to disclose their salary viewing it somewhat as an invasion of privacy. From the reported data, the range is from \$200 to \$2550, the mean is \$1388, the mode is \$1600, the median is \$1509, and the standard deviation is \$551.59.

Item 107 asked for their current salary as a peace officer. It too had a high level of missing data with 49 cases missing. The explanation for this has to be because of the privacy issue. From the reported data, the range is from \$1500 to \$5889, the mean is \$2706, the mode is \$3000, the median is \$2667, and the standard deviation is 643.42.

Item 108 asks for the percentage of income from departmental overtime. Fifty-three percent report

Table 4.18

Percent of Income from Departmental Overtime		
Percentage of Income	Frequency	Percent
Zero	201	46.6
10 %	177	41.1
20 %	37	8.6
30 %	12	2.8
40 % or more	4	0.9
N=433		
Missing=	25	

income of up to 10 percent of their base salary from departmental overtime. Table 4.18 shows the results.

Fifty-five percent report income of up to 10 percent of their base salary from second job overtime. Nearly four percent report to receiving 40 percent or more from their second job income. Table 4.19 shows the results.

Information was also collected from the departments about their human resources practices to determine their effects on the officer's careers. This data was joined with the officer's data based on which department they were a member. Tables 4.20 show these results. Descriptions about the levels of a department's college incentive pay and certification pay are contained in Appendix B.8.

It was also necessary to look at the type and size of the department. Table 4.21 displays the number and percent of people belonging to departments of either a municipal police department or a county sheriff's department and the size of the department which includes all personnel.

Table 4.19

Percent of Income from Second Job Income

<u>Percentage of Income</u>	<u>Frequency</u>	<u>Percent</u>
Zero	188	45.0
10 %	124	29.7
20 %	55	13.2
30 %	33	7.9
40 % or more	18	4.3

N=418

Missing= 38

Table 4.20

Departmental Practices and Policies

Practice or Policy	Frequency	Percent
Civil Service	415	91.0
Written entry test	438	96.1
College entry requirement	157	34.4
Rotating shifts	174	38.2
Written promotion test	447	98.0
Promotion oral board	168	36.8
Promotion interview	107	23.5
Promotion assessment center	187	41.0
Promotion supervisor input	91	20.0
Promotion educational criteria	32	7.0
Promotion experience criteria	129	28.3
Promotion other criteria	84	18.4
College incentive pay	289	63.4
Certification pay	273	59.9
Incentive pay for tuition	153	33.6
Reimburse for tuition	238	52.2
College for promotion	45	8.9

Table 4.21

Type And Size Of Department

Type of Department

<u>Type of Department</u>	<u>Frequency</u>	<u>Percent</u>
Municipal	351	77.0
Sheriff's Department	105	23.0

Size of Department

Size of

<u>Department</u>	<u>Frequency</u>	<u>Percent</u>
50 to 199	41	9.0
200 to 999	170	37.3
1000+	245	53.7

RESEARCH QUESTIONS AND HYPOTHESES

In this next section, I will present the analysis that relates to the research questions and hypotheses. This will result in either an acceptance or rejection of the null hypothesis in the 23 stated hypotheses.

The Effects of College Education

The research question asked is: Do officers who have more hours of college have a different professional orientation or a different career path experience? The following sections will deal with each hypothesis in turn to try to get at the impact of college education on the careers of peace officers in Texas.

Hypotheses

1. Peace officers who have more hours of college will score higher on professionalism inventories.

This hypothesis was tested using a professionalism instrument as discussed in Chapter Three. Confirmatory factor analysis was done on the five professionalism constructs: service, regulation, calling, referent, and autonomy. In addition, the construct of alienation widely used in the literature as described in Chapters Two and Three was included. This confirmatory factor analysis resulted in the creation of sub

factors in two of the constructs. The factor analysis created a regression factor score which was analyzed using analysis of variance. These constructs were then analyzed as dependent variables using analysis of variance with a college degree being the independent variable. The result of this analysis indicates on most of the constructs that those officers with a college degree do not score significantly differently from those without a degree. The specific construct by construct analysis follows. Table 4.22 below shows the results for all of the professionalism constructs.

The first factor looked at was service which measures belief in the importance of the policing occupation to society. The analysis of variance resulted in an F score of 2.879 with a significance level of .090 which was not within the .05 test of significance.

The second factor examined was regulation which measures belief in the ability to judge the competence of officers. Since the factor analysis created two separate factors regulation one was labeled belief in judging competence and regulation two was belief in knowing the competence. The analysis of variance for regulation one resulted in an F score of 2.079 with a significance level of .150 which was not within the .05 test of significance. The analysis of variance for regulation two resulted in an F score of 6.021 with a significance level of .014 which was within the

.05 test of significance. The means between the two groups were, however, different in the wrong direction.

The third construct reviewed is calling which measures the belief in the respondent's calling to the field and the dedication of officers. Since the factor analysis created two separate factors calling one was labeled dedication or commitment calling and calling two was idealistic calling. The analysis of variance for calling one resulted in an F score of 5.419 with a significance level of .020 which was within the .05 test of significance. The means between the two groups were different in the wrong direction. The analysis of variance for calling two resulted in an F score of .004 with a significance level of .950 which was not within the .05 test of significance.

A fourth construct looked at was referent which taps the use of professional organizations as major referents. The analysis of variance resulted in an F score of .086 with a significance level of .770 which was not within the .05 test of significance.

A fifth factor examined was autonomy which measures the belief about the person's ability to make independent decisions about their work performance. The analysis of variance resulted in an F score of .257 with a significance level of .613 which was not within the .05 test of significance.

A sixth construct reviewed was alienation which measures one's satisfaction with their job. The analysis of variance

resulted in an F score of .002 with a significance level of .963 which was not within the .05 test of significance.

Since only two of the constructs were related to whether one has a college degree, and those were negatively related, it is clear that the hypothesis is not supported. The null hypothesis is accepted.

Table 4.22

Professionalism and College Degree

Construct	Significance	
	F-Score	of F
Service	2.879	.090
Regulation 1	2.079	.150
Regulation 2	6.089	.014*
Calling 1	5.419	.020*
Calling 2	.004	.952
Referent	.086	.770
Autonomy	.257	.613
Alienation	.002	.963

*Statistically significant differences, but in the wrong direction

2. Peace officers who have more hours of college will be promoted more frequently.

This hypothesis was tested by using analysis of variance with number of promotions as the dependent variable and amount of college as the independent variable controlling for years of experience. Table 4.23 shows that the difference is statistically significant.

It should be noted that the mean for promotions for the group with one to 59 hours is less than the zero hours group. If the data were grouped as in Table 4.24, the pattern would differ. Many have argued for an associate Degree requirement or sixty hours for educational level while others have pushed for the full bachelors degree. It appears that both cut off points indicate a significant gain in outcome. The hypothesis is supported. The null hypothesis is rejected.

3. Peace officers who have more hours of college will have higher rank.

This hypothesis was tested in two ways by Chi-Square and analysis of variance. First by constructing a simple cross tabulation and doing a Chi-Square. Table 4.25 shows the results with a clear trend linking higher levels of college with rank.

Table 4.23

Promotions by College

<u>Amount of College</u>	<u>Number</u>	<u>Promotions Mean Score</u>
Zero hours of college	61	0.74
1 to 59 hours	151	0.56
60 to 119 hours	102	1.01
120+ hours	135	1.24
Total Sample Mean		0.89

Analysis of Variance

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
E88 by Col with E87					
Covariates E87	115.814	1	115.814	132.565	.000
Main Effects Col	23.160	3	7.720	8.837	.000
Explained	138.974	4	34.743	39.769	.00
Residual	387.895	444	0.874		
Total	526.869	448	1.176		

Multiple R Squared .264

456 cases processed. 7 cases (1.5 pct) were missing.

Table 4.24

Promotions by College Levels with Alternative Break Points

Amount of College	Promotions Number	Mean Score
Zero to 59 hours	212	0.61
60 to 119 hours	102	1.01
120+ hours	135	1.24
Total Sample Mean		0.89

Analysis of Variance

Source of Variation	E88 by Col3 with E87		Promotions Level of College Total Experience		Sig of F
	Sum of Squares	DF	Mean Square	F	
Covariates E87	115.814	1	115.814	132.837	.000
Main Effects Col	23.080	2	11.540	13.236	.000
Explained	138.894	3	46.298	53.103	.00
Residual	387.975	445	0.872		
Total	526.869	448	1.176		

Multiple R Squared .264

456 cases processed 7 cases (1.5 pct) were missing.

Table 4.25

Current Rank by Amount of College

Rank	Amount of College				Number
	Zero	1 to 59	60 to 119	120+	
Officer	15.7%	43.4%	19.7%	21.3%	249
Corporal	4.3%	24.3%	40.0%	31.4%	70
Sergeant	18.9%	20.0%	15.6%	45.6%	90
Lieutenant	6.9%	20.7%	27.6%	44.8%	29
Captain	9.1%	27.3%	18.2%	45.5%	11
Major	0.0%	0.0%	100.0%	0.0%	1
Deputy Chief	0.0%	0.0%	25.0%	75.0%	4
Total	13.7%	33.5%	22.7%	30.2%	454

Number of Missing Observations: 2

Table 4.26

Amount of College by Rank

<u>Amount of College</u>	<u>Years of Supervisory Experience</u>
Zero hours of college	1.76
1 to 59 hours	1.55
60 to 119 hours	1.97
120+ hours	2.33
Total Sample Mean	1.91

Analysis of Variance

Source of Variation	E105 by Col with E87		Total Supervisory Experience Level of College Total Experience		
	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	176.529	1	176.529	171.665	.000
Main Effects Col	28.104	3	9.368	9.110	.000
Explained	204.633	4	51.158	49.749	.00
Residual	458.639	446	1.028		
Total	663.273	450	1.474		
456 cases processed 5 cases (1.1 pct) were missing.					

These differences were shown to be significantly different by using Pearson's Chi-Square. The F value was 60.81 with a significance level of 0.000.

The second test run was an analysis of variance. The comparison of rank by amount of college controlling through covariance for years of experience. The means for the four levels does not indicate a straight linear impact for college. Table 4.26 shows that some college, but less than 60 does not have a positive impact upon rank. The hypothesis is supported. The null hypothesis is rejected.

4. Peace officers who have more hours of college will have more years of experience in a supervisory capacity.

This hypothesis was tested by using analysis of variance. Total years of supervisory/management experience was factored with college level (both the associate degree or 60 hour level and the bachelor degree level) and controlling for total experience. Table 4.27 shows an F of 6.793 for college with a significance level of 0.001. The hypothesis is accepted, and the null hypothesis is rejected.

5. Peace officers with a higher grade point average (GPA) will receive more promotions.

This hypothesis was tested using analysis of variance. Number of promotions served as the dependent variable and GPA served as the independent variable controlling for years of

experience. Because there were only nine cases with a GPA below 2.0, they were combined into the category for below 2.5 for purposes of this analysis. Table 4.28 shows the results which indicates that as GPA goes up so do the number of promotions. The F score of 3.626 was significant at the .013 level. This hypothesis is accepted, and the null hypothesis is rejected.

6. Peace officers with a higher grade point average will have a higher rank.

This hypothesis was tested using analysis of variance. Rank served as the dependent variable and GPA served as the independent variable controlling for years of experience. The GPA categories were as stated in the previous section. Table 4.29 shows the results which indicates that as GPA goes up so does rank. The F score of 4.873 was significant at the .002 level. This hypothesis is accepted, and the null hypothesis is rejected.

Table 4.27

Amount of College by Supervisory Experience

Amount of College	Years of Experience
Zero to 59 hours of college	2.34
60 to 119 hours	3.87
120+ hours	4.85
Total Sample Mean	3.44

Analysis of Variance

E105
by Col3
with E87

Total Super/Management Experience
College Level
Total Experience

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	4952.456	1	4952.456	274.849	.000
Main Effects Col3	244.798	2	122.399	6.793	.001
Explained	5197.254	3	1732.418	96.145	.00
Residual	7946.296	441	18.019		
Total	13143.551	444	29.603		

Multiple R Squared .395

456 cases processed 11 cases (2.4 pct) were missing.

Table 4.28

Promotions by Grade Point Average (GPA)

GPA Level	Mean Number of Promotions	Number
Below 2.49	0.54	61
2.5 to 2.99	0.88	100
3.0 to 3.49	1.01	149
3.5 to 4.0	1.20	64

Analysis of Variance

Source of Variation	E88 by GPA with E87	Promotions Grade Point Average Total Experience	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates							
E87			98.341	1	98.341	103.487	.000
Main Effects							
GPA			10.336	3	3.445	3.626	.013
Explained			108.678	4	27.169	28.591	.00
Residual			350.651	369	.950		
Total			459.329	373	1.231		

Multiple R Squared .273

456 cases processed 82 cases (18.0 pct) were missing.

Table 4.29

Rank by Grade Point Average (GPA)

GPA Level	Rank	Number
Below 2.49	1.47	62
2.5 to 2.99	1.87	101
3.0 to 3.49	2.03	148
3.5 to 4.0	2.30	64

Analysis of Variance

Source of Variation	E90 by GPA with E87	Rank Grade Point Average Total Experience	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates							
E87			148.937	1	148.937	135.176	.000
Main Effects							
GPA			16.107	3	5.369	4.873	.002
Explained			165.043	4	41.261	37.449	.00
Residual			407.666	370	1.102		
Total			572.709	374	1.531		

Multiple R Squared .288

456 cases processed 81 cases (17.8 pct) were missing.

7. Peace officers with a higher grade point average will have a higher current salary.

This hypothesis was tested using analysis of variance. Current Salary served as the dependent variable and GPA served as the independent variable controlling for years of experience. The GPA categories were as stated in the previous section. Table 4.30 shows the results which indicates that as GPA goes up so does current salary. The F score of 3.233 was significant at the .020 level. This hypothesis is accepted, and the null hypothesis is rejected.

8. Peace officers with a higher grade point average (GPA) will have had a greater gain in their salary.

This hypothesis was tested using analysis of variance. Salary Gain served as the dependent variable and GPA served as the independent variable controlling for years of experience. The GPA categories were as stated in the previous section. Table 4.31 shows the results which indicates that as GPA goes up so does the gain in salary. The F score of 3.022 was significant at the .030 level. This hypothesis is accepted, and the null hypothesis is rejected.

Table 4.30

Current Salary by Grade Point Average (GPA)

GPA Level	Current Salary	Number
Below 2.49	2446	55
2.5 to 2.99	2719	94
3.0 to 3.49	2801	131
3.5 to 4.0	2859	57

Analysis of Variance

S107 Current Salary
by GPA Grade Point Average
with E87 Total Experience

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	47087533	1	47087533	167.354	.000
Main Effects GPA	2805173	3	935058	3.233	.020
Explained	4982706	4	12473176	44.331	.00
Residual	93413248	332	281365		
Total	143305954	336	426506		

Multiple R Squared .348

456 cases processed 119 cases (26.1 pct) were missing.

Table 4.31

Gain by Grade Point Average (GPA)

<u>GPA Level</u>	<u>Mean Gain</u>	<u>Number</u>
Below 2.49	927	50
2.5 to 2.99	1252	80
3.0 to 3.49	1495	112
3.5 to 4.0	1442	48

Analysis of Variance

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	170325257	1	17032527	503.318	.000
Main Effects GPA	3068165	3	1022722	3.022	.030
Explained	173393422	4	43348356	128.096	.000
Residual	96445316	285	338405		
Total	269838738	289	933698		

Multiple R Squared .643

456 cases processed 166 cases (36.4 pct) were missing.

9. Peace officers with a higher grade point average will have more years of specialized experience.

This hypothesis was tested using analysis of variance. Years of Specialized Experience served as the dependent variable and GPA served as the independent variable controlling for years of experience. The GPA categories were as stated in the previous section. Table 4.32 shows the results which indicates that as GPA goes up so do years of specialization, but not significantly. The F score of 1.189 was significant at the .314 level. This hypothesis is not accepted, and the null hypothesis is accepted.

10. Peace officers who have more hours of college will be more likely to have worked in a specialized career assignment.

This hypothesis was tested by computing the total years of experience in a specialized function, that is, administration, criminal investigation, civil warrants, criminal warrants, field training officer, training, crime prevention, research, juvenile, and other. This total years of specialized experience was covaried with total years of experience as peace officer before the main effects of college degree were computed. The results shown in the Table 4.33 below indicate that a

Table 4.32

Years of Specialization by Grade Point Average (GPA)

GPA Level	Mean Years of Specialization	Number
Below 2.49	3.95	62
2.5 to 2.99	5.03	101
3.0 to 3.49	6.46	147
3.5 to 4.0	6.03	64

Analysis of Variance

Source of Variation	SPEC by GPA with E87	Years of Specialization Grade Point Average Total Experience	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87			8299.182	1	8299.182	434.660	.000
Main Effects GPA			68.084	3	22.695	1.189	.314
Explained			8367.266	4	2091.816	109.557	.000
Residual			7045.496	369	19.093		
Total			15412.762	373	41.321		

Multiple R Squared .543

456 cases processed 82 cases (18.0 pct) were missing.

Table 4.33

College Level by Specialized Experience

<u>Degree</u>	Mean Years of <u>Specialization</u>	<u>Number</u>
Less than 60 hours	4.41	213
60 to 119 hours	5.88	102
Bachelor's Degree or Greater	6.74	134

Analysis of Variance

Source of Variation	SPEC by Col3 with E87	Sum of Squares	DF	Years of Specialization College Level Total Experience	Mean Square	F	Sig of F
Covariates							
E87		9359.482	1	9359.482	468.593		.000
Main Effects							
Col3		133.157	2	66.578	3.396		.036
Explained		9492.638	3	3164.213	158.709		.000
Residual		8872.048	445	19.937			
Total		18364.686	448	40.993			

Multiple R Squared .517

456 cases processed 7 cases (1.5 pct) were missing.

college degree has some effect with an F of 3.396 at a level of significance of 0.036. The hypothesis is supported, and the null hypothesis is rejected.

11. Peace officers who have more hours of college will make higher salaries.

An analysis of variance was done looking at current salary as the dependent variable and whether one had a college degree as the independent variables with total experience as the covariate. Table 4.34 shows that having a college degree is significantly related to one's current salary with an F of 14.535 at a level of significance below .001.

This analysis of variance Table indicates that those people with more than 60 hours of college make more than those with less, and that those with more than 120 hours or a college degree equivalent do make a higher salary than those who do not have a degree and that the difference is statistically significant. The hypothesis is supported. The null hypothesis is rejected.

Table 4.34

Current Salary by Amount of College

	Mean	
<u>Degree</u>	<u>Salary</u>	<u>Number</u>
Less than 60 hours	\$2561	188
60 to 119 hours	\$2689	93
Bachelor's Degree or Greater	\$2957	123
Sample Mean	\$2711	404

Analysis of Variance

	S107 by Col3 with E87	Current Salary College Level Total Experience			
Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates					
E87	54137638	1	54137637.680	208.425	.000
Main Effects					
Col3	7551082	2	3775540	14.535	.000
Explained	61688720	3	20562906.522	79.165	.00
Residual	103898513	400	259746.282		
Total	1065587232	403	410886.432		

Multiple R Squared .373

456 cases processed 52 cases (11.4 pct) were missing.

12. Peace officers who have more hours of college will have made greater gains in their salary from the beginning of their career.

An analysis of variance was done looking at gain in salary as the dependent variable and whether one had a college degree and amount of training as the independent variables with total experience as the covariate. Table 4.35 shows that having a college degree is significantly related to one's gain in salary with an F of 8.98 at a level of significance below 0.001.

This analysis of variance Table indicates that those people with a college degree either at the associate's level or bachelor's level have made greater gains in their salary than those who do not have a degree and that the difference is statistically significant. The hypothesis is supported, and the null hypothesis is rejected.

Table 4.35

Salary Gain by Amount of College

<u>Degree</u>	<u>Mean Gain</u>	<u>Number</u>
Less than 60 hours	\$1109	165
60 to 119 hours	\$1266	72
Bachelor's Degree or Greater	\$1596	109
Sample Mean	\$1295	346

Analysis of Variance

Source of Variation	Gain by Col3 with E87	Gain in Salary College Level Total Experience	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87			203146166	1	203146165	638.828	.000
Main Effects Col3			5711401	2	2855700	8.980	.000
Explained			208857567	3	69619188	218.929	.000
Residual			108755420	342	317998		
Total			317612986	345	920617		

Multiple R Squared .658

456 cases processed 110 cases (24.1 pct) were missing.

THE EFFECTS OF TRAINING

The research question asked is: Do officers who have more hours of in-service training differ in terms of professional orientation or differ in career path experience?

The following sections will deal with each hypothesis in turn to try to get at the impact of inservice training on the careers of peace officers in Texas.

Hypotheses

13. Peace officers who have more hours of inservice training will have a higher score on professionalism inventories.

This hypothesis was tested using the professionalism instrument discussed in Chapter Three. Confirmatory factor analysis was done on the five professionalism constructs: service, regulation, calling, referent, and autonomy. In addition, the construct of alienation widely used in the literature as described in Chapters Two and Three was included. The confirmatory factor analysis resulted in the creation of sub factors in two of the constructs. The factor analysis created a regression factor score which was analyzed using analysis of variance. This score was the dependent variable and one's level of training was the independent variable. These constructs were then analyzed as dependent variables using analysis of variance

with a college degree being the independent variable. The result of this analysis indicates on most of the constructs that those officers with higher levels of training do not score significantly differently from those with lower levels of training. The specific construct by construct analysis follows. Table 4.36 below shows the results for all of the professionalism constructs.

The first factor looked at was service which measures belief in the importance of the policing occupation to society. The analysis of variance resulted in an F score of .528 with a significance level of .663 which was not within the .05 test of significance standard.

The second factor examined was regulation which measures the ability to judge the competence of officers. Since the factor analysis created two separate factors regulation one was labeled judging competence and regulation two was knowing the competence. The analysis of variance for regulation one resulted in an F score of 1.277 with a significance level of .282. The analysis of variance for regulation two resulted in an F score of .371 with a significance level of .774. Neither of the scores were within the .05 test of significance standard.

The third construct reviewed is calling which measures the belief in the respondent's calling to the field and the dedication of officers. Since the factor analysis created two separate factors calling one was labeled dedicated or commitment calling

and calling two was idealistic calling. The analysis of variance for calling one resulted in an F score of 1.200 with a significance level of .309. The analysis of variance for calling two resulted in an F score of 2.158 with a significance level of .096. Neither of the scores were within the .05 test of significance standard.

A fourth construct looked at was referent which taps the use of professional organizations as major referents. The analysis of variance resulted in an F score of 6.299 with a significance level of .000 which was within the .05 test of significance.

A fifth factor examined was autonomy which measures the belief about the person's ability to make independent decisions about their work performance. The analysis of variance resulted in an F score of 2.271 with a significance level of .089 which was not within the .05 test of significance.

A sixth construct reviewed was alienation which measures one's satisfaction with his job. The analysis of variance resulted in an F score of 2.416 with a significance level of .066 which was not within the .05 test of significance.

Since only one of the constructs is positively related to amount of training, the overall professionalism scale does not appear to be related to amount of training. The hypothesis cannot be supported. The null hypothesis is accepted.

14. Peace officers who have more hours of inservice training have received more promotions.

This hypothesis was tested using analysis of variance to compare the mean number of promotions by the amount of training they have received controlling for years of experience. Table 4.37 displays the results. The hypothesis cannot be accepted because the differences were not statistically significant. The significance of F was only 0.140 which is considerably above the 0.05 level. The null hypothesis is accepted.

15. Peace officers who have more hours of inservice training will have a higher rank.

This hypothesis was tested using analysis of variance. The dependent variable was rank and the amount of inservice was the independent variable with total experience being covaried out.

The results with

an F score of 5.078 and a significance level of .002 are shown in Table 4.38. They show that training does have a positive effect on rank. The null hypothesis is rejected.

16. Peace officers who have more training will have more years of experience in a supervisory capacity.

This hypothesis was tested using analysis of variance of the effects of training on number of years of supervisory and management experience controlling for years of experience. The results in Table 4.39 show support for this hypothesis. The F

score of 6.701 was significant below .001. The null hypothesis is rejected.

Table 4.36

Professionalism and Level of Training

Construct	F-Score	Significance of F
Service	.528	.663
Regulation 1	1.277	.282
Regulation 2	.371	.774
Calling 1	1.200	.309
Calling 2	2.130	.096
Referent	6.299	.000*
Autonomy	2.171	.089
Alienation	2.4166	.066

*Statistically Significant

Table 4.37

Promotions by Training

<u>Amount</u>	<u>Frequency</u>	<u>Number of Promotions</u>
Zero to 200	103	0.48
201 to 400	103	0.82
401 to 600	78	0.82
601 plus	113	1.42
Missing	59	12.9%

Analysis of Variance

Source of Variation	E88 by Train with E87		Number of Promotions Amount of Training Total Experience		
	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	103.187	1	103.187	109.442	.000
Main Effects Train	5.190	3	1.730	1.835	.140
Explained	108.376	4	27.094	28.737	.00
Residual	369.594	392	0.943		
Total	477.970	396	1.207		

Multiple R Squared .227

456 cases processed 59 cases (12.9 pct) were missing.

17. Peace officers who have more hours of inservice training will have more specialized career assignments.

This hypothesis was tested using analysis of variance. The dependent variable was years of specialization and the independent variable was amount of training. Table 4.40 appears to show a relationship between amount of training and years of specialization. But the analysis of variance Table which controls for years of experience ends up at the significance level of .537 which does not show a relationship between training and years of specialization. The null hypothesis is accepted.

18. Peace officers who have more hours of inservice training make a higher salary.

This hypothesis was tested using analysis of variance of the effects of training on current salary controlling for years of experience. The results shown in Table 4.41 indicate weak support for this hypothesis. These effects show a link between current salary and training with an F score of 2.864 at the .037 significance level. The hypothesis is accepted. The null hypothesis is rejected.

Table 4.38

Current Rank by Training

Amount	Frequency	Current Rank
Zero to 200	104	1.36
201 to 400	104	1.69
401 to 600	78	1.90
601 plus	112	2.67
Missing	58	12.7%

Analysis of Variance

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	164.851	1	164.8511	150.698	.000
Main Effects Train	16.665	3	5.555	5.078	.002
Explained	181.516	4	45.379	41.483	.00
Residual	429.911	393	1.094		
Total	611.427	397	1.540		

Multiple R Squared .297

456 cases processed 58 cases (12.7 pct) were missing.

Table 4.39

Training and Supervisory Experience

Amount	Frequency	Supervisory Experience
Zero to 200	102	0.90
201 to 400	103	2.15
401 to 600	78	3.18
601 plus	109	7.02
Missing	64	14.0%

Analysis of Variance

Source of Variation	E105 by Train with E87		Total Super./Man.Experience Amount of Training Total Experience		
	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	4178.011	1	4178.011	228.165	.000
Main Effects Train	368.094	3	122.698	6.701	.000
Explained	4546.106	4	1136.526	62.067	.00
Residual	7086.496	387	18.311		
Total	11632.602	391	29.751		

Multiple R Squared .391

456 cases processed 64 cases (14.0 pct) were missing.

19. Peace officers who have more hours of inservice training have made greater gains in their salary from the beginning of their career.

This hypothesis was tested using analysis of variance of the effects of training on gain in salary controlling for years of experience. The results in Table 4.42 indicate support for this hypothesis, but not to the point of statistical significance. The level of significance of the differences once we have controlled for years of experience rise only to the level of 0.063 which is above the 0.05 level. The null hypothesis must be accepted.

Table 4.40

Specialization and Training

Amount	Frequency	Specialization Experience
Zero to 200	103	1.99
201 to 400	104	4.63
401 to 600	77	5.88
601 plus	113	8.78
Missing	59	12.9%

Analysis of Variance

Source of Variation	SPEC		Total Specialization Experience		
	by Train with E87	Train	Amount of Training	Total Experience	
	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	8304.807	1	8304.807	425.153	.000
Main Effects Train	42.548	3	14.183	0.726	.537
Explained	8347.355	4	2086.839	106.833	.000
Residual	7657.214	392	19.534		
Total	16004.569	396	40.416		

Multiple R Squared .522

456 cases processed 59 cases (12.9 pct) were missing.

Table 4.41

Salary and Training

Training Amount	Frequency	Salary in Dollars
Zero to 200	92	2327
201 to 400	97	2737
401 to 600	66	2782
601 plus	102	3072
Missing	99	21.7%

Analysis of Variance

Source of Variation	S107 by Train with E87	Current Salary Amount of Training Total Experience	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates	E87		47677196	1	47647195.537	166.618	.000
Main Effects	Train		2457055	3	819018.361	2.864	.037
Explained			50104251	4	12526062.655	43.803	.00
Residual			100659983	352	285965.862		
Total			105764234	356	423495.039		

Multiple R Squared .332

456 cases processed 99 cases (21.7 pct) were missing.

Table 4.42

Salary Gain and Training

Amount	Frequency	Salary Gain Dollars
Zero to 200	84	580
201 to 400	84	1354
401 to 600	57	1473
601 plus	84	1960
Missing	147	32.2%

Analysis of Variance

Source of Variation	Gain by Train with E87		Salary Gain Amount of Training Total Experience		F	Sig of F
	Sum of Squares	DF	Mean Square			
Covariates E87	182799088	1	182799088	553.221	.000	
Main Effects Train	2436071	3	812023	2.457	.063	
Explained	185235159	4	46308789	140.148	.00	
Residual	100449722	304	330426			
Total	285684881	308	927548			

Multiple R Squared .648

456 cases processed 147 cases (32.2 pct) were missing.

THE RELATIONSHIP BETWEEN COLLEGE AND TRAINING

The research questions asked: What is the relationship between college education and training? What effects does departmental policy have on the human resource development activities of peace officers?

Hypotheses

20. Peace officers who have more hours of college will have received more hours of inservice training.

This hypothesis was tested by doing an analysis of variance looking at the amount of inservice training as the dependent variable and whether one had a college degree as the independent variable total experience was covaried out of the analysis. While there was some slight difference between those with a degree and those without once years of experience was removed, the differences were not statistically significant. Table 4.43 shows an F score of 1.294 at a significance level of .256 which indicates that this hypothesis is not true.

Another test was run using a correlation analysis between amount of training and number of college hours to test the hypothesis. The correlation coefficient was only 0.0646 and was not statistically significant. The hypothesis is not supported using this test either. The null hypothesis is accepted.

21. Peace officers who work for a department with an educational incentive plan will have more hours of college.

This hypothesis was tested using analysis of variance with number of hours of college as the dependent variable and whether an agency had an educational incentive plan as the independent variable controlling for years of experience. As Table 4.44 shows with an F score of .36 and a significance level of .850, there was no difference statistically between the two groups. The null hypothesis is accepted.

22. Peace officers who work for a department with a TCLEOSE Certification incentive plan will have more hours of college.

This hypothesis was tested by looking at the variation between departments with a TCLEOSE Certification pay program and those without. Using Chi-Square analysis with the cross tabulation, we can see in Table 4.45 the variation in the amount of college. The differences were significantly different between the

Table 4.43

College Degree by Amount of Training

College Degree	Level of Training	Number
Yes	4.94	118
No	4.35	281
Sample Level	4.52	399

Analysis of Variance

T39
by Col4
with E87

Amount of Inservice
College Degree
Total Experience

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates E87	848.696	1	848.696	195.487	.000
Main Effects Col4	5.617	1	5.617	1.294	.256
Explained	854.313	2	427.156	98.390	.00
Residual	1719.211	396	4.341		
Total	2573.211	398	6.466		

Multiple R Squared .332

456 cases processed 57 cases (12.5 pct) were missing.

cells with a Pearson Chi-Square F value of 10.97 and a significance level of 0.01, but it is in the opposite direction stated in the hypothesis. The null hypothesis is accepted.

23. Peace officers who work for a department with a TCLEOSE Certification incentive plan will have more hours of training.

This hypothesis was tested by using analysis of variance to look at the effects of departmental policy on the amount of training. The dependent variable is amount of training and the independent variable is whether a department had a incentive pay system for TCLEOSE Certification with the amount of experience being covaried out. The data in Table 4.46 supports the contention that departmental policy in rewarding TCLEOSE Certification positively effects the amount of inservice training received. The F score of 14.337 was significant at the .000 level. The null hypothesis is rejected.

This concludes the data reporting of the study. In the next chapter, I will discuss the implications, meaning, conclusions and recommendations drawn from this data.

Table 4.44

Hours of College by Educational Incentive Pay Plan

Incentive Pay	Hours of College	Number
Yes	73.47	275
No	74.08	159
Sample Level	73.70	434

Analysis of Variance

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Covariates					
E87	7385.140	1	7385.140	2.119	.146
Main Effects					
D15	124.156	1	124.156	0.36	.850
Explained	7509.296	2	3754.648	1.077	.341
Residual	1502216.557	431	3485.421		
Total	1509725.853	433	3486.665		

Multiple R Squared .005

456 cases processed 22 cases (4.8 pct) were missing.

Table 4.45

College by Certification Pay

<u>Amount of College</u>	Certification Pay	
	Yes	No
Zero Hours	79.0%	21.0%
1 to 59 Hours	56.9%	43.1%
60 to 119 Hours	56.7%	43.3%
120+ Hours	56.9%	43.1%

Table 4.46

Level of Training by TCLEOSE Certification Pay Plan

<u>Certification Incentive Pay</u>	<u>Level of Training</u>	<u>Number</u>
Yes	4.91	242
No	3.93	157
Sample Level	4.52	399

Analysis of Variance

Source of Variation	T39 by D16 with E87	Sum of Squares	DF	Amount of Inservice Certification Pay Total Experience	Mean Square	F	Sig of F
Covariates E87		848.696	1		848.696	201.905	.000
Main Effects D16		60.265	1		60.265	14.337	.000
Explained		908.960	2		454.480	108.121	.00
Residual		1664.563	396		4.203		
Total		2573.524	398		6.466		

Multiple R Squared .353

456 cases processed 57 cases (12.5 pct) were missing.

CHAPTER FIVE

Summary, Discussion, And Recommendations

Introduction

This chapter is divided into three main sections. Section one will summarize the study and the results. Section two will then discuss and interpret the results described in Chapter Four. The last section of the chapter will make recommendations for policy makers and for future research.

Summary

This study developed because of a need to understand the career development activities and their impact among Texas peace officers. The study described the levels of human resource development activities of the 36 largest law enforcement agencies in Texas representing 21,065+ peace officers, 45 percent of all Texas peace officers. In addition, 23 hypotheses were tested which assessed the impact of human resource development activities on the careers of officers.

Sample

The data was collected from a random survey of officers in the selected departments. Six hundred fifty-eight surveys were distributed, and 69.3 per cent were returned and usable.

The sample was slightly divergent in terms of gender from all Texas peace officers with 17.2 percent being female as opposed to 12.2 percent for all Texas peace officers. There also was a slightly higher representation of minorities with 18.7 percent being minority as opposed to the 13.2 percent for all Texas peace officers. Both of these are indications of the urban nature of the sample.

The sample also had slightly fewer officers under age 25 and over age 50 than all Texas peace officers. Also, 82.1 percent of the sample have only worked for one department compared to the statewide rate of 69.9 percent. There were only 17.8 percent of the sample with less than five years experience which is different from the statewide rate of 31.2 percent. These are tendencies to be expected with predominantly urban departments that are under civil service systems which promotes stability, restrictions on the ability to make lateral transfers between agencies, and 20 year retirements.

Descriptive Data

The questionnaire included twenty-five items that have been accepted in the literature as representing important constructs of the concept of professionalism (Hall, 1968; Snizek, 1972; Regoli & Poole, 1980; Regoli, Crank, Culbertson, & Poole, 1987 & 1989; Crank, 1990; and Crank, Payn, & Jackson, 1991). The small

standard deviations on these constructs indicates that there is wide-spread consensus on these items among all peace officers in the sample (See Table 4.7). Peace officers in the sample seem to have adopted these attributes of professionalism whether through education, training, or organizational culture.

The item responses on motivation for training and higher education indicate a wide variety of motivations for obtaining them. The three most important motivators for both seeking training and seeking college were desire to improve one's job skills, enjoyment of learning, and receiving TCLEOSE Certification (See Appendix B.4).

The "typical officer" as derived from looking at the background data is an anglo male 38 years old with 12 years of experience. and who attended a basic training course of 571 hours at a local academy. He has 74 hours of college with GPA over 3.0 most of which was obtained pre-service, more than six years ago. He has received one promotion with 3.44 years of supervisory experience. He has around 400 hours of inservice training and an advanced certificate. His beginning salary was \$1388, and his current salary is \$2706. He receives an another 10% for departmental overtime, plus an additional 10% for off-duty overtime, for a total income of more than \$3000 per month.

Over one-half of the officers were criminal justice majors. Around one-third of the officers' course work was in criminal

justice with only 6.8 percent currently attending college. Only 29.3 percent had prior criminal justice experience. One-third have worked in criminal investigations, and one-quarter have worked in detention while 88.3 percent have worked in patrol.

Ninety-one percent work in a civil service department with 96.1 percent hired by written exam and 98 percent work in departments with written promotional testing. Sixty-three percent of the officers work in departments with college incentive pay and 59.9 percent work in departments with TCLEOSE certification pay. Thirty-four percent of the officers work for departments that have some college entry requirement.

Seventy-seven percent of the sample works in municipal departments and ninety-one percent work in departments with over 200 staff members (See Table 4.21).

Hypotheses Testing

The three focuses of this research have been to determine (1) the impact of higher education on the professionalism and careers of peace officers, (2) the impact of training on the professionalism and careers of peace officers, and (3) the relationship between higher education and training. Twenty-three hypotheses were put forward to more carefully focus on these three areas. These hypotheses have been stated in both chapters one and

four. Table 5.1 which follows provides a summary of the results reported in Chapter Four.

Table 5.1 shows that fifteen of the 23 hypotheses were statistically significant. We discuss and interpret these results in the next section.

Table 5.1

Hypotheses Test Results

Hypothesis	Acceptance of Hypothesis	Significance
1. College on Professionalism	No	.447(NS)*
2. College on Promotions	Yes	.000
3. College on Rank	Yes	.000
4. College on Supervisory Exper.	Yes	.001
5. G.P.A. on Promotions	Yes	.013
6. G.P.A. on Rank	Yes	.002
7. G.P.A. on Salary	Yes	.020
8. G.P.A. on Salary Gain	Yes	.030
9. G.P.A. on Specialization	No	.314(NS)
10. College on Specialization	Yes	.036
11. College on Salaries	Yes	.000
12. College Salary Gain	Yes	.000
13. Inservice on Professionalism	No	.285(NS)*
14. Inservice on Promotions	No	.140(NS)
15. Inservice on Rank	Yes	.002
16. Inservice on Supervisory Exper.	Yes	.000
17. Inservice on Specialization	No	.537(NS)
18. Inservice on Salary	Yes	.037
19. Inservice on Salary Gain	No	.063(NS)
20. College on Inservice	No	.256(NS)
21. Incentive Pay on College	No	.341(NS)
22. Certification Pay on College	No	.001**
23. Certification Pay on Training	Yes	.000

*Mean of Significance Level of Professionalism Constructs

**Significant, but opposite direction of hypothesis

INTERPRETATIONS AND CONCLUSIONS

The descriptive data shows a profession that is serious about its human resource development activities. Peace officers are obtaining a large quantity of training that has been provided to them. In addition, the majority are receiving incentive pay for obtaining either college or hours of training along with experience. Since 80.8 percent have obtained an Intermediate Certificate and 57.7 percent have obtained an Advanced Certificate, this indicates a significant amount of education and training has been undertaken. If officers have received a 571 hour basic training course and around 400 hours of inservice, then we are talking about a considerable investment in training. While an average of 74 college hours may not meet the goals set by national commissions as discussed in Chapter Two, it represents progress and a significant investment when one considers that 30 percent have a bachelor's degree or better.

The bachelor degree level compares favorably to the PERF 1988 study (Carter, Sapp, & Stephens, 1988) and a 1989 Colorado study (Copley, 1992). This study finds Texas ahead of the national PERF study, but behind Colorado. Table 5.2 below shows the comparison.

In 1970 the number of peace officers with 60 hours of college or more was 15 percent (Carter, Sapp, & Stephens, 1988).

It can be seen in Table 5.2 that we have made considerable progress since then. It should be noted that Colorado is a very different state than Texas. They have only 254 law enforcement agencies in the state with only 7,314 officers (Copley, 1992). Texas has ten times as many agencies and nearly seven times as many officers. It should also be noted that Texas had a higher percentage of officers with at least some college.

Only 6.8 percent of the sample were currently attending college courses. Sixty-five percent of those who have attended college did so six or more years ago. This brings into question the impact of college incentive pay. While this item about motivation to attend college was found to have the fourth highest

Table 5.2

Comparison of Texas Peace Officers with National Study and Colorado Study

College Level	PERF(1988)	Colorado(1989)	Texas(1993)
No College	34.8%	17.7%	13.6%
Less than 2 years	20.5%	12.7%	33.6%
2 to 3 years	22.1%	31.1%	22.8%
4 years or more	22.6%	38.6%	30.0%

mean, only slightly behind the TCLEOSE certification, it also had one of the highest standard deviations of the college motivation items (See Appendix B.7). This indicates that it may be effective for some, but not for all the officers. TCLEOSE certification level pay seems to have more impact and will be discussed below in the section on hypotheses testing.

Most of the college hours are achieved before service as a peace officer with 49 percent of those with college hours obtaining 90 percent of their college hours before employment and 67 percent acquiring at least 50 percent of their hours pre-service (See Appendix B.4). This indicates that officers are going so far in college and then fail to continue. This lack of continuation indicates that their motivation drops off. This drop off could be caused by lack of incentives for continuing, in terms of, promotional opportunities, inadequately funded or non-existent pay for knowledge programs, or college course work that does not meet their needs, in terms of quality, availability, or relevance.

It is interesting that younger and less experienced officers are less likely to have a college degree. Table 5.3 which shows the percentage of each age group that have a college degree shows that officers under 30 are less likely to be college graduates. Table 5.4 shows that officers with less than ten years of experience are less likely to have a college degree. Officers with 15 to 19 years of experience were most likely to have a

college degree. This is probably the result of the demise of the Law Enforcement Assistance Agency (LEAA), and their Law Enforcement Education Program (LEEP). Under Federal leadership in the 1970s, there was intense interest and encouragement for officers to go to college. LEEP funds were often combined by officers with the GI Bill for those coming out of the Vietnam War to finance educational pursuits. In 1974, there were 88 colleges in Texas that offered a criminal justice or law enforcement program, the number now is approximately 45 (Laine, 1993).

Unless current inservice participation in college programs increases or hiring standards include college minimums are increased, we could be facing a less educated officer corps in the future as retirements affect the officer work force. The 21st century calls for a more educated officer, not a less educated officer.

The grade point averages (G.P.A.) of those attending college was relatively high with 56.8 percent reporting a 3.0 G.P.A. or better. This could be attributed to selection based upon written exams since 96.1 percent were selected through written examination. This would indicate a close relationship between selection tests and college. It suggests that college selection requirements could be used in place of written examinations.

Criminal justice majors were 52.1 percent of the sample which is 60 percent of those having attended college and chose a

major. Research in the business field by Ariss and Timmins (1989) found that being a non-business major as opposed to a business major had no affect on job performance. Madell and Washburn (1978) in a law enforcement study found it have an effect on promotions and interpersonal relations. It was beyond the scope of this study to focus on the effects of college major.

Prior criminal justice experience was present for 30.3 percent of the sample. Corrections was the most prevalent prior experience with 10.4 percent. This was 35.6 percent of those with prior experience. It is the

Table 5.3

College Degree by Age Category

<u>Age Category</u>	<u>Percentage with Bachelor's Degree Number</u>	
Under 25	15.4	13
25 to 29	21.0	62
30 to 34	25.0	100
35 to 39	32.6	95
40 to 44	38.1	84
45 to 49	38.3	60
<u>50 plus</u>	<u>26.2</u>	<u>42</u>
TOTAL	30.0	456

Table 5.4

College Degree by Experience Category

Experience Category	Percentage with Bachelor's Degree	Number
Less than 4	22.2	81
5 to 9	25.0	100
10 to 14	31.2	109
15 to 19	41.8	79
20 plus	31.0	87
TOTAL	30.0	456

most prevalent prior experience in the criminal justice system, and should be considered as part of any peace officer career path program.

Experience with another law enforcement agency as a peace officer was relatively rare with only 17.9 percent. This indicates that lateral mobility between agencies is severely limited among the sample. Since 91 percent of the sample was from civil service agencies, they are restricted by law from lateral movements between agencies. If an officer switches agencies, he has to take that agency's written examination, go through in some cases that department's basic training program, and begin at the entry salary level. This lack of mobility is not present in most professions in this country. Most professionals are relatively free to change employers moving between locations of their choice based upon their transferable skills.

With specialized assignments, as seen in Table 4.14, patrol was the specialty that 88.1 percent had spent at least one year. Other specialties specifically identified by frequency were:

1. criminal investigation,
2. detention,
3. field training officer,
4. administration,
5. training,
6. emergency communications,

7. criminal warrants,
8. juvenile officer,
9. crime prevention,
10. research and planning, and
11. civil warrants.

Another category of experience was labeled "other" which includes such work areas as, drugs, vice, and tactical. It was the fourth highest overall, if included on the list. The frequency of these job assignments being performed by officers is one indication of areas that need more attention in terms of training. Patrol and the first six from the above list should also be among the first areas developed for career path certification by TCLEOSE.

The number of individuals that are at higher than officer rank is surprisingly high at 45 percent. Some might argue that the rank of corporal is not a true supervisory rank. It is an indication of departments trying to reward officers in the only way the system allows.

Pay in civil service cities is limited by job classification, plus any incentive pays used in some departments for college, certification, field training officer, and so forth. A better system would be some sort of merit pay for performance. As many have noted this is extremely difficult in the field of law enforcement (Hirsch, Northrop, & Schmidt, 1986; Campbell 1989; and

Campbell 1992). Another alternative that should be pursued is the development of career paths, along with specialized pay for career development activities along with accompanying certifications.

The trend in other fields is clearly away from multiple layers of hierarchy along the paramilitary organizational chart. This trend will come to law enforcement. There needs to be alternative routes for career development besides promotion up the organizational ladder. Those alternative programs call for pay the knowledge and skills that contribute to organizational performance (Lawler & Ledford, 1985; Lawler, 1986; Ziskin, 1986; Cundiff, 1986; Feuer, 1986; & Feuer, 1987). An effective career path program could lead the development of law enforcement officers' careers in strategic directions.

From looking at the salary figures, clearly substantial gains have been made in law enforcement. The average monthly salary was \$2706. This can be attributed mostly to the raising of the training and education requirements and of the profession as a whole. The professionalism that exists today makes the public more willing to raise the salaries for officers. The average gain in salary from the beginning of their careers is \$1295. Other studies have shown that law enforcement officers out earn other degree holders, such as biologists, journalists, psychology majors, teachers, and nurses (Carter, Sapp, & Stephens, 1989 p. 23).

The salary is high enough now that the number of applications for each position is somewhat unmanageable with hundreds of people applying for vacancies. To manage this process, agencies use written tests to screen the applicants. Ninety-six percent of the peace officers in this survey work for agencies that use a written entrance examination. While this process makes it easier on the agency, it is difficult for applicants to know what it takes to prepare for the test.

If one does not do well at one agency, he can go to another agency and take the same or similar test until he finds an agency with a more limited number of applicants, or he could just give up. Some individuals become test wise through this process, especially when agencies use the same screening instrument. Minority applicants are more likely to give up in this type process because of a history of lack of success.

These tests have an adverse impact upon minorities. There are several advantages for using an educational standard over a test standard. Carter, Sapp, and Stephens (1989) set out 18 reasons why the entry standard should be a college degree (See pages 61-64 in Chapter Two). In summary, let me state the following reasons for setting a college standard for entry:

1. contributes to professionalism in the field,
2. encourages university connections with agencies,

3. still assures that basic learning skills, such as, reading and writing are present,
4. helps develop critical thinking and problem-solving skills,
5. provides a common cultural background that emphasizes the acceptance of diversity and individual differences,
6. tells applicants specifically what they must do to prepare themselves for the field,
7. reduces the number of applicants to a manageable level of serious candidates who are interested in a professional career,
8. allows for a more job related selection system by allowing more factors to be considered, besides performance on a written examination, and
9. reduces adverse impact upon minorities.

While this last item, may raise objections with some research by many shows that the minorities within the policing profession currently are as well or better educated than their anglo brethren (Carter, Sapp, & Stephens, 1988; Carter, Sapp, & Stephens, 1989; Campbell, 1989; Carter, Sapp, & Stephens, 1990; Carter & Sapp, 1992, and Campbell 1992). This study finds that 42.9 percent of the African-American officers have a bachelors degree compared to 30.2 percent for Anglo-American officers and 23.8 percent for Hispanic-American officers (See Figure 5.1).

Legal decisions, such as Davis v. Dallas provide strong support for the notion of looking at law enforcement like a profession rather than craft. The Fifth Circuit held that because of "the high degree of public risk and responsibility" and "because of the professional nature of the job" that "empirical evidence is not required to validate the job relatedness of the educational requirement, although validation is still required." This study does provide some empirical evidence that helps to validate the decision to create higher education requirements for entry into the profession.

INTERPRETATIONS OF HYPOTHESES

In the following sections, I will present interpretations and explanations of the data, so that data becomes information. Information is useful in decision-making, whereas data has no meaning outside the context in which it exists.

Insert Figure 5.1

Hypotheses Numbers 1 & 13

Hypothesis number one states that peace officers who have more hours of college will score higher on professionalism inventories. Hypothesis number thirteen states that peace officers who have more hours of inservice training will have a higher score on professionalism inventories.

As can be seen in Table 5.1 which displays a summation of the results from Table 4.22 and Table 4.36 which displays the results on the professionalism constructs as they relate to higher education and inservice training, there is no apparent impact. There is such a high degree of consensus on these items and constructs that the concepts of professionalism have been internalized by nearly all members of the profession. These concepts of service, regulation, calling referent, autonomy, and alienation could have been learned through either entry training or college or just absorbed in the organizational subculture.

Policing as measured on these constructs is made up of professionals. This is consistent with the conclusions reached by Crank (1990). He determined that police officers were more similar to professionals than craftsmen as measured by the same professionalism instrument used here plus a craftsmanship instrument that he developed.

Hypothesis Number 2

Hypothesis number two states that peace officers who have more hours of college will be promoted more frequently. The raw data as reported in Chapter Four Table 4.23 indicates that level of college does have an impact upon number of promotions. This is consistent with the findings of Cohen and Chaiken (1973) and Enter (1986).

It is noteworthy in Table 4.23 that the mean number of promotions for zero hours of college is higher than for those with one to 59 hours, but lower than for those over 60 hours and those over 120 hours and for the sample mean. The overall analysis of variance test found a significant difference based upon educational level. It would seem that 60 hours is a threshold point beyond which individuals are differentiated. As can be seen in Table 4.24 in which the college level is collapsed into three levels 59 hours or below, 60 to 119, and above 120, the impact looks more linear

It may be that those who just take a few hours of college and then drop out before this threshold point do so because they were not obtaining something of value based upon whatever motivated them to seek college. The main motivators as described in Chapter Four were job skills, enjoyment of learning, and

TCLEOSE certification which in many cases is related to certification pay.

Spilerman and Lunde (1991) argue that employers do not reward credentials, per se, but productivity. They found that "employers reward schooling to the extent it is relevant to job performance (p. 715)." It is clear that in law enforcement at this time that credentialing does not intervene in the promotional process with only 8.9 percent of the officers working for departments that have educational criteria for promotion.

Hypothesis Number 3

Hypothesis number three states that peace officers who have more hours of college will have higher rank. This hypothesis was confirmed as shown in Table 4.26. The analysis of variance test found a significant difference based upon amount of college with rank. This is consistent with the findings of Cohen and Chaiken (1973) and Enter (1986). Again as in hypothesis two, there was a drop off in rank for the 1 to 59 hour group. This adds evidence to the threshold explanation discussed above.

As can be seen in Table 4.25, over 45 percent of the sergeants had a four year degree while the level for corporals was 31 percent and for officers 21 percent. There is, however, a large group of Sergeants--18.9 percent--who have no college which is the highest percentage for any rank at zero hours. It may be

wise in setting educational standards in moving up the ranks to set a higher college requirement for those above the rank of sergeant. This approach seems to be one that has worked for the military.

Hypothesis Number 4

Hypothesis number four states that peace officers who have more hours of college will have more years of experience in a supervisory capacity. The years of supervisory experience was significantly different based upon educational level. Table 4.27 displays the results and level of significance as .001. These results are additional confirmation of the impact of education on the career advancement of peace officers discussed above under interpretations of hypotheses three and four. The same threshold impact for sixty hours holds here also.

Hypothesis Number 5

Hypothesis number five states that peace officers with a higher grade point average (GPA) will receive more promotions. This hypothesis takes into account the quality of the learning from college. GPA indicates the level of mastery of the material. Table 4.28 displays the results which indicates that as GPA goes up so do the number of promotions.

It follows if the amount of college has an effect upon career advancement in law enforcement then the quality of the

learning should also have an impact within those who have college. It is also consistent with the promotional systems in use in these departments that rely on written examinations. The primary means for obtaining a higher GPA. is being skilled at taking written tests. Officers who are interested in promotion then should not only return to college for the hours, but they should also work as diligently as they can in learning from the educational process.

Hypothesis Number 6

Hypothesis number six states that peace officers with a higher grade point average will have a higher rank. Table 4.29 displays the increase rank that accompanies a higher GPA. This indicates that the more learning that occurred in college the higher the rank. It should not be surprising that those that are more effective learners move up to higher ranks.

As stated previously, most of the agencies involved here have no policy that gives preference for promotion based either on the amount of higher education or the success in college as indicated by GPA. It follows then that higher educational learning has a positive impact upon one's ability to rise in the ranks.

Hypothesis Number 7

Hypothesis number seven states that peace officers with a higher grade point average will have a higher current salary.

Table 4.30 shows that this hypothesis is correct by its finding of a higher current salary accompanying a higher grade point average.

This result is not consistent with the meta-analysis done by Bretz (1989). Bretz found that current salary was not affected by GPA in studies in the fields of business, teaching, engineering, medicine, science and miscellaneous. Most variation in law enforcement salaries is related to rank, so in view of the findings under hypothesis number six, this finding should not be surprising.

Hypothesis Number 8

Hypothesis eight states that peace officers with a higher grade point average (GPA) will have had a greater gain in their salary. Table 4.31 shows that this hypothesis is supported. Since most salary gains in law enforcement are through promotions, this should not be a big surprise considering the previous three hypotheses.

Bretz (1989) found that salary gain was not affected by educational level although there was some slight effect on starting salary. Bretz's meta-analysis was done on studies done between 1917 and 1983 among a diverse group of occupations: business, teaching, engineering, science, and so forth. The finding of a higher entry salary on his part works against finding a higher gain through restriction of range. In law enforcement

within each agency, there is no different starting salary in most cases.

Hypothesis Number 9

The ninth hypothesis states that peace officers with a higher grade point average will have more years of specialized experience. Table 4.32 demonstrates that although there is some upward trend with years of specialized experience along with GPA, once total years of experience is controlled for through the covariance technique, the differences are not statistically significant.

It should be noted that selection into these specialized assignments is entirely discretionary in most cases with little formal selection process. Many times, it is the result of some sort of regular rotation, a reward for longevity, or a change of pace for someone burned out in their current assignment. In addition, officers who get into specialties who are not promoted are more likely to stay there. Promotion usually involves something in the patrol division in most departments.

Hypothesis Number 10

Peace officers who have more hours of college will be more likely to have worked in a specialized career assignment. Table 4.33 shows that level of college does have a significant impact upon the years of specialized experience.

This impact is less significant than previous ones reported with a significance level of .036. It is also a different result from the previous hypothesis on GPA. It must be remembered that this test includes those who do not have any college hours, whereas, the one on GPA only included those with some college and a GPA. The number tested for hypothesis nine was 374 while the number for hypothesis ten was 449.

There are three alternative explanations for this phenomenon. First, the impact of college on career specialization is there, but not as strong as in the areas of promotions, rank, and years of supervisory experience, so this limited impact plus the added number in the years of college test resulted in a finding of significance while the GPA test did not. A second explanation is that the added non college group had enough fewer years experience in career specialization that the tests were significant. A third explanation is that this hypothesis used only three groups as opposed to the GPA hypothesis using four groups which reduced the degrees of freedom resulting in a larger F. score. Probably, all three of the explanations contribute to the different outcomes on these hypotheses.

Hypothesis Number 11

Hypothesis number eleven states that peace officers who have more hours of college will make higher salaries. Table 4.34 shows that as level of college increases current salary rises.

The difference between the mean monthly salary of \$2561 for those with less than 60 hours and \$2957 for those with a bachelor's degree is \$396 per month or \$4752 per year. Clearly officers who want to make a higher salary should attend college and should strive to do well in college. In addition, if money is not a primary motivator, it can be inferred that they are being rewarded for making a greater contribution to their department and communities.

While a complete utility analysis is beyond the scope of this study, it is clear that there is clear financial utility in a college education for peace officers. The following discussion is a simple example of a utility analysis that demonstrates the potential impact of changing the criteria for peace officers in Texas. As shown in Table 4.34, college graduates make \$396 more per month than high school graduates, and \$268 more per month than associate degree level peace officers. This calculates respectively into a \$4752 or \$3216 per year advantage. Assuming these officers have only as much utility as they are paid for, which is a conservative approach, we can calculate the utility

statewide by calculating the same rate of gain for the 70 percent who are not degreed. Extrapolating from this sample to the Statewide population with 47 percent having less than an associate degree level and 23 percent between the associate degree level and the bachelor's degree level. The calculations would look like this:

$$\begin{aligned} & \$4752 \times (47,749 \times 47\%) + \$3216(47,749 \times 23\%) = \\ & \$4752 \times 22,442 + \$3216 \times 10,982 = \\ & \$106,644,380 + \$35,318,980 = \$141,963,364 \end{aligned}$$

Numbers of this magnitude show the potential for major gains by the State of Texas for policy changes regarding educational standards. It should indicate to local agencies that there is value in making policy changes to attract and keep the most qualified and skilled personnel. There is also strong support for enhancing educational incentive pay programs to make them more effective.

Hypothesis Number 12

Hypothesis number twelve states that peace officers who have more hours of college will have made greater gains in their salary from the beginning of their career. As in hypothesis number 11, there is a significant gain in salary associated with level of college. Table 4.35 shows these differences.

Those with more than sixty hours but less than a bachelor's degree are slightly below the mean gain of \$1295. The difference between less than 60 hours with a mean gain of \$1109 and a bachelor's degree with a mean gain of \$1596 is \$487 per month or \$5844 per year. Peace officers will clearly gain greater salary increases if they have a college degree.

This data is consistent with the findings of researchers in human capital theory. Those findings are that investments in formal education pay better returns on investments for both the individual and society (Leslie & Brinkman, 1988; Woodhall, 1987a; Alexander, 1976; Mincer, 1974; Devereux, et al, 1987; Hinchcliffe, 1987; Psacharopoulos, 1987; and Winkler, 1987). For a more thorough discussion of their findings, see Chapter Two.

Hypothesis Number 14

Hypothesis fourteen states that peace officers who have more hours of inservice training have received more promotions. Table 4.37 displays the results which indicate that the null hypothesis should be accepted on this with hypothesis. The lowest group and the highest group were considerably different with the lowest group being .48 versus 1.42 for the highest group, however, once years of experience was controlled for the significance level was only .140.

One explanation for this outcome is the relatively egalitarian availability of training to all of law enforcement. The amount of training available to those in law enforcement, although the quality, level, and focus may be different.

Hypothesis Number 15

Hypothesis fifteen states that peace officers who have more hours of inservice training will have a higher rank. Table 4.38 shows that the level of training is significantly related to the rank of officers. The significance level is .002.

This seemingly contradictory finding when compared to hypothesis number fourteen above can be explained. The number of promotions category also includes those promoted to corporal which is not present in all departments, so a promotion to corporal is counted the same as a promotion to sergeant even though a sergeant is a level higher. The independent variable of rank is a better measure of career progression than number of promotions.

Hypothesis Number 16

Hypothesis number sixteen states that peace officers who have more training will have more years of experience in a supervisory capacity. Table 4.39 shows that years of supervisory experience rise with level of training. This is consistent with the findings of hypothesis number 15 above.

It is also consistent with an extensive study in the private sector by the Rand Corporation (Lillard and Tan, 1986). They found that amount of training received was associated with organizational rank.

Hypothesis Number 17

Hypothesis number seventeen states that peace officers who have more hours of inservice training will have more specialized career assignments. Table 4.40 shows that this hypothesis should be rejected as the level of training is not significantly different by years of specialization once total years of experience are controlled. The significance level was .537.

There are a couple of possible explanations for this. Requirements for certain levels of inservice training by policy or administrative law confound the results. Many agencies by policy require 40 hours of training per year regardless of assignment. TCLEOSE requires by Administrative Rule, which has the force of law, that agencies provide 40 hours of training every two years.

Another explanation is that specialized training curriculum has not been developed on a widespread scale. The result is that when one gets a specialized assignment, he must learn on the job or from the incumbent as quickly as possible. In some cases, people getting a new assignment turn down training opportunities because they are too busy learning their new jobs. This suggests

either that specific training is not available for their specialized assignment or that the training that is available is not perceived to be very job relevant.

Hypothesis Number 18

Hypothesis number eighteen states that peace officers who have more hours of inservice training make a higher salary. Table 4.41 shows that as level of training goes up, so does the salary.

The differences are not large, and when one controls for years of experience related to both salary and amount of training, the significance level is .037 that is less than the .05 level. Probably because law enforcement appears to be more egalitarian in its dispersal of training hours than other professions (Lillard & Tan, 1986).

As discussed above concerning hypothesis number eleven, dealing with the financial utility of a college degree, a utility analysis of the impact of training on peace officers is beyond the scope of this study. The utility of training does not appear to be as great as a college degree, probably because of the fact that nearly everyone gets a fairly equal level of training.

Hypothesis Number 19

Hypothesis number nineteen states that peace officers who have more hours of inservice training have made greater gains in their salary from the beginning of their career. Table 4.42

displays an analysis of variance that shows a significance level of .063 which is greater than the required .05. The acceptance of the null hypothesis on this item appears to be in conflict with hypothesis eighteen.

This can be explained by remembering that the relationship in hypothesis 18 was not strong, and so a slight change in this seemingly parallel hypothesis could give a different outcome. The variation on this hypothesis is that the number of respondents has dropped from 357 to 309. It is probably enough of a shift to make a .037 significance level grow to .063.

Hypothesis Number 20

Hypothesis number twenty states that peace officers who have more hours of college will have received more hours of inservice training. Table 4.43 shows the level of training is not significantly related to whether one has a college degree or not. The null hypothesis is supported.

This result is contrary to what has been reported in the literature for other fields. Lillard and Tan (1986) in a large study for the U.S. Department of Labor found that as the level of education rose, so did amount of training received. They concluded that both forms of development were complementary. Alexander (1976) and Carnevale and Goldstein (1983) also found a

disproportionate share of the training went to better educated workers.

It indicates that law enforcement is a more egalitarian endeavor in which it is recognized that the performance by all members of the organization are important to organizational success. It may also be related to the fact that law enforcement's promoting from within ensures that those at the highest ranks have served at the lower ranks, and are therefore more sensitive to the needs of the lower ranks.

Another contributing factor has been the plethora of law suits filed against law enforcement organizations because of the actions of officers at all ranks. Training attempts to serve another function in law enforcement to a greater extent than other types of business, that function is control. Law enforcement officers for the most part work relatively independently of their supervisors. This encourages training in an attempt to shape people's behavior. Supervisors and managers can be held to be liable for the acts of their subordinates under the legal theory of failure to train (Carter & Sapp, 1989).

Another recent factor has been the mandates for forty hours of training either every year or every two years depending on the source of the mandates. The Texas Commission on Law Enforcement Officer Standards and Education mandates that the agency shall provide 40 hours on training every two years while the National

Advisory Commission on Criminal Justice Standards and Goals Standard 16.5 (1973, p. 404) requires 40 hours every year. These mandates are without regard to rank or background.

Hypothesis Number 21

Hypothesis number twenty-one states that peace officers who work for a department with an educational incentive plan will have more hours of college. As Table 4.44 shows the incentive pay scheme as it is presently constituted is not having the desired effect. Those officers in agencies without an incentive pay plan have the same number of college hours as those without.

The average incentive pay for the departments in this sample was \$121 per month for a bachelor's degree. This amounts to 4.5 percent of the mean salary for the sample. The National Advisory Commission on Criminal Justice Standards and Goals issued in 1973 Standard 15.2 which provided for educational incentive pay of 2.5 percent for every 30 hours of college work. This 2.5 percent per 30 hours amounts to 10% for a degree. The officer is left with the following choices: he can work overtime for 8 hours per week at time and a half pay and get a 30 percent increase in pay or he can go to school for a minimum of four years and then get a 4.5 percent raise.

It is clear that college incentive pay should be raised to comply with the 1973 standard. It is not effective at the current

levels. By setting incentive pay based upon percentage of pay, it could continue to be effective over time by keeping up with the inflation factor.

Hypothesis Number 22

Hypothesis number twenty-two states that peace officers who work for a department with the TCLEOSE Certification incentive plan will have more hours of college. Table 4.45 shows that the Certification pay plan also does not support the notion to raise college attendance.

The TCLEOSE Certification plan does not have an impact, in part, because of the competing incentives of overtime and off-duty salary supplements discussed above. Another TCLEOSE rule actually discourages college attendance by mandating forty hours of inservice training every two years, but not counting college attendance toward compliance with that standard. This places college attendance at a disadvantage in terms of career development activities. Training is usually attended during on-duty time and paid for by the department.

It should also be noted that 57.7 percent of the individuals in the sample have already achieved advanced certification and 80.8 percent have achieved intermediate certification (See Table 4.9). Once such a certification is achieved, it has no motivational value.

Hypothesis Number 23

Hypothesis number twenty-three states that peace officers who work for a department with a TCLEOSE Certification incentive plan will have more hours of training. Table 4.46 shows that the level of training is higher in those departments with TCLEOSE Certification pay programs.

The reasons that this incentive program works on training is not entirely clear. It could be that training takes less effort on the part of the participant in terms of cash outlay and personal time. The level of inservice participation in training has continued to be pushed by training academies both departmental and regional while colleges focus more on the education of pre-service individuals. TCLEOSE standards for inservice training have been added for training requiring 40 hours every two years. TCLEOSE has no standards requiring college.

RECOMMENDATIONS

In this section, I will make specific recommendations for both future research and for policy makers. This will be divided into two separate sections: future research and policy.

Recommended Research

In this section, I will make recommendations about areas needing further research. All the recommended research areas are oriented towards applied research.

1. Further research is needed using utility analysis to assess the impact of human resource management activities.
2. Further research is needed using cost-benefit analysis to assess the impact of human resource development activities.
3. As policy changes are made in human resources practices research is needed to assess their impact.
4. The development of an effective instrument to assess the professionalism of members of an occupational group, especially peace officers should be developed.
5. Comparative studies between different occupations and professions should be undertaken to provide a larger framework to place law enforcement.
6. Future research should focus on more effective methods for doing needs assessments and follow up evaluation of any training designed to meet those needs.
7. Future research should examine the impacts upon officers in smaller agencies to see if these findings are replicated in those settings.
8. Future research should develop multivariate models for assessing the impact of human resource development activities upon peace officers. This is a very complex process which needs additional assessments.

Recommended Policy Changes

1. A definite amount of college education should be required for entry into the profession. The standard should be a bachelor's degree. The effective date for a Statewide mandate should be the year 2004. In the transition the following logical interim standards should be set to facilitate the smooth transition to the new standard. The following three step process should be adopted by State statute or TCLEOSE Rule:

- Effective January 1, 1995, the minimum standard should be 60 hours of college.
- Effective January 1, 1999, the minimum standard should be 90 hours of college.
- Effective January 1, 2004, the minimum standard should be a bachelor's degree.

Departments should be encouraged to set higher standards or move to the bachelor's standard faster if local conditions permit. Currently licensed personnel should be able to retain their license throughout their careers.

Fears about adverse impact appear to have little foundation. Minorities in the sample and in law enforcement have comparable levels of college with the exception of Hispanics (Carter, Stephens, & Sapp, 1988 & 1989; Carter & Sapp, 1990a & 1990b; Campbell, 1989; and Campbell, 1992). College standards would have

less adverse impact than the current system of written entry testing. The following recommendation should make college more accessible for people wanting to enter the profession or be promoted within the profession.

2. The State of Texas should create a program similar to the Law Enforcement Education Program (LEEP) which the federal government used in the 1970s with such great impact on the educational levels of law enforcement. The Texas legislature passed such a bill in 1989, but was vetoed by the governor. This plan must be available for incumbent officers, as well as, pre-service individuals.

3. Law enforcement needs to adopt the model for its human resource activities from the professions rather than the trades. This means using qualitative studies for job analysis and validation of job requirements and educational and training needs. The legal, medical, nursing, and teaching professions do not set their standards based upon what was acceptable in the past. Law enforcement has stagnated on the high school requirement since the 1960s and before. Our society and the nature of the job are evolving over time.

As mentioned in Chapter Two, if medicine had kept it's 1910 standard, a doctor today would not have to be a high school graduate. We cannot accept standard setting that always uses the rear view mirror. The nursing profession has moved away from the

hospital trained registered nurse to a development program centered in the community colleges and universities. One can be a licensed registered nurse at the Associate degree level or the bachelor degree level. The distinction is made, in terms of promotional ability on a local basis, considering the local applicant pool.

4. The dualistic nature of human resource development activities in law enforcement should be reduced through more cooperation between colleges and law enforcement training academies. Contractual agreements between academies and colleges should be encouraged immediately, and, perhaps, required by the year 2000. College education needs to become more practical and training academies need to become developmentally based.

The gap is not that great if we are willing to learn from each other. The Minnesota Model should be explored as a possibility for Texas (Carter, Stephens, & Sapp, 1989) Another model to look at is the nursing model mentioned above, which has different levels of nursing: licensed vocational nurse, two-year degree R.N., and baccalaureate R.N.

J.R. Kidd has been quoted by Stephen Matthews as stating, "Theory without practice is empty, and practice without theory is blind." Matthews goes on to paraphrase this statement, "Education without training is empty; training without education is blind." Professional development depends upon a cooperative system that

balances the practical and the theoretical parts of learning into a congruent package.

As recommended elsewhere (Carter, Sapp, & Stephens, 1989) institutions of higher education should update their curriculum to make it more consistent with the evolving needs of policing. Their should be more on-going dialogue between universities and law enforcement.

5. The full-time instructional staff at police academies should be required to be college graduates. Instructors should be models for other officers to emulate.

6. TCLEOSE should amend its rule concerning the requirement of 40 hours inservice every two years to include college attendance as one way to meet the standard. This would encourage college attendance.

7. If the change recommended in number is approved, TCLEOSE should amend its mandatory continuing education rule to require 40 hours per year. This requirement should be placed upon the individual officer, as well as the department, and should be based upon some sort of localized and individualized needs assessment.

8. TCLEOSE should develop more career specific curriculum to match career specializations. These courses should also be adopted or incorporated into the higher education curriculum. TCLEOSE should encourage colleges to adopt and incorporate

relevant job related curriculum into their course offerings. This will encourage participation in the higher education system and will encourage and broaden educational attainment into training courses.

9. TCLEOSE should develop a system of career development and certification that makes a distinction between degreed and non-degreed licensees. This will encourage the participation by incumbents in the higher education system which will speed up the acceptance of law enforcement as a profession. Career path levels should have specific college requirements. The top level should require a college degree with no substitutions for training hours or experience.

10. Agencies should adopt standards for promotion that require the attainment of certain levels of college. The following scheme is recommended, but could be modified as local conditions warrant.

Sergeants should be required to have 60 hours. Since the median level of college hours currently is 74 hours and the number of incumbents at the sergeant or higher level is 29.8 percent, we should have sufficient applicants for promotion.

Lieutenants and above should be required to have a bachelor's degree. This has been and is the current requirement for the U.S. military which has been quite successful in attracting and promoting minorities while improving their

profession. Since 30 percent of the sample has a bachelor's degree, and 9.9 percent of them are the lieutenant or higher rank, we should have sufficient applicants for promotion. Once such standards are set, we will see large increases in participation in college programs.

11. Civil service laws should be altered to allow for promotion based upon a combination of experience, educational attainments, written tests, performance, interviews, and assessment centers, rather than written tests only. This allows for a better assessment of a person's knowledge, skills, and abilities than using only a written test with rank ordering of the results. It also is more inclusive in allowing minorities to go through a preparation and development process for advancement.

12. Civil service laws should be altered to allow for lateral transfers between agencies without having to start all over at a different rank. Mobility and transferability of knowledge, abilities, and skills is one of the hallmarks of a professional. Currently officers are virtually trapped into continuing to work in situations with which they may not be happy. They lose retirement, seniority, and rank when they switch agencies. These changes could be caused by a spouse being transferred, family problems, conflicts with supervisors or co-workers, or desire to relocate for other personal reasons. Just

as free agency has come to the sports arena, the law should allow for flexible career choices for peace officers.

13. Departments should increase their college incentive pay to the 1973 recommendations of the National Advisory Commission on Criminal Justice Standards and Goals of 10 percent of salary. As discussed earlier, this will be a more effective incentive for career development.

Final Remarks

In Chapter One, I discussed a paradigm shift in policing. The field needs problem-solving police officers who have developed the capacity to think critically through situations they are thrust into. As Goldstein (1990) has noted, we need to raise the threshold on what we consider to be a professional. Futurist William Tafoya (1986) using the Delphi technique made the following projections about career development standards and milestones for law enforcement.

- In 2025, formal education will become the standard for entry and advancement in more than 70 percent of all police agencies.

- In 2050, law enforcement will achieve professional status.

Those dates seem outrageously far off into the future. The year 2050 is also the date in which it is predicted that we will

be able to medically treat violence-proneness with bio-chemical and genetic means.

Houle's (1981) view that the concept of professionalizing involves the evolution of an occupation seems appropriate here. We must move beyond stagnation and the status quo. It is time to take bigger steps.

Law enforcement needs to make decisions and adjust its course if it is to move closer to attaining professional status. It will only come after taking bold actions that involve a certain amount of risk taking. Law enforcement leaders and political leaders should assert the needed developments for the profession to move forward into the Third Millennium.

Appendix A.1

Pilot Study Comments

Pilot Study Comments

This section contains the comments added onto the pilot surveys by persons completing them.

Comments:

#6-47. I had to disagree with a lot of these as they were blanket statements.

#9. Education does not create compassion.

#15. The reverse is more true.

#23. Unclear?

#28. By the officers, supervisor, peers or public?

#29. Other officers in the same dept. - or other agencies?

#29. Not sure how you mean this.

#33. At first.

#34. This can be confusing if there is not a "high level of idealism."

#34. Wording a problem - try to judge if idealism is present or at what level? (Many officers or a few)

#40. ?Someone tells me what is expected not how.

#48 to 56. This range seems awfully large too many choices.

#48. If you don't take training, you lose pay.

#53. Already have it.

#60. I really don't have a good idea.

#86. Should "reserves" be left out?

#88. Difficult to answer - My dept. is only 3 people. I am chief but also do patrol & full range of duties.

#105. Civilian? with L.E. Experience need equivalent check if this info is needed.

#117 & 118. Not low enough if you go back to the beginning.

#117. My beginning salary was \$700.

Agreed, it is a little too long. (35)

Appendix A.2

Survey Instrument

**PEACE OFFICER
CAREER DEVELOPMENT ASSESSMENT
QUESTIONNAIRE**

**Research Project Sponsored by the
Texas Commission on Law Enforcement
Officer Standards and Education
and
the University of Texas**

1993

March 1993

Dear Texas Peace Officer:

We believe that you have ideas, experiences, and opinions that could help improve the career development systems of Texas peace officers. This survey is part of an ongoing effort by the Texas Commission on Law Enforcement Officer Standards and Education to develop systems of human resource development that meet the needs of Texas peace officers.

One of the first steps in understanding our needs is to have a clear understanding and description of the current status of Texas peace officers in their career development. We need responses from a representative sample of Texas peace officers to obtain a complete picture of our current situation. You were randomly selected to represent other peace officers. We took one officer out of every 32 from your department.

We hope you will take a few minutes to answer the questions on the following pages so that we can accurately determine our present situation and future needs. Note that the survey is anonymous and voluntary, so please feel free to express your honest opinions. There are no right or wrong answers to the questions that ask your opinions.

When you have completed the questionnaire, please return it to your agency's designated representative. The deadline for returning this questionnaire is one week after you received it. Your participation is extremely important for the results to be valid. We certainly would appreciate your being part of this important study. Thank you!

Sincerely,

Craig H. Campbell,
Doctoral Candidate at University of Texas
and TCLEOSE Employee
Phone: (512) 406-3631

CAREER DEVELOPMENT ASSESSMENT QUESTIONNAIRE

The responses to this questionnaire will be used to make training and educational policy by law enforcement administrators. Your completion and return of this questionnaire is crucial to obtaining input from all segments of the Texas law enforcement community. Your responses will represent many Texas peace officers.

1. Department Number _____ (Provided by your questionnaire administrator)

**Please respond to the next series of statements using the scale of
strongly disagree=1, disagree=2, neutral=3, agree=4, and strongly agree=5**

2. My fellow police officers pretty well know how we all do in our work. _____
3. Other professions are actually more vital to society than mine. _____
4. I think that my profession, more than any other, is essential for society. _____
5. The importance of being a police officer is sometimes over stressed. _____
6. There is really no way to judge fellow officers' competence. _____
7. There is not much opportunity to judge how another police officer does his/her work. _____
8. A problem in this profession is that no one knows what other officers are doing. _____
9. My fellow officers have a pretty good idea about each other's competence. _____
10. Most police officers would remain in the profession even if their incomes were reduced. _____
11. There are very few police officers who don't really believe in their work. _____
12. People in this profession have a real "calling" to their work. _____
13. It is encouraging to see the high level of idealism that is maintained by the police officers in this department. _____
14. The dedication of police officers in this profession is most gratifying. _____
15. Professional associations (such as the International Association of Chiefs of Police) don't do much for the average police officer. _____
16. I frequently read a police journal (e.g., Police Chief, FBI Law Enforcement Bulletin, etc.) _____
17. I regularly attend professional meetings at the local level. _____
18. Although I would like to, I really don't read police journals too often. _____
19. I make my own decisions regarding what is to be done in my work. _____
20. I don't have much opportunity to exercise my own judgment. _____
21. I have a lot to say in decisions which affect my work. _____
22. My supervisor leaves it up to me to decide how to go about doing my job. _____
23. On the job I make a lot of decisions on my own. _____
24. I very much like the type of work that I am doing. _____
25. I really don't feel a sense of pride or accomplishment as a result of the type of work that I do. _____
26. My job gives me a chance to do the things that I do best. _____

CAREER INFORMATION**INSERVICE TRAININ**

FOR 27-35 WHICH OF THE FOLLOWING MOTIVATED YOU IN OBTAINING ADDITIONAL HOURS OF LAW ENFORCEMENT TRAINING.

Use the 1 to 7 scale shown below for each item with "7" being the highest. Use 0 if a motivator was not available in your agency.)

Not available=0, Very little =1	2	3	4	5	6	Very Much=7
27. Incentive pay	_____
28. Chance for advancement	_____
29. Obtaining new skills to better perform my work	_____
30. Enjoyment of learning	_____
31. Chance to get away from the job and to socialize with other officers	_____
32. To accumulate hours toward my intermediate or advanced certificate	_____
33. Compliance with minimum departmental standards	_____
34. Agency encouragement through work scheduling.	_____
35. Requirement to obtain 40 hours of inservice training every two years.	_____

36. How many years ago was basic training was received. _____.

37. Number of hours in basic training _____

38. Type of Basic Academy _____

(1) State, (2) Regional, (3) College, (4) County, (4) Municipal, (5) Other, (6) Did not attend basic.

39. Number of hours of in-service training since basic training: _____

(0) 0, (1) 1-100, (2) 101-200, (3) 201-300, (4) 301-400 (5) 401-500, (6) 501-600, (7) 601-700, (8) 701+

40. Please estimate the percentage of inservice training that you have received that was sought out by you as opposed to departmentally mandated: _____

CURRENT CERTIFICATES/LICENSE

YES NO

41. (0) (1) Intermediate

42. (0) (1) Advanced

43. (0) (1) Instructor

44. (0) (1) Crime Prevention

YES NO

45. (0) (1) Investigative Hypnosis

46. (0) (1) Jail license

47. (0) (1) Graduate Management Institute

COLLEGE ATTENDANCE

48. Number of years since last attended: _____

(1) Currently attending, (2) one year ago, (3) 2 to 5 years ago (4) 6 to 10 years ago (5) 11+ years ago

49. Total hours of college: _____

50. What percentage of your college work was taken prior to becoming a peace officer. _____

(0) 0% (1) 10% (2) 20% (3) 30% (4) 40% (5) 50% (6) 60 % (7) 70% (8) 80% (9) 90% or more

51. Grade Point Average: _____

- (1) 0.0 to 1.0 (2) 1.1 to 1.9 (3) 2.0 to 2.49
 (4) 2.5 to 2.99 (5) 3.0 to 3.49 (6) 3.5 to 4.0

WHICH OF THE FOLLOWING MOTIVATED YOU IN OBTAINING ADDITIONAL HOURS OF COLLEGE EDUCATION

Use the 1 to 7 scale shown below for each item with "7" being the highest. Use 0 if a motivator was not available in your agency.)

Not available=0, Very little =1	2	3	4	5	6	Very Much=7
52. Incentive pay	_____
53. Chance for advancement	_____
54. Obtaining new skills to better perform my work	_____
55. Enjoyment of learning	_____
56. Chance to get away from the job	_____
57. To accumulate hours toward my intermediate or advanced certificate	_____
58. To socialize with students	_____
59. To obtain knowledge and skills that will allow me to leave law enforcement	_____
60. Agency encouragement through work scheduling.	_____
61. Agency tuition reimbursement program	_____
62. Veteran's benefits	_____
63. Law Enforcement Assistance Administration money (LEEP)	_____

Considering the total number of college semester credits that you have earned to date, please indicate the approximate percent of the total that would go into each of the categories below.

64. Approximate percent of credits in criminal justice.

- (0) 0% (1) 10% (2) 20% (3) 30% (4) 40% (5) 50 % (6) 60% (7) 70% (8) 80% or more

65. Approximate percent of credits in the liberal arts (for example, English, humanities, philosophy, languages, etc.).

- (0) 0% (1) 10% (2) 20% (3) 30% (4) 40% (5) 50 % (6) 60% (7) 70% (8) 80% or more

66. Approximate percent of credits in the social sciences (for example, sociology, psychology, political science, anthropology, economics, etc.).

- (0) 0% (1) 10% (2) 20% (3) 30% (4) 40% (5) 50 % (6) 60% (7) 70% (8) 80% or more

67. Approximate percent of credits in the social professions (for example, social work, education, business administration, etc.).

(0) 0% (1) 10% (2) 20% (3) 30% (4) 40% (5) 50 % (6) 60% (7) 70% (8) 80% or more

68. Approximate percent of credits in the natural sciences (for example, chemistry, mathematics, statistics, agriculture, physical sciences, etc.).

(0) 0% (1) 10% (2) 20% (3) 30% (4) 40% (5) 50 % (6) 60% (7) 70% (8) 80% or more

69. Major: _____

(1) Criminal Justice, (2) Liberal Arts, (3) Social Sciences, (4) Social Professions, (5) Natural Sciences

PERSONAL INFORMATIO

70. Which of the following fields in criminal justice, if any, did you work in the most for a criminal justice agency prior to becoming a peace officer.

____(1) None

____(2) Clerical

____(3) Dispatcher(Emergency Communicator)

____(4) City Detention Officer, State, Federal, or County Corrections Officer (County Jailer)

____(5) Reserve Law Enforcement Officer

____(6) Probation or Parole Officer

____(7) Other.

71. How many hours a week do you work an off-duty security type job?

____(1) zero

____(2) less than 8

____(3) 9-16

____(4) 17-24

____(5) 25 or more

EXPERIENCE

72. How many years experience do you have as a reserve law enforcement officer? _____

73. How many agencies have you worked as a full-time paid regular peace officer? _____

Please mark the number of years experience that you have had in any of the following special assignments after becoming a peace officer. The total should add up to your total years of experience as a full-time paid peace officer (please do not enter reserve time here). Part-time experience should be given proportionate credit, such as, a half time assignment in criminal investigation for two years should be counted as one year:

- | | Years of experience |
|---|----------------------------|
| 74. Patrol | _____ |
| 75. Detention | _____ |
| 76. Emergency communications (dispatch) | _____ |
| 77. Administration | _____ |
| 78. Criminal Investigation | _____ |
| 79. Civil Warrants | _____ |
| 80. Criminal Warrants | _____ |
| 81. Field training officer | _____ |
| 82. Training | _____ |
| 83. Crime prevention | _____ |
| 84. Research, planning, crime analysis | _____ |
| 85. Juvenile officer | _____ |
| 86. Other | _____ |
|
 | |
| 87. Total years of experience as a peace officer | _____ |
|
 | |
| 88. How many promotions have you received? | _____ |
|
 | |
| 89. How many demotions have your received? | _____ |
|
 | |
| 90. What is your current rank or equivalent? | _____ |
| (1) Officer, (2) Corporal, (3) Sergeant, (4) Lieutenant, (5) Captain, (6) Major, (7) Deputy or Assistant Chief or Chief Deputy, (8) Constable, (9) Chief, or (0) Sheriff. | |
|
 | |
| 91. Gender ___ Male ___ Female | |
| 92. Birth Year _____ | |
| 93. Ethnic Group: | |
| BLACK (African-American) | _____ |
| AMERICAN-INDIAN | _____ |
| ASIAN-AMERICAN | _____ |
| HISPANIC-AMERICAN | _____ |
| ANGLO-AMERICAN | _____ |

Please mark your years of experience that you have had in any of the supervisory/management assignments listed below after becoming a peace officer (the total should add up to your total years of experience as a supervisor/manager).

	Title or Rank	Years of Experience
94.	Corporal (or equivalent)	_____
95.	Sergeant (or equivalent)	_____
96.	Lieutenant (or equivalent)	_____
97.	Captain (or equivalent)	_____
98.	Major (or equivalent)	_____
99.	Deputy Chief (or equivalent)	_____
100.	Assistant Chief (or equivalent)	_____
101.	Chief Deputy (or equivalent)	_____
102.	Constable	_____
103.	Chief (or equivalent)	_____
104.	Sheriff	_____
105.	Total Sup./Management Experience	_____

The amount of Monthly Base Salary

106. Beginning salary as an Officer _____
107. Current base salary (not including overtime) _____

Overtime income as a Percentage of base	0%	10%	20%	30%	40% or more
108. Departmental overtime income average	(0)	(1)	(2)	(3)	(4)
109. Second job income	(0)	(1)	(2)	(3)	(4)

Comments (Please attach additional pages if needed):

Please return the completed survey to

 at your department who will forward to
 Craig Campbell
 LEMI/TCLEOSE
 1033 La Posada, Suite 130
 Austin, Texas 78752
 (512) 406-3631
 FAX (512) 406-3666

Appendix A.3

Departmental Instrument

CAREER DEVELOPMENT DEPARTMENTAL INFORMATION

The items on this page are to gather general information about the department which will be correlated with the individual officer responses.

1. Name of Department _____
2. Is the department civil service? (1) Yes (0) No
3. Is a written entry test used for hiring of peace officers? (1) Yes (0) No
4. Does the department require any college for hiring? (1) Yes (0) No
5. Does your department have rotating shifts? (1) Yes (0) No
6. Size of agency (including sworn/non-sworn) (1) 50-199 (2) 200-999 (3) 1000+

Please check all of the methods used for promotion that apply from the following list:

- | | |
|--|---|
| 7. <input type="checkbox"/> Written test | 11. <input type="checkbox"/> Supervisory ratings |
| 8. <input type="checkbox"/> Oral board | 12. <input type="checkbox"/> Educational criteria |
| 9. <input type="checkbox"/> Interview by supervisor or manager | 13. <input type="checkbox"/> Experience criteria |
| 10. <input type="checkbox"/> Assessment center | 14. <input type="checkbox"/> Other, please describe |

15. Does your department provide incentive pay for college? (1) Yes(0) No
If yes, please describe.

16. Does your department provide incentive pay for TCLEOSE certification? (1) Yes (0) No
If yes, please describe.

17. Does your department provide incentive pay for college tuition? (1) Yes (0) No
If yes, please describe.

18. Does your department reimburse officers for college tuition? (1) Yes (0) No
If yes, please describe.

19. What does your department require for promotion in terms of college?_____

(0) None	(4) 60 hours
(1) Preference	(5) 90 hours
(2) Some college	(6) Bachelor's Degree
(3) 30 hours	

Additional Comments on the back or separate sheet.

Name of Person Completing this form _____ Phone # _____

Appendix A.4

Letter to Chief Administrators

February 16, 1993

Dwain T. Pyburn, Chief
Abilene PD
Box 174
Abilene, TX 79604

Dear Chief Pyburn:

As part of TCLEOSE's continuing attempts to improve the delivery of human resource development activities to Texas peace officers, we ask your assistance in a survey to help assess the current level of Texas peace officers. We are doing this in conjunction with the University of Texas and involving all of the major departments in the State.

We ask that you appoint a designee to distribute and collect survey instruments from your officers. We only need to collect five surveys from officers that we have randomly picked in your department. Completion of the survey will take less than 30 minutes. We will tally all of the results and will report them only on a Statewide basis without any department being identified. The survey is anonymous to encourage honest responses. Our only interest is looking at peace officer opinions as a group, and not departments or individual peace officers. We will provide you with the results of the survey.

A synopsis of the study is attached along with a sample survey instrument. You may contact us by phone or simply complete the bottom portion of this letter and return which ever you prefer. An extra copy of this letter is enclosed for your files. If you have questions, please do not hesitate to contact us.

Sincerely,
Fred Toler
Executive Director TCLEOSE

Craig H. Campbell, MA. & M.S.
Doctoral Candidate at the University of Texas and Program
Administrator with TCLEOSE
Phone: (512) 406-3631 or (512) 450-0188. FAX (512) 406-3666

Name of Designee _____ Title _____

Phone Number _____

Comments:

Career Development Survey

Synopsis of the Study

Research Questions

This study will look at the impacts upon the law enforcement profession that are made by education and training. The specific questions that will be explored are:

1. Do officers who have more hours of college have a different professional orientation or a different career path experience?
2. Do officers who have more hours of in-service training differ in terms of professional orientation or differ in career path experience?
3. What is the relationship between college education and training?

Methodology

The methodology will use survey data of a sample of peace officers randomly drawn from thirty-seven (37) law enforcement agencies in Texas. Each department will be provided a list of names that have been randomly drawn from their licensed peace officers. The number of peace officers will vary by agency size with approximately one officer drawn for every 32 licensed officers in the department. We will tally all of the results and will report them only on a Statewide basis without any department being identified. The survey is anonymous to encourage honest responses. Our only interest is looking at peace officer opinions as a group, and not departments or individual peace officers.

Significance of the Study

The study has significance for state law enforcement policy makers in setting human resource standards and in engaging in human resource planning, administrators of law enforcement agencies in setting policies for their agencies, professional associations in determining appropriate practices to advocate to legislators and state agencies, criminal justice educators and trainers may gain useful information about the influence of their activities, and peace officers trying to decide whether to invest in human resource development activities.

Appendix A.5

Chief Administrators Participating

Chief Administrators Participating in the Study

Dwayne Pyburn, Chief
Abilene PD
Box 174
Abilene, TX 79604

David M. Kunkle, Chief
Arlington PD
621 W. Division
Arlington, TX 76011

Jerry Neal, Chief
Amarillo PD
609 S. Pierce
Amarillo, TX 79101-2495

Elizabeth Watson, Chief
Austin PD
715 E. 8th
Austin, TX 78701-3397

Tom Scofield, Chief
Beaumont PD
Box 3827
Beaumont, TX 77704

Ralph Lopez, Sheriff
Bexar County S.O.
200 N. Comal
San Antonio, TX 78207-3505

Victor Rodriguez, Chief
Brownsville PD
600 E. Jackson
Brownsville, TX 78520

V.C. Campbell, Chief
Carrollton PD
2025 Jackson RD
Carrollton, TX 75006

Henry Garrett, Chief
Corpus Christi PD
Box 9016
Corpus Christi, TX 78469-9016

Jim Bowles, Sheriff
Dallas County S.O.
133 N. Industrial Blvd.
Dallas, TX 75207-4313

William Rathburn, Chief
Dallas PD
106 S. Harwood, Room 20
Dallas, TX 75201

John Scagno, Chief
El Paso PD
911 N. Raynor
El Paso, TX 79903

Leo Samaniego, Sheriff
El Paso County S.O.
Box 125
El Paso, TX 79941

Thomas R. Windham, Chief
Fort Worth PD
350 Belknap
Fort Worth, TX 76102

Freddie Lee Poor, Chief
Galveston PD
Box 568
Galveston, TX 77553

Joe Max Taylor, Sheriff
Galveston County S.O.
715 19th Street
Galveston, TX 77550

Terry Hensley, Chief
Garland PD
217 N. 5th Street
Garland, TX 75040

Harry Crum, Chief
Grand Prairie PD
801 Conover Dr.
Grand Prairie, TX 75051

Johnny Klevenhagen, Sheriff
Harris County S.O.
1301 Franklin Street
Houston, TX 77002

Sam Nuchia, Chief
Houston PD
61 Riesner, Room 330
Houston, TX 77002

Benny Newman, Chief
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Box 152288
Irving, TX 75015-2288

Johnny Upton Chief
Longview PD
Box 1952
Longview, TX 75606

Donald Bridgers, Chief
Lubbock PD
Box 2000
Lubbock, TX 79457

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McAllen, TX 78501

Richard Czech, Chief
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Box 1152
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#1 Criminal Justice Dr.
Conroe, TX 77301

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Odessa, TX 79761

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Bruce Glasscock, Chief
Plano PD
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Plano, TX 75086-0358

Russell S. Smith, Chief
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San Angelo, TX 76902
William O. Gibson, Chief
San Antonio PD
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Fort Worth, TX 76102

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Waco PD
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Appendix A.6

Departmental Designees

Departmental Designees

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Appendix B.1

Professionalism Items

Professionalism Items

2. My fellow police officers pretty well know how we all do in our work.

Value	Frequency	Percent
Strongly disagree	14	3.1
Disagree	61	13.5
Neutral	71	15.7
Agree	268	59.3
Strongly Agree	38	8.4

N=452 (Missing 4) Standard Deviation .934

3. Other professions are actually more vital to society than mine.

Value	Frequency	Percent
Strongly disagree	162	35.6
Disagree	189	41.5
Neutral	72	15.8
Agree	25	5.5
Strongly Agree	7	1.5

N=455 (Missing 1) Standard Deviation .934

4. I think that my profession, more than any other, is essential for society.

Value	Frequency	Percent
Strongly disagree	12	2.6
Disagree	63	13.8
Neutral	95	20.9
Agree	162	35.6
Strongly Agree	123	27.0

N=455 (Missing 1) Standard Deviation 1.089

5. The importance of being a police officer is sometimes over stressed.

Value	Frequency	Percent
Strongly disagree	97	21.3
Disagree	198	43.5
Neutral	70	15.4
Agree	76	16.7
Strongly Agree	14	3.1

N=455 (Missing 1) Standard Deviation 1.086

6. There is really no way to judge fellow officers' competence.

Value	Frequency	Percent
Strongly disagree	153	33.6
Disagree	244	53.6
Neutral	22	4.8
Agree	26	5.7
Strongly Agree	10	2.2

N=455 (Missing 1) Standard Deviation .895

7. There is not much opportunity to judge how another police officer doe his/her work.

Value	Frequency	Percent
Strongly disagree	113	24.8
Disagree	257	56.5
Neutral	26	5.7
Agree	52	11.4
Strongly Agree	7	1.5

N=455 (Missing 1) Standard Deviation .947

8. A problem in this profession is that no one knows what other officers are doing.

Value	Frequency	Percent
Strongly disagree	48	10.6
Disagree	220	48.5
Neutral	64	14.1
Agree	95	20.9
Strongly Agree	27	5.9

N=455 (Missing 1) Standard Deviation 1.105

9. My fellow officers have a pretty good idea about each other's competence.

Value	Frequency	Percent
Strongly disagree	4	0.9
Disagree	38	8.4
Neutral	44	9.7
Agree	316	69.5
Strongly Agree	53	11.6

N=455 (Missing 1) Standard Deviation .773

10. Most police officers would remain in the profession even if their incomes were reduced.

Value	Frequency	Percent
Strongly disagree	72	15.8
Disagree	131	28.8
Neutral	84	15.2
Agree	151	33.2
Strongly Agree	17	3.7

N=455 (Missing 1) Standard Deviation 1.169

11. There are very few police officers who don't really believe in their work.

Value	Frequency	Percent
Strongly disagree	19	4.2
Disagree	75	16.5
Neutral	69	15.2
Agree	251	55.2
Strongly Agree	41	9.0

N=455 (Missing 1) Standard Deviation 1.006

12. People in this profession have a real "calling" to their work.

Value	Frequency	Percent
Strongly disagree	6	1.3
Disagree	69	15.1
Neutral	145	31.9
Agree	210	46.2
Strongly Agree	25	5.5

N=455 (Missing 1) Standard Deviation .856

13. It is encouraging to see the high level of idealism that is maintained by the police officers in this department.

Value	Frequency	Percent
Strongly disagree	27	5.9
Disagree	92	20.2
Neutral	142	31.2
Agree	164	36.0
Strongly Agree	30	6.6

N=455 (Missing 1) Standard Deviation 1.018

14. The dedication of police officers in this profession is most gratifying.

Value	Frequency	Percent
Strongly disagree	11	2.4
Disagree	49	10.7
Neutral	101	22.3
Agree	253	55.8
Strongly Agree	39	8.6

N=453 (Missing 3) Standard Deviation .883

15. Professional associations (such as the International Association of Chiefs of Police) don't do much for the average police officer.

Value	Frequency	Percent
Strongly disagree	18	4.0
Disagree	87	19.2
Neutral	126	27.8
Agree	146	32.2
Strongly Agree	76	16.8

N=453 (Missing 3) Standard Deviation 1.094

16. I frequently read a police journal (e.g., Police Chief, FBI Law Enforcement Bulletin, etc.).

Value	Frequency	Percent
Strongly disagree	44	9.7
Disagree	137	30.1
Neutral	73	16.0
Agree	156	34.3
Strongly Agree	45	9.9

N=455 (Missing 1) Standard Deviation 1.195

17. I regularly attend professional meeting at the local level.

Value	Frequency	Percent
Strongly disagree	75	16.5
Disagree	200	44.0
Neutral	85	18.7
Agree	75	16.5
Strongly Agree	20	4.4

N=455 (Missing 1) Standard Deviation 1.084

18. Although I would like to, I really don't read police journals too often.

Value	Frequency	Percent
Strongly disagree	51	11.2
Disagree	162	35.6
Neutral	75	16.5
Agree	154	33.8
Strongly Agree	13	2.9

N=455 (Missing 1) Standard Deviation 1.107

19. I make my own decisions regarding what is to be done in my work.

Value	Frequency	Percent
Strongly disagree	8	1.8
Disagree	63	13.8
Neutral	87	19.1
Agree	251	55.2
Strongly Agree	46	10.1

N=455 (Missing 1) Standard Deviation .911

20. I don't have much opportunity to exercise my own judgment.

Value	Frequency	Percent
Strongly disagree	119	26.2
Disagree	261	57.4
Neutral	28	6.2
Agree	39	8.6
Strongly Agree	8	1.8

N=455 (Missing 1) Standard Deviation .909

21. I have a lot to say in decisions which affect my work.

Value	Frequency	Percent
Strongly disagree	33	7.3
Disagree	84	18.5
Neutral	87	19.1
Agree	209	45.9
Strongly Agree	42	9.2

N=455 (Missing 1) Standard Deviation 1.099

22. My supervisor leaves it up to me to decide how to go about doing my job.

Value	Frequency	Percent
Strongly disagree	7	1.5
Disagree	42	9.2
Neutral	57	12.5
Agree	291	63.8
Strongly Agree	58	12.7

N=455 (Missing 1) Standard Deviation .842

23. On the job I make a lot of decisions on my own.

Value	Frequency	Percent
Strongly disagree	4	0.9
Disagree	10	2.2
Neutral	26	5.7
Agree	305	67.2
Strongly Agree	109	24.0

N=455 (Missing 1) Standard Deviation .673

24. I very much like the type of work that I am doing.

Value	Frequency	Percent
Strongly disagree	7	1.5
Disagree	10	2.2
Neutral	42	9.2
Agree	208	45.7
Strongly Agree	188	41.3

N=455 (Missing 1) Standard Deviation .825

25. I really don't feel a sense of pride or accomplishment as a result of the type of work that I do.

Value	Frequency	Percent
Strongly disagree	187	41.1
Disagree	170	37.4
Neutral	44	9.7
Agree	41	9.0
Strongly Agree	13	2.9

N=455 (Missing 1) Standard Deviation 1.061

26. My job gives me a chance to do the things that I do best.

Value	Frequency	Percent
Strongly disagree	16	3.5
Disagree	50	11.0
Neutral	80	17.6
Agree	212	46.6
Strongly Agree	97	21.3

N=455 (Missing 1) Standard Deviation 1.032

Appendix B.2

Motivators for Training

Motivators for Training

ITEMS 27 TO 36

Motivation	Mean	Standard Deviation	Number
Incentive pay	4.39	2.17	330
Advancement	4.24	2.06	398
Skill for work	5.42	1.52	446
Enjoyment of learning	4.86	1.62	449
Socialization w/ officers	3.012	1.62	424
TCLEOSE Certification	4.52	2.15	428
Minimum Dept. Standard	4.18	2.03	419
Training Scheduling	3.02	1.84	377
TCLEOSE 40 hour requirement	4.43	2.07	424

Appendix B.3

Type of Basic Academy

ITEM 38

TYPE OF BASIC ACADEMY

Type	Frequency	Percent
State	23	5.2
Regional	87	19.6
College	30	6.7
Local(County or City)	295	66.3
Other	7	1.6
No basic	3	0.7

N=445

Missing 11 2.4%

Appendix B.4

Pre-Employment College

Item 50

Percentage of College Prior to Employment as a Peace Officer

PERCENTAGE OF HOURS PRIOR	NUMBER	PERCENT
0 HOURS COLLEGE	62	13.6%
0% PRIOR	60	13.2%
10% PRIOR	28	6.1%
20% PRIOR	13	2.9%
30% PRIOR	16	3.5%
40% PRIOR	14	3.1%
50% PRIOR	18	3.9%
60% PRIOR	17	3.7%
70% PRIOR	16	3.5%
80% PRIOR	18	3.9%
90% OR MORE	194	42.5%

Appendix B.5

Motivation for College

Items 52 to 63

Motivation for College

Motivation	Mean	Standard Deviation	Number
Incentive pay	4.38	2.21	278
Advancement	4.31	2.05	336
Skill for work	5.47	1.46	382
Enjoyment of learning	4.81	1.66	384
Get away from job	2.92	1.74	351
TCLEOSE Certification	4.49	2.16	352
Socialization w/ students	2.74	1.62	354
Knowledge to leave L.E.	2.58	1.95	308
Agency help w/ Scheduling	2.93	1.78	309
Tuition reimbursement	2.96	2.04	238
Veterans benefits	2.93	2.15	147
LEEP assistance	3.16	2.27	163

Appendix B.6

Contents of Coursework

Item 64 asked for the percentage of coursework in criminal justice. The following Table displays those results.

Criminal Justice

Percentage of Course Work	Frequency	Percent	Valid Percent
0%	79	17.3	20.3
10%	49	10.7	12.6
20%	34	7.5	8.7
30%	34	7.5	8.7
40%	54	11.8	13.9
50%	47	10.3	12.1
60%	35	7.7	9.0
70%	16	3.5	4.1
80% or more	41	9.0	10.5
Missing	67	14.7	

Item 65 asked for the percentage of coursework in the liberal arts. The following Table displays those results.

Liberal Arts

Percentage of Course Work	Frequency	Percent	Valid Percent
0%	47	10.3	12.1
10%	103	22.6	26.5
20%	116	25.4	29.8
30%	61	13.4	15.7
40%	29	6.4	7.5
50%	21	4.6	5.4
60%	3	0.7	0.8
70%	4	0.9	1.0
80% or more	5	1.1	1.3
Missing	67	14.7	

Item 66 asked for the percentage of coursework in the social sciences. The following Table displays those results.

Social Sciences

Percentage of Course Work	Frequency	Percent	Valid Percent
0%	57	12.5	14.7
10%	113	24.8	29.0
20%	122	26.8	31.4
30%	61	13.4	15.7
40%	15	3.3	3.9
50%	12	2.6	3.1
60%	3	0.7	0.8
70%	2	0.4	0.5
80% or more	4	0.9	1.0
Missing	67	14.7	

Item 67 asked for the percentage of coursework in the social professions. The following Table displays those results.

Social Professions

Percentage of Course Work	Frequency	Percent	Valid Percent
0%	171	37.8	44.3
10%	106	23.2	27.5
20%	49	10.7	12.7
30%	23	5.0	6.0
40%	13	2.9	3.4
50%	6	1.3	1.6
60%	8	1.8	2.1
70%	3	0.7	0.8
80% or more	7	1.5	1.8
Missing	67	14.7	

Item 68 asked for the percentage of coursework in the natural sciences. The following Table displays those results.

Natural Sciences

Percentage of Course Work	Frequency	Percent	Valid Percent
0%	118	25.9	30.7
10%	179	39.3	46.6
20%	39	8.6	10.2
30%	21	4.6	5.5
40%	8	1.8	2.1
50%	12	2.6	3.1
60%	3	0.7	0.8
70%	2	0.4	0.5
80% or more	2	0.4	0.5
Missing	67	14.7	

Appendix B.7

Hours Off Duty Work

Hours Off Duty Work

<u>Hours</u>	<u>Frequency</u>	<u>Percentage</u>
None	200	44.1
Less than 8	88	19.4
9 to 16	35	7.7
17 to 24	17	3.7
25 or more	5	1.1
	Missing	2

Appendix B.8

Incentive Pay Plans Of Departments

Incentive Pay Plans Of Departments

15. Incentive pay for College

Abilene P.D.

Associate's Degree = \$ 50/month

Bachelor's Degree = \$100/month

Arlington P.D.

30 hours = \$ 20/month

60 hours = \$ 40/month

90 hours = \$ 60/month

Bachelor's Degree = \$ 80/month

Austin P.D.

Associate's Degree = \$ 50/month

Bachelor's Degree = \$100/month

Carrollton P.D.

Associate's Degree = \$ 50/month

Bachelor's Degree = \$100/month

Corpus Christi P.D.

One dollar per college hour

Associate's Degree = \$ 47.50/month

Bachelor's Degree = \$ 87.50/month

Master's Degree = \$101.50/month

Fort Worth P.D.

Associate's Degree	=	\$ 60/month
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Bachelor's Degree	=	\$120/month
-------------------	---	-------------

Galveston P.D.

Associate's Degree	=	\$ 50/month
--------------------	---	-------------

Bachelor's Degree	=	\$100/month
-------------------	---	-------------

Garland P.D.

Details Not Reported

Grand Prairie P.D.

Associate's Degree	=	\$ 80/month
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Bachelor's Degree	=	\$100/month
-------------------	---	-------------

Harris County S.O.

A.A., 60 hours/Intermed. Cert.	=	\$75/month
--------------------------------	---	------------

B.A. or Advanced	=	\$150/month
------------------	---	-------------

M.A. or Master's	=	\$225/month
------------------	---	-------------

Irving P.D.

60 hours	=	\$ 20/month
----------	---	-------------

Associate's Degree	=	\$ 50/month
--------------------	---	-------------

90 hours	=	\$ 60/month
----------	---	-------------

Bachelor's Degree	=	\$100/month
-------------------	---	-------------

Master's Degree	=	\$120/month
-----------------	---	-------------

Longview P.D.

Details Not Reported

Lubbock P.D.

Associate's Degree	=	\$ 80/month
Bachelor's Degree	=	\$125/month
Master's Degree	=	\$175/month

McAllen P.D.

Bachelor's Degree	=	\$100/month
Master's Degree	=	\$150/month
Ph.D. Degree	=	\$200/month

Midland P.D.

\$1.50 per college hour per month		
Associate's Degree	=	\$ 99/month
Bachelor's Degree	=	\$180/month

Odessa P.D.

Associate's Degree	=	\$ 60/month
Bachelor's Degree	=	\$100/month
Master's Degree	=	\$120/month

San Angelo P.D.

\$1.10 per college hour per month

San Antonio P.D.

Associate's Degree	=	\$150/month
Bachelor's Degree	=	\$250/month

Travis County S.O.

Details Not Reported

Tyler P.D.

Associate's Degree = \$100/month

Bachelor's Degree = \$150/month

Waco P.D.

Associate's Degree = \$ 50/month

Bachelor's Degree = \$100/month

16. Incentive pay TCLEOSE Certifications

Abilene P.D.

Intermediate Certificate = \$ 60/month

Advanced Certificate = \$120/month

Amarillo P.D.

Intermediate Certificate = \$ 25/month

Advanced Certificate = \$ 25/month

Austin P.D.

Intermediate Certificate = \$ 50/month

Advanced Certificate = \$100/month

Beaumont P.D.

Details Not Reported

Brownsville P.D.

Intermediate Certificate = \$ 50/month

Advanced Certificate = \$100/month

Carrolton P.D.

Intermediate Certificate = \$ 50/month

Advanced Certificate = \$100/month

El Paso S.O.

Intermediate Certificate = \$ 75/month

Advanced Certificate = \$125/month

El Paso P.D.

Intermediate Certificate = \$ 55/month

Advanced Certificate = \$105/month

Fort Worth P.D.

Intermediate Certificate = \$ 30/month

Advanced Certificate = \$ 60/month

Galveston P.D.

Intermediate Certificate = \$ 50/month

Advanced Certificate = \$ 75/month

Garland P.D.

Advanced Certificate = \$ 75/month after topping out as
patrol officer (5 years)

Grand Prairie P.D.

Intermediate Certificate = \$ 40/month

Advanced Certificate = \$ 80/month

Harris County S.O.

A.A., 60 hours, or Intermed. Cert.=	\$ 75/month
B.A. or Advanced	= \$150/month
M.A. or Master's	= \$225/month

Irving P.D.

Intermediate Certificate =	\$ 30/month
Advanced Certificate	= \$ 60/month

Longview P.D.

Details Not Reported

McAllen P.D.

Intermediate Certificate =	\$ 25/month
Advanced Certificate	= \$ 50/month

Midland P.D.

Intermediate Certificate =	\$ 60/month
Advanced Certificate	= \$110/month
Graduate Management Institute =	

Odessa P.D.

Intermediate Certificate =	\$ 30/month
Advanced Certificate	= \$ 50/month

Pasadena P.D.

Intermediate Certificate =	\$ 50/month
Advanced Certificate	= \$100/month

Plano P.D.

Details Not Reported

Travis County S.O.

Details Not Reported

Tyler P.D.

Intermediate Certificate = \$ 75/month

Advanced Certificate = \$125/month

Waco P.D.

Intermediate Certificate = \$ 50/month

Advanced Certificate = \$100/month

Wichita Falls P.D.

Intermediate Certificate = \$ 75/month

Advanced Certificate = \$125/month

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Vita

Craig Hudson Campbell was born in Vinita, Oklahoma September 22, 1947. He is the youngest of three children of Carl and Margaret Campbell. He graduated from Vinita High School in 1965, the University of Oklahoma with a B.A. in History in January 1970, the University of Oklahoma with a M.A. in Human Relations in December 1973, and Oklahoma State University with a M.S. in Corrections/Sociology in August 1976.

He has had the following work published:

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- Community relations and the mentally retarded, Texas Police Journal, 35(6), July 1987, pp. 4-6.
- The mentally retarded offender in jail, The Texas Lawman, June 1987, pp. 31-33.
- From training to human resource development. Texas Police Journal 35(8), 1987, pp. 10-14.
- Write effective messages, Personnel Journal, 68(6), June 1989, pp. 36-47.

- The impact of educational level on law enforcement and law enforcement training, Texas Police Journal 40(6), 1992, pp. 14-20.

He has worked in law enforcement and corrections since January 1974, serving as a Chief Deputy for the Travis County Sheriff's Department, Director of Corrections for the Travis County Sheriff's Department, and in community corrections for the Oklahoma Department of Corrections. During this period, he served as an Adjunct Instructor for St. Edwards University. He has worked for the last eleven years in human resource development activities in law enforcement as a management consultant, research specialist, training specialist, program manager, and program administrator for the Texas Commission on Law Enforcement Officer Standards and Education. During this period, he was program administrator for the Law Enforcement Management Institute.

He has five children: Amy Elisabeth Campbell, born December 19, 1970, Micah Andrew Campbell, born July 21, 1973, Nathan Alan Campbell, born July 21, 1973, Erin Rose Campbell, born July 29, 1980, and Duncan Joseph Campbell, born March 22, 1993. He is married to Julie Appleton Campbell.

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