

THE UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

THE RELATIONSHIP OF HIGHER EDUCATION TO
OKLAHOMA HIGHWAY PATROL
TROOPERS' PERFORMANCE

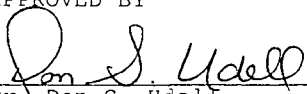
A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY

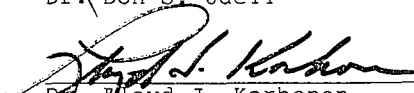
BY
JIM ROBERTS
NORMAN, OKLAHOMA

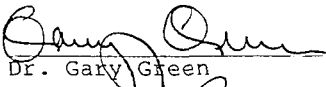
1984

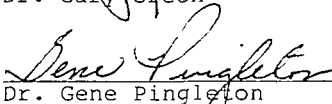
THE RELATIONSHIP OF HIGHER EDUCATION TO
OKLAHOMA HIGHWAY PATROL
TROOPERS' PERFORMANCE

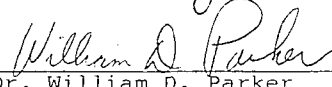
APPROVED BY


Dr. Don S. Udell


Dr. Floyd J. Korhonen


Dr. Gary Green


Dr. Gene Pingleton


Dr. William D. Parker

DISSERTATION COMMITTEE

© 1984

JIM ROBERTS

All Rights Reserved

THE RELATIONSHIP OF HIGHER EDUCATION TO
OKLAHOMA HIGHWAY PATROL TROOPERS' PERFORMANCE

BY: JIM ROBERTS

MAJOR PROFESSOR: DON UDELL

This study examines the relationship of higher education to the work performance of Oklahoma Highway Patrol Troopers as measured by an instrument (Knowledge Achievement Test—KAT) developed from an indepth analysis of the position of state trooper. The basis for the methodology used in the development of the KAT is the Job Task Analysis process using a committee approach. The population consisted of 497 Oklahoma Highway Patrol Troopers which were divided into five mutually exclusive stratified KAT scores and were defined as follows:

- Group 1. High school diploma or G.E.D.
- Group 2. Those having one year of college
- Group 3. Those having two years of college
- Group 4. Those having three years of college
- Group 5. Those having four years of college

Based upon the idea of a relationship between improved work performance and increased college education, it was postulated that there would be a relationship between these two variables. The data were analyzed using a One-Way ANOVA and lead to the rejection of the Null hypothesis inasmuch as there was significance found at the $\alpha .05$ between Groups 1 and 5.

ACKNOWLEDGMENTS

I want to express my appreciation to my wife, Kathy. Without her encouragement, help, and advice my task would surely have been an impossible achievement. I can now appreciate her doctoral accomplishments in that I had my good physical health during my program whereas Kathy did not. Her love, strength, and warmth will continue to guide me the rest of my life and it is to her that I dedicate this scholarly effort.

My heart-felt thanks are extended to my Chairman, Don, and my committee members Lloyd, Gary, Bill and Gene. Thank you very much for your help and friendship. I will endeavor to be worthy of your efforts and trust which each of you have invested in me.

I would be remiss if I failed to publicly acknowledge my sincere gratitude to the Oklahoma Highway Patrol and its' leadership for their support and encouragement. I want to especially thank my good friend, Gary Adams, for his understanding and cooperation. To Donna Hardridge for her endless effort in preparing this manuscript (time-after-time-after-time), and to Jerry Biggers and Paul W. Reed, Jr., who, by their words and actions, provided me with the necessary "shot-in-the-arm" to continue this effort. I'm certain that these friends are unaware of the important role each played and I wish to thank each of them. My success is their success.

I close as I began: Thank you Kathy!

ly. Without her
been an impossible
ents in that I had
id not. Her love,
life and it is to

and my committee
for your help and
ust which each of

sincere gratitude
their support and
ary Adams, for his
endless effort in
Jerry Biggers and
ided me with the
that these friends
ank each of them.

TABLE OF CONTENTS

CHAPTER I

Background	1
Significance of the Study	4
Statement of the Problem	5
Hypothesis Statement	5
Definition of Terms	6
Limitations of the Study	7
Organization of the Study	7

CHAPTER II

Introduction	9
Historical Development of Police Education	10
Before the Assistance of Federal Funding	12
The Era of Federal Funding	12
The Effects of Increased Education	15
Support of Higher Education	21
Criminal Justice Programs in Higher Education	23
Goals and Objectives of Criminal Justice Higher Education	28
Qualities and Skills Required	33
Career Specific Education	34
Creating a Change Agent	36
Professionalization of the Police	39
Recruiting at the College Level	43
Criticism of College Recruitment	44
Problems with Previous Studies	46

CHAPTER III

Introduction	47
Population	47
Sample	48
Data Collection Technique	48
Instrumentation	50
Procedures	52
Control of Extraneous Variables	52
Treatment of the Data	54
Summary	54

CHAPTER IV

Introduction	56
Findings	56
Results of Hypothesis Testing	56
Tukey's HSD Test	59
Summary of Hypothesis Testing	61

CHAPTER V

Summary	62
Conclusion	63
Recommendations for Further Research	65

BIBLIOGRAPHY	66
--------------	----

APPENDIX	73
----------	----

LIST OF TABLES

TABLE		PAGE
1	Criminal Justice Area Academic Degree Programs in 1949	13
2	Criminal Justice Area Academic Degree Programs in 1957	14
3	Criminal Justice Area Academic Degree Programs 1966—1978	15
4	Criminal Justice Degree Programs Available in 1978	17
5	Criminal Justice Personnel Enrollment in 1978	19
6	Goals for College Students and Empirical Evidence on Their Achievement	31
7	Educational Level by Years	48
8	Proportional Stratified Sample Scores 1982 KAT	49
9	Distribution of Scores Achieved on the 1982 KAT	53
10	The ANOVA Matrix	57
11	The ANOVA Results	58
12	Means and Standard Deviations for the Five Sample Groups of KAT Scores	59
13	Tukey's Pairwise Comparisons of Sample Means 1982 KAT Scores	60

CHAPTER I

INTRODUCTION

Background.—The Oklahoma Highway Patrol, by the very nature of its function, is an anomaly in a free society. Troopers are invested with a great deal of authority under a system of government in which authority is reluctantly granted and, when granted, sharply curtailed. The specific form of their authority—to arrest, to search, to detain, and to use force—is awesome in the degree to which it can be disruptive of freedom, invasive of privacy, and sudden and direct in its impact upon the individual. And, this awesome authority, of necessity, is delegated to individuals at the lowest level of the bureaucracy, to be exercised, in most instances without prior review and control (Goldstein, 1977).

The primary objective of this research paper, which is addressed to those concerned with improving police service afforded by the Oklahoma Highway Patrol, is to examine and direct attention to the fundamental issue of the need for higher education within the rank-and-file of the Oklahoma Highway Patrol.

It has been said that a democracy is heavily dependent upon its police, despite their anomalous position, to maintain the degree of order that makes a free society possible. It looks to the police to prevent people from preying on one another; to provide a sense of security; to facilitate movement; to resolve conflicts; and to protect the very processes and rights—such as free elections, freedom of speech, and freedom of assembly—on which continuation of a free society depends. The strength of a democracy and the quality of life enjoyed by its citizens are determined in large measure by the ability of the police to discharge their duties in an efficient, impartial, and professional manner.

Few efforts to improve police operations in recent years have received such enthusiastic and widespread support as the general notion that police officers should be college educated. This support is all the more remarkable because it was so slow in coming. The first efforts to involve college educated personnel in police work were made by August Vollmer in 1917 when he recruited University of California students as part-time police officers in Berkeley (Deutsch, 1955). Vollmer's campaign gained support on the national scene in the 1930s when college graduates, lacking other opportunities, sought employment with the police, but this trend lasted only as long as the Depression (Niederhoffer, 1967).

Many arguments have been offered in support of the general proposition that police should be college educated. They have been offered in various combinations and with varying intensity. They fall into two categories:

1. Those that claim the police should draw their personnel from individuals who attend college whether or not it can be clearly demonstrated that a college education is of value for policing; and
2. Those that contend, more specifically, that the college experience will produce a better police officer.

The reasoning of those in the first category is that the police must recruit college graduates if they are to acquire their share of the able, intelligent young people from each year's addition to the work force. It has been suggested that the police, by recruiting at the high school diploma level, necessarily chose individuals lacking the intelligence or the motivation required for higher education (Goldstein, 1977). It follows that the pool from which the police recruits, if they do not attract the college graduate, is limited to both size and quality.

That police agencies are recruiting their future leadership adds to this concern. The problem has never been expressed as strongly and as forthrightly here as it was in England in 1962, when the Royal Commission on the Police observed:

We are extremely concerned that the conditions of entry and promotion prospects of the police service should be such as will attract a sufficient number of recruits who are likely to make good chief constables and other senior officers twelve, fifteen or twenty years hence. In the past, many men with distinguished careers lacked a university education, but this situation is rapidly changing: young men of ability now tend in increasing numbers to proceed to the universities. Consequently a system of police recruiting which shows no evidence of success in attracting a sufficient proportion of entrants of graduate standard endangers the future leadership of the service. Improvements in pay and new training arrangements will not by themselves cure this defect. The police play a vital part in our national life and well-being and it is deplorable that they, to a far greater extent than any of the other public services, law, commerce, industry or indeed any major branch of our national life, should for years have been failing to recruit anything like their proper share of able and well educated young men. We do not suggest that graduates are necessarily more likely than others to make effective chief constables: our concern is simply that the police today are not securing a sufficient share of the better educated section of the community (The Royal Commission on the Police, 1962).

Some contend that along with a greater share of intelligent young people, police agencies, in requiring a college degree, would also attract a greater cross section of the population. It is assumed that young people who go to college are drawn from socioeconomic groups having a wide range of views regarding both the police function and the problems with which the police must deal. It is argued that these young people would improve police operations by broadening the values to which police personnel subscribe.

It is further argued that the degree carrying officer whose education equals or exceeds that of most of the people he contacts tends to function with much greater confidence and in a much less defensive manner. The educational requirement is seen as an indicator of what the agency—or the police field as a whole—thinks of itself. The second category of arguments reflects the position that police not only stand to gain by recruiting from among those who go on to college but, more specifically, that it is the substance of what is learned in college and in the college experience that will produce a better police officer.

In support of this view, some claim that a unique body of knowledge, directly relevant to police practices, can appropriately be taught at the college level. They see specific value in a program of studies that is weighted with liberal arts--the humanities, the sciences, and the arts--on the grounds that such studies develop the ability of an individual to think, to be critical, and to be creative. Knowledge of these areas would, it is argued, put policing in its proper perspective and help officers cope more effectively with the problems and people he confronts (Goldstein, 1977). In some quarters, however, there is a growing uneasiness with the movement--a feeling that a college education has been oversold as a panacea for the police (Chevigny, 1969).

Significance of the Study.—Earlier studies (Newport, 1980; Eskridge, 1977; Smith and Ostrom, 1974; Wilson, 1968; and Frost, 1955) demonstrated that measuring worker perceptions and performance could be accomplished effectively. However, their results have been less than conclusive with regard to making a definitive recommendation concerning the needed level of education as it relates to a police officers work performance. This study is an attempt to meet this inadequacy in the literature by firstly, performing a Job Task Analysis (JTA) of the position of Oklahoma Highway Patrol Troopers (Newport, 1980); secondly, constructing a measuring instrument (Lien, 1976) which will measure to a high degree, consistently, and with a minimum expenditure of time, energy, and money, state troopers' knowledge of their job as determined by their score on that measuring instrument; and thirdly, evaluating the relationship between the "level of education" of those troopers tested and their respective scores on the newly developed measuring instrument.

From the preceding review and background, it was obvious that there remains no clear understanding of the relationship between the educational level of a policeman and his work performance. Of immediate concern, therefore, was

the need to examine the existing relationship between the educational level of Oklahoma Highway Patrol Troopers and their work performance as measured by a written examination which was designed to measure the employees knowledge and understanding of his/her job. An attempt was made to develop a reliable evaluation instrument using data which was gathered from a job task analysis (Newport, 1980).

Statement of the Problem.—The problem is to determine if there is a difference between the Knowledge Achievement Test (KAT) scores of Oklahoma Highway Patrol troopers and their level of educational achievement.

Hypothesis Statement.—The null hypothesis to be tested in this study are:

Hypothesis 01: There is no difference between the group mean scores on the 1982 KAT and those troopers having a high school or G.E.D. diploma.

Hypothesis 02: There is no difference between the group mean scores on the 1982 KAT and those troopers having one year of college.

Hypothesis 03: There is no difference between the group mean scores on the 1982 KAT and those troopers having two years of college.

Hypothesis 04: There is no difference between the group mean scores on the 1982 KAT and those troopers having three years of college.

Hypothesis 05: There is no difference between the group mean scores on the 1982 KAT and those troopers having four years of college.

Definition of Terms.—Work performance.—In the present study, the term work performance referred to the subject's attained raw score on the 1982 KAT. For measurement purposes, graded responses to true-false and multiple choice questions were used.

The Knowledge Achievement Test (KAT).—The KAT instrument was developed in mid-1982 and has since been subjected to curricular validity (Lien, 1976), which was accomplished before the instrument was used. Curricular validity is subjective in the sense that a committee of six Oklahoma Highway Patrol troopers checked the content of the KAT in terms of the materials, knowledge, and skills taught and how it was taught during initial academy training and

subsequent in-service training sessions. The sources with which these committee members checked the content included instructional objectives, methods of instruction (such as lesson plans, student performance objectives), and textbooks, specialized training bulletins, departmental policies and procedures manual, state statutes, and related materials.

Police Officer.—In the present study, the term police officer referred to police patrolmen, deputy sheriffs, and state troopers who are sworn, full-time, uniformed personnel who are responsible for basic, line police functions and perform no supervisory functions. This includes automobile and foot patrol officers who respond to calls for assistance and who are also responsible for the enforcement of laws.

Job Task Analysis (JTA).—In the present study, the term Job Task Analysis (JTA) is a process which is the basis for the methodology used in the development of the KAT. It is an indepth analysis of the position of state trooper for the purpose of identifying data for use in deriving job relevant curriculum content which is important for occupational evaluation. The procedures seek to identify essential job knowledge content (The Center for Vocational Education, Ohio State University, 1977, p 34). In the process, useful clues should emerge for further analysis and for structures appropriate to the learning process.

Various components of the process, particularly in the preparation of the initial listing of tasks, encouraged the consideration of most of the major sources of information about the tasks of the occupation of state trooper: published job materials, employer training programs, official procedural publications, as well as employees and supervisors. An advisory committee comprised of experienced employees (non-supervisory troopers) participated in the JTA and provided valuable aid in making key decisions throughout the JTA process.

Level of Education.—For the purpose of this study, level of education is represented in years of attained study:

12 years = High School/G.E.D. degree

1 year college = 30 college credits

2 years of college = 60 college credits

3 years of college = 90 college credits

4 years of college = 120 college credits or Baccalaureate degree

Level of education was determined by subject response on the Educational Survey instrument.

Police.—For the purpose of this study, the term "police" shall be synonymous with Oklahoma Highway Patrol and trooper.

Limitations of the Study.—The present study was limited to full-time Oklahoma Highway Patrol troopers below and not including the rank of Second Lieutenant and their respective scores attained on the 1982 KAT instrument.

The statistical investigation was limited to an analysis of the effects of "level of education" and "performance" on KAT instrument, attempting to identify those educational levels associated with better performance. No attempt was made in this research to analyze statistically why or how "level of education" affects performance on the measuring instruments. While beyond the limitations of the present study, additional research questions were posed at the conclusion of this study, which suggested need for additional investigation into causal elements at work within the education-performance relationship.

Organization of the Study.—The introduction of the investigation was presented in Chapter I. Included were the background, significance of the study, statement of the problem, statement of the hypothesis, definition of terms, limitations of the study, and organization of the study.

Chapter II presents a review of the literature pertinent to the research investigation. This review included a historical review of the development of police education, prior to the era of federal funding, during the era of federal funding, the effect of increased education, support for higher education, criminal justice programs in higher education, goals and objectives of criminal justice higher education, qualities and skills required, career specific education, creating a change agent, professionalization of the police, recruiting at the college level, criticisms of college recruitment, and problems with previous studies.

Chapter III presents the research design and methodology of the study. Included are the introduction, population, sample, instrumentation, data collection techniques, treatment of the data, and summary.

Chapter IV presents the analysis and interpretation of the data collected and analyzed for the study. Included are the introduction, findings, results of the hypothesis testing, Tukey's HSD test, and summary of the hypothesis testing.

Chapter V presents a summary of findings, conclusions, and recommendations for future research based upon the analysis of the data gathered in the research investigation.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction.—The focus of this study is to investigate the relationship between college educated and non-college educated Oklahoma Highway Patrol Troopers and job related knowledge as measured by their respective scores on the 1982 Knowledge Achievement Test (KAT). With this in mind, this investigator has reviewed the literature as it relates to the police officer and higher education; presenting both the pros and cons of this issue.

In its 1972 Comprehensive Law Enforcement Action Plan, the Oklahoma Crime Commission states, "The line policeman is the first contact most people have with the criminal justice system, and his attitudes and abilities largely determine the response of the person to the system. The officer is called upon to make split-second decisions not only in life and death matters but in legal, psychological, and sociological...matters which in turn affect the quality of life of the citizenry. Practitioners in the other elements of the Criminal Justice System (prosecution, courts, corrections, and juveniles) make similar decisions...to be certain...but only after careful study and investigation. Thus, the responsibility placed on the line police officer is an awesome one, requiring that the officer have inherent capacity, and sufficient education and training to live up to his responsibilities" (Oklahoma Crime Commission, 1972).

A continuing deliema for police educators and administrators is one of determining what and how much is "sufficient education." Newport, (1980) reports, "Police training directors as a group will not, at this time, support the recommendation of the President's Commission on Law Enforcement and Administration of Justice that all personnel with general enforcement powers

have baccalaureate degrees." And additionally, "Existing research does not provide conclusive evidence that college education significantly increases the efficiency and effectiveness of police, especially at the patrolman level."

Newport (1980) made several recommendations for practice. Among these recommendations he suggests...that a "task analysis should be conducted to identify those positions in law enforcement agencies which can benefit most from higher education." Newport's (1980) recommendations for research suggested, "1. Additional general research should be conducted into the relationship of college education to police officer performance; and 2. Research, targeting the effect of college education on specific police functions, should be conducted."

An understanding of the developmental process of police education in this country is needed. Newport (1980) traced those developments and in addition, reviewed the controversy surrounding the need for higher education within the police profession by presenting the views supporting higher education as well as those that are not supportive.

Historical Development of Police Education.—Police education is a twentieth century phenomena. August Vollmer is credited with starting academically-oriented police training in the United States. In 1908, while serving as the City Marshall of Berkley, California, Vollmer initiated the first formal police training school in this country. It was a small effort at best, offering instruction in only four subjects: first aid, photography, and elementary and criminal law; but it was a beginning. Two University of California professors: Helms and Kidd, assisted Vollmer with instruction, which was attended by police officers while on their off duty time (Gammage, 1963).

Academicians and law enforcement practitioners met formally for the first time in 1909 to discuss higher education needs for law enforcement personnel. The meeting, which was sponsored by Northwestern University, was conducted in

Chicago. That meeting produced three resolutions which resulted in: 1. establishment of the American Institute of Criminal Law and Criminology; 2. publication, beginning in 1910, of the Journal of Criminal Law and Criminology; and 3. translation into English of criminology literature by foreign scholars (Brandstater, 1963).

Shortly following the Chicago conference, another form of police training began to emerge. In 1911, Detroit established a police academy; followed closely by the New York Police Academy in 1914. These two police academies did not follow the educational approach of Vollmer's school, but were designed to upgrade the vocational skills of police officers.

The New York and Detroit training schools were models for the "state of the art" police training, while Vollmer's Berkley program was the model for the "educational approach" (Farris, 1972). Thus began the controversy, which still exists, over what a police officer should know in order to perform efficiently and effectively. By the early 1930s, many of the larger police agencies had established training schools for their police officers; most of them followed the New York and Detroit model (Vollmer, 1936).

One result of the Great Depression, which struck this country in the early 1930s was an increase in the educational level of police officers. Before the Depression, membership in police agencies was monopolized by the social lower class. During the Depression, the comparatively good salaries and secure position of police service became more attractive to the middle class. According to Niederhoffer (1967), "Young men chose police work in preference to occupations higher in the social scale because of the salary and security. It was lucrative and less expensive to attain than the position of lawyer or teacher."

Police administrators, generally, were happy with this new development and entrance examinations were designed which stressed general knowledge and

intelligence rather than technical knowledge, favoring the better educated recruit. Soon the police ranks began to include college graduates, i.e., teachers, engineers, lawyers, and others. Of the 300 recruits appointed to the New York City Police Department in June 1940, more than half held college degrees. However, as prosperity returned, the number of college graduates interested in becoming police officers declined sharply.

Before the Assistance of Federal Funding.—When World War II began only seven criminal justice degree programs were available in the United States. They were: The University of California in Berkley; the University of Southern California; California State University at San Jose; Michigan State University; Indiana University; Wichita State University; and Washington State University (Mathias, 1977).

In 1949, Boolsen (1950) conducted a survey of post-secondary institutions in this country offering programs in criminal justice. Of the 325 responses to his questionnaire, only 20 schools offered at least a two-year major in that discipline. Table I contains a listing of the 20 schools as adapted from Boolsen's work.

Germann, (1957) found 56 institutions in 19 states which were offering programs leading to academic degrees in the criminal justice field. Table II contains a listing of the 56 institutions according to Germann's findings.

The Era of Federal Funding.—Recommendations by the President's Commission on Law Enforcement and Administration stimulated major movement in the United States Congress and in 1968 the Omnibus Crime Control and Safe Streets Act was passed into law. This law created the Law Enforcement Assistance Administration (LEAA) and brought about the establishment of the Law Enforcement Education Program (LEEP) as an arm of LEAA.

TABLE I

CRIMINAL JUSTICE AREA ACADEMIC
DEGREE PROGRAMS IN 1949

State	Institution	Degree Level	Degree Title
California	Bakersfield College	Associate	Police Science
	Univ. of California at Berkley	Bachelors	Criminology
		Masters	Criminology
	Fresno State College	Bachelors	Criminology
	Sacramento State College	Bachelors	Law Enforcement
	City College of San Francisco	Associate	Law Enforcement
	San Jose State College	Associate	Penology or Police Admin.
Indiana	College of the Sequoias	Associate	Law Enforcement
	Univ. of Southern California	Bachelors	Public Admin.
Indiana	Indiana University	Bachelors	Police Admin.
	Notre Dame University	Bachelors	Correctional Admin.
		Masters	Education, Minor in Corrn. Admin.
Kansas	University of Wichita	Certificate	Police Science
Maryland	University of Maryland	Bachelors	Sociology, Minor in Psychology
		Doctorate	Soc./Criminology
Michigan	Michigan State University	Bachelors	Police Science, Police Admin.
	University of Michigan	Bachelors	Penology
Mississippi	University of Mississippi	Bachelors	Soc., Minor in Corrections
Nebraska	University of Nebraska- Lincoln	Bachelors	Prison Work/Law Enforcement
Ohio	Ohio State University	Bachelors	Penology and Corrections
Washington	Olympic College	Associates	Police Admin.
	State College of Washington	Masters	Police Admin.
Wisconsin	University of Wisconsin	N/R	Soc./Corrections

Source: Boolsen (1950).

TABLE II
CRIMINAL JUSTICE AREA ACADEMIC
DEGREE PROGRAMS IN 1957

State	No. Institutions	Associates	Baccalaureate	Masters	Doctorate
California	26	19	8	3	1
Illinois	2	0	0	1	2
Indiana	2	0	1	2	0
Iowa	1	0	0	1	0
Kansas	1	0	1	0	0
Maryland	1	0	1	1	1
Massachusetts	2	0	0	2	1
Michigan	2	1	1	1	0
Minnesota	1	0	1	0	0
Missouri	1	0	0	1	0
Nebraska	1	0	1	1	1
New Hampshire	1	0	1	1	0
New Jersey	1	1	0	0	0
New York	6	4	0	2	1
Ohio	2	0	2	1	1
Texas	2	0	2	1	0
Utah	1	0	0	1	0
Washington	2	1	1	1	1
Wisconsin	1	0	2	1	0
TOTALS	56	26	21	21	9

Source: Germann (1957).

The purpose of LEEP was to:

"...help fully professionalize the law enforcement and correctional staffs of local government in every part of the country, through the administration of a program of grants and loans to finance college degree studies by criminal justice personnel and promising students preparing for careers in the field (LEAA, 1969)."

LEEP funding brought about a tremendous increase in the number of institutions offering criminal justice degree programs. Table III lists the institutions and degree programs available in the United States from the years 1966 through 1978.

TABLE III
CRIMINAL JUSTICE AREA ACADEMIC
DEGREE PROGRAMS
1966-1978

Director	Associate	Baccalaureate	Masters	Doctorate	Number of Institutions
1966-1967	152	39	14	4	184
1968-1969	199	44	13	5	234
1970-1971	257	55	21	7	292
1972-1973	505	211	41	9	515
1975-1976	729	276	121	19	664
1978-1980	1209	589	198	24	816

Source: Kobetz (1978)

Table IV contains a list of institutions and degree programs by state, which were available in the criminal justice area in 1978. The number of criminal justice personnel enrolled in criminal justice degree programs in 1978 are presented in Table V. A comparison of these tables with Table II identifies the number of colleges and universities which began offering criminal justice programs after federal funding became available.

LEEP funding grew from \$6.5 million in fiscal year 1969 (LEAA, 1973), to \$40 million per year for fiscal year 1972 through 1974 (The Police Chief, 1975), then began to decrease until, in fiscal year 1979, slightly over \$29 million was available and finally LEAA was abolished by the Justice System Improvement Act which was signed into law in December, 1979 (LEAA, 1980). Peak enrollment under LEEP funding occurred in 1975 when 97,000 students were being educated with LEEP assistance (The Police Chief, 1975). That figure decreased to just over 58,000 by 1978 (Kobetz, 1978).

The Effect of Increased Education.—Did LEEP improve the efficiency and effectiveness of the American police? There appears to be differences of opinion in the literature regarding the question. Controversy exists over the quality of

police education, primarily in the areas of curriculum and faculty involved, but controversy also exists over the amount of education needed as well as the purpose to be served in upgrading the education level of police officers.

TABLE IV
CRIMINAL JUSTICE DEGREE PROGRAMS
AVAILABLE IN 1978

States, Commonwealths, & Territories	No. of Schools	Certif- icates	Assoc- iates	Bacca- laureate	Mas- ters	Doct- orate
Alabama	20	3	31	31	19	
Alaska	4	1	20	1		
Arizona	13	6	21	9	9	
California	80	79	180	31	21	3
Colorado	12	12	10	4	6	1
Connecticut	10	3	19	6	3	
Delaware	5	1	11	2		
District of Columbia	1		2	2	2	
Florida	33	22	71	16	11	
Georgia	19	1	20	16	4	
Guam	1	2	2	2	1	
Hawaii	5		4	3		
Idaho	2	3	3			
Illinois	40	19	40	29	9	
Indiana	9	1	20	12	4	
Iowa	15	4	16	9		
Kansas	16	3	30	12	6	
Kentucky	8		16	17	6	2
Louisiana	9	1	7	6	2	
Maine	4		6	1		
Maryland	12	16	21	2	2	2
Massachusetts	18	2	14	12	4	2
Michigan	27	6	41	24	5	2
Minnesota	14	2	10	9	2	
Mississippi	13	3	9	8	3	1
Missouri	28	13	44	41	7	1
Montana	3		2	2	1	1
Nebraska	9	1	9	7	3	
Nevada	4	2	8	2		
New Hampshire	3	2	4	3		
New Jersey	18	2	23	11	1	1
New Mexico	4		6	2		
New York	48	10	64	43	13	2
North Carolina	36	2	50	12	1	
North Dakota	1		3			
Ohio	32	6	38	25	3	
Oklahoma	16	7	22	15	3	
Oregon	11	4	20	8	8	1
Pennsylvania	34	23	51	33	12	2

TABLE IV (Continued)

States, Commonwealths, & Territories	No. of Schools	Certif- icates	Assoc- iates	Bacca- laureate	Mas- ters	Docto- rate
Puerto Rico	1		1			
Rhode Island	3		2	3	1	
South Carolina	16	1	12	6	1	
South Dakota	5		4	5	1	
Tennessee	12		13	15	3	
Texas	44	16	71	30	7	1
Utah	2	1	3	5	2	
Vermont	2		1	1		1
Virgin Islands	1		2			
Virginia	22	17	31	7	2	
Washington	22	7	46	19	7	
West Virginia	9	2	10	5	1	
Wisconsin	21	8	12	21	1	
Wyoming	6		16	2		
U. S. (Total)	810	317	1,198	589	197	24
Canada (Total)	6	9	11		1	
GRAND TOTAL	816	326	1,209	589	198	24

Source: Kobetz (1978)

TABLE V
CRIMINAL JUSTICE PERSONNEL
ENROLLMENT IN 1978

States, Commonwealths, & Territories	Police Personnel	Judicial Personnel	Correctional Personnel
Alabama	605	72	198
Alaska	10	2	2
Arizona	423	17	35
Arkansas	221	8	47
California	9,324	553	2,331
Colorado	449	39	137
Delaware	78	21	23
District of Columbia	NR	NR	NR
Florida	2,081	262	835
Georgia	485	76	244
Guam	3	1	
Hawaii	257	1	16
Idaho	26	2	2
Illinois	1,031	45	128
Indiana	262	12	101
Iowa	118	13	49
Kansas	312	16	91
Kentucky	1,712	115	450
Louisiana	266	2	40
Maine	100		
Maryland	1,316	54	404
Massachusetts	928	58	135
Michigan	1,326	135	265
Minnesota	104	8	107
Mississippi	310	20	122
Missouri	1,033	83	454
Montana	30		
Nebraska	88	6	20
Nevada	243	12	178
New Hampshire	41	3	5
New Jersey	1,331	58	191
New Mexico	97	10	5
New York	4,807	210	822
North Carolina	1,026	51	268
North Dakota	27	2	14
Ohio	1,343	91	590
Oklahoma	206	10	328
Oregon	471	23	193
Pennsylvania	2,272	176	737
Puerto Rico	144	1	
Rhode Island	NR	NR	NR
South Carolina	365	20	70
South Dakota	180	26	24
Tennessee	730	17	44

TABLE V (Continued)

States, Commonwealths, & Territories	Police Personnel	Judicial Personnel	Correctional Personnel
Texas	2,041	306	809
Utah	300	10	60
Vermont	1	1	1
Virgin Islands	75	20	5
Virginia	1,677	38	432
Washington	430	1,192	150
West Virginia	248	23	134
Wisconsin	986	9	66
Wyoming	95	2	25
U. S. (Total)	42,233	3,941	11,494
Canada (Total)	204	75	200
GRAND TOTAL	42,437	4,016	11,694

Source: Kobetz (1973)

Support for Higher Education.— Miller and Fry (1978) found that the support for higher education for police was at least partially a result of the federal money involved and vested interests in non-monetary factors. They believe that some police administrators view increased educational levels as a matter of prestige gained from the perceived greater professionalism within their agency. This also alleviates some of the problems of political interference. Other administrators, who are themselves well-educated, believe that increasing the education level of the rank and file in their department will add support for their own perspectives. Miller and Fry (1978) conclude with the following statement: "Clearly educators and educational institutions support increased interaction for reasons that are partly altruistic and partly self-serving, with the amount of LEEP money certainly an issue here" (p. 32).

Newport (1980) concluded that while opinions differed on some points in question, the trainers, as a group, had positive feelings regarding the value of higher education to law enforcement. He continues by stating that "...police trainers as a group, will not presently support the recommendation of the President's Commission on Law Enforcement and Administration of Justice that all personnel with general enforcement powers have baccalaureate degrees and finally that existing research does not provide conclusive evidence that a college education significantly increases the efficiency and effectiveness of police, especially at the patrolman level." Smith and Ostrom (1974) conducted a study to determine if increased training and education improved police attitudes and performance. Their findings were disappointing to advocates of increased education. They found the relationship between education and improved officer attitudes weak to negligible. In regard to the relationship between increased education and police officer performance, as evaluated by citizens, the findings were also negligible.

Frost (1955) not only thought a college degree unnecessary except for certain specialized positions, but felt that higher education might be a disadvantage because "...a person with a college degree is in grave danger of becoming frustrated when he finds himself delegated to performance of routine police work, as is frequently done."

One line of thought which was originally advanced by Eskridge (1977) was that increased education and professionalism of the police would result in higher arrest rates and lower crime rates. This has been referred to as the "legalistic style" of police logic. One study actually did show that officers with higher educations made more arrests than officers with lower educations (Wilson, 1968). However, to the contrary, Eskridge (1977) quotes a study by Finckenaue, which indicates that college educated officers differ from non-educated officers in the use of discretion in that college-educated officers are less likely to invoke the criminal process than their less educated colleagues.

Gross (1973) quotes a study by Tenney (1971) as stating that more than 50 percent of police chiefs surveyed disagreed with an entrance requirement calling for a minimum of two years college and only 15 percent favored a baccalaureate degree requirement for entry into the police service. Gross (1973), an outspoken critic of the movement to increase the education level of police states:

"To summarize the evidence indicated that the goals of the President's Commission of broadening, through college, the capacities of police to handle rapid change, diversity, and innovation in challenging crime are not being attained" (p. 480).

Perhaps the most publicized criticisms of higher education for the police under LEEP funding came from Misner (1975) and Sherman (1977). Misner (1975) states:

"The horror stories in criminal justice are legion; most members of the Academy of Criminal Justice Sciences can surely list ten or so instances, of their own knowledge, in which institutional accreditation meant virtually nothing as far as criminal justice education programs were concerned" (p. 14).

Criminal Justice Programs in Higher Education.—Sherman (1978) and the National Advisory Committee of Higher Education for Police Officers conducted a study on the quality of police education under LEEP funding. This study was extremely critical of specialized criminal justice programs, especially those administered in two-year colleges. Sherman et al (1978) argued for a more general curriculum for police personnel and that police departments should place less effort on educating the recruited and more on recruiting the educated. By failing to recruit college graduates more extensively, police departments ensure that their educated personnel will acquire an education filtered by the occupational perspective of full-time police work, which probably reduces the impact of college on the student by the presence of excessive homogeneity among the students.

Becker (1979) states that there are 664 colleges and universities that offer courses leading to a vocational or academic degree within the United States. These programs are offered at two-year community colleges and four-year colleges and universities. Students who graduate from one or more of these private or public institutions may be awarded an Associate of Arts or Science degree, Bachelor of Arts or Sciences degree, Masters of Arts or Sciences degree or Doctorate of Criminal Justice degree.

Becker (1979) continues by stating that The International Association of Chiefs of Police in its Law Enforcement and Criminal Justice Education Directory 1975—1976 has indicated that during 1966—1967 there were 184 academic institutions offering degrees in law enforcement and criminal justice. Nine years later, during 1976—1977, the number of degree-offering institutions had increased to 664, or a rise of some 261 percent.

It has been estimated by reference to statistical data from the Uniform Crime Reports (UCJ) 1974, that there are approximately 13,000 police agencies in the United States, e.g., city police, county sheriffs, and state police or highway patrols, with a combined total of approximately 418,000 full-time law enforcement officers. A great number of these agencies have their own in-service training facilities or jointly share training facilities with other police agencies. Becker (1979) concludes that it would appear that the opportunity for improved academic and in-service training for the career police officer has produced higher efficiency and professionalism in law enforcement.

A major problem concerning police education is an accurate definition of the purpose of police education. Becker (1979) suggests that the argument against preemployment higher education has never been valid. The need to keep abreast of technical improvements (legal, administrative, and scientific) is mandatory for both improvement and survival in a competitive society. The 21st century will introduce changes in social and scientific areas that will have a direct relationship to social control. Becker (1979) concludes that the purpose of police education in a democratic society must be reviewed and debated by concerned persons. American citizens will thereby develop realistic expectations regarding what the criminal justice system can accomplish. Generally, "realistic" means limited. Police, courts, and corrections have undoubtedly oversold their ability to reduce crime and improve their performance.

Sherman, (1978) et. al. states that the quality of higher education can be measured only in reference to a set of objectives. Since the time of Aristotle, however, opinions have differed on the objectives of higher education. In modern times, educational philosophers have proposed the objectives of preserving old knowledge and moral values (Newman, 1873) furthering democracy (Dewey, 1916) pursuing knowledge and truth purely for their own sake (Veblen, 1918; Hutchins, 1936), discovering new knowledge and solving problems (Flexner, 1930), preparing

students for careers (Marland, 1974) and accomplishing all these goals simultaneously (Kerr, 1964).

Similar differences of opinion can be found in police education. One major study concluded that specialized police education programs lack "a clearly defined set of goals" and that "program quality has suffered because of the lack of definition" (National Planning Association, 1976, p. V-48). Another study found that "in law enforcement higher education no...common agreement on goals yet exist, and indeed considerable difference of opinion exist as to whether higher education for criminal justice should focus on simply improving the performance of what is currently being done, or whether it should focus on changing what is being done" (Tenney, 1971, p.5).

Miller and Fry (1978) found that the support for higher education for police was at least partially a result of the federal money involved and vested interests in non-monetary factors. They believe that some police administrators view increased educational levels as a matter of prestige gained from the perceived greater professionalism within their agency. This also alleviates some of the problems of political interference. Other administrators, who are themselves well-educated, believe that increasing the education level of the rank and file in their department will add support for their perspectives. Miller and Fry (1978) concluded with the following statement: "Clearly educators and educational institutions support increased interaction for reasons that are partly altruistic and partly self-serving, with the amount of LEEP money having certainly been an issue."

Girand (1977) argues that "...the college-educated policeman is better equipped to deal with his duties than his less educated, technically trained counterpart." He draws an analogy of a sheetmetal mechanic (artisan) who can build an install and air conditioning system, but does not need to know the

physical forces which are involved in its design. He does not need to know the whys, they are the responsibility of a college-educated engineer (theorist). Girand (1977) asserts that society not only requires, by legal mandate, that a policeman know the "hows" of policing (artisan) but also an extensive understanding of the "whys" (theorism).

Sanderson (1975) conducted a study of the relationship of college education to police performance. He found a positive relationship between increased education and five performance categories: 1) police academy performance; 2) disciplinary history; 3) absenteeism; 4) involuntary termination; and 5) career development.

Dalley (1975) conducted a study into the relationship between university and non-university graduated policemen and their attitudes and the contention that the graduated policeman was superior to the non-graduated because his working personality was different. Dalley (1975) tested the contention that university education for law enforcement personnel helped in the development of less authoritarian and rigid attitudes. In his daily life the police officer is constantly confronted with a variety of regularly repeated situations. How he behaves in these situations will depend to a large extent upon his attitude, and his ability to respond to similar situations in the future will depend upon how he behaves in earlier ones. Each situation helps to reinforce his attitudes, modifying and altering them occasionally to permit him to adapt and adjust to changing situations. Attitudes, then, help the policeman, like everyone else, to anticipate and to cope with recurring events. They are part of a psychological economy which can be described as a "least-effort" principle: the application, whenever possible, of past solutions to present problems (Stagner, 1948). They give the policeman a distinctive "working personality" which has led to the imputation of rigidity, authoritarianism, conservatism, and traditionalism to him,

and resulted in his inability to apply new solutions to present problems and leading to poor police-community interaction and to continual charges of ineptness by the public.

Kerlinger (1970) conducted a study which states that there is some evidence suggesting that education does change attitudes and assist the individual to be better able to recognize complexities and tolerate ambiguity. A tendency to become increasingly liberal with increased years at the university has also been noted (Newcomb, 1943).

Dalley's (1975) study showed that there was little or no difference between the attitude of junior (short-term employee) non-graduate before and after receiving initial police training. The scores on the attitude scale did, however, show a difference from the police "working personality" described above, indicating that the initial police training tended to make a recruit less authoritarian, more liberal and likely to exercise discretion more frequently. This finding is important because it does not provide support for the much popularized notion that police academy training is designed to make the officer more authoritarian and less liberal. In fact, it suggests that the situation is just the opposite. There is a possibility that changes in the nature of the training program such as the inclusion of courses in human psychology and behavior, may be responsible for the change noticed in Dalley's (1975) study.

A highly significant finding of the Dalley (1975) study deals with the differences in attitude of the senior (long-time employee) non-graduate and the senior graduates. If the former is authoritarian, conservative and rigid, the latter is nonauthoritarian, liberal and flexible. This finding suggests that a university education does have a beneficial influence in that it prevents the development of an authoritarian, conservative and rigid attitude.

Comparison of the junior non-graduates with senior non-graduates showed that the latter were more authoritarian, less liberal and less likely to exercise discretion in the performance of their duties. This finding suggests that experience in police work does something to the police officer to make him authoritarian, conservative, and rigid. The working personality of the senior non-graduate resembles most closely the attitudes that have been described as the working personality of the police officer. If the working personality of a police officer is one of authoritarian, conservative and rigidity, that personality is the result of the combination of experience and the lack of a university education.

Guller (1972) conducted a study in which he sought to determine whether differential exposure to higher education is associated with differences in self esteem and "hard line" or punitive attitudes towards social deviance. Among other findings, Guller (1972) found from his study evidence that more exposure to higher education results in less negative self esteem and at the same time, diminishes "hard line" or punitive attitudes toward others.

Goals and Objectives of Criminal Justice Higher Education.—Three types of objectives are offered by Sherman (1978) for police education, with considerable disagreement within each type. The most frequently debated type consists of the different objectives for the impact of college on individual students. A second type consists of objectives for the impact of higher education on the performance of policing as an institution. A third type of objective for police education concerns its role in the movement to professionalize the police and enhance their prestige.

In examining these objectives proposed for higher education for police officers, one becomes concerned with what is possible as well as what is desirable. This country tends to expect far too much of higher education (Spaeth and Greeley, 1970), just as it expects far too much of the police. Objectives must be realistic as well as challenging.

Sherman (1978) found that among those who locate the objectives of police education and its impact on students, there were proponents of several distinct viewpoints. One viewpoint holds that the objectives of higher education for police should be the same as the objective of higher education for anyone else; developing certain general skills and values in students. Another view is that higher education should equip students with specific skills required for competent performance of police work as it is presently structured and defined. A third view is that the objectives of higher education should be to mold students into change agents who can work within police agencies to create a new police role.

The classical idea that all students should derive the same benefits from higher education has been challenged by many forces since the classical curriculum was abandoned in the late 19th century (Rudolph, 1977). But, while the idea of a general skills education curriculum has fallen into some distress (Carnegie Foundation, 1977), the idea of general objectives of education, regardless of variations in the curriculum, seems to be alive and well, even in an area as seemingly specialized as police education.

The Education Committee of the Georgia Association of Chiefs of Police, for example, adopted this position in a 1977 communication to the National Advisory Committee on Higher Education for Police Officers: "The objectives of higher education for police should be the same as for any other career group: development of a broad-based knowledge of many disciplines, including basic science courses, history, language (particularly the development of communication skills), sociology/psychology for improved understanding of people and groups, and mathematics." In an independent communication, the Academic Committee on Criminal Justice of the Board of Regents of the University System of Georgia adopted a similar position: "The majority favors a broad liberal understanding of behavior built around social and behavioral sciences, with objectives being no

different from objectives of higher education in general."

In saying that "the general objectives of higher education for police should be very similar to those of other participants in post-secondary education, the proponents of this position are linked to the growing discussion of what those common objectives should be." The Carnegie Commission on Higher Education (1973); the dean of Harvard College, Henry Rosovsky (1976); and others have developed lists of goals for the personal development of students (Carnegie Foundation, 1977). Perhaps the most comprehensive list is Bowen's (1977) empirical analysis of more than 1,500 goal statements for the impact of higher education on individual students offered by past and present educational philosophers, commissions, faculty committees, and institutional reports, which yielded the catalog of objectives presented in Table VI. Bowen (1977) also reviewed the available empirical research on the degree to which colleges achieve these goals, the results of which are also presented in Table VI.

TABLE VI
GOALS FOR COLLEGE STUDENTS AND EMPIRICAL EVIDENCE
ON THEIR ACHIEVEMENT

Goals		Average Effects of College Education
A. Cognitive Learning		
1.	Verbal skills	Moderate increase
2.	Quantitative skills	Small increase
3.	Substantive knowledge	Large increase
4.	Rationality	Small increase
5.	Intellectual tolerance	Moderate increase
6.	Esthetic sensibility	Moderate increase
7.	Creativeness	Small increase
8.	Intellectual integrity	Not ascertainable
9.	Wisdom	Not ascertainable
10.	Lifelong learning	Moderate increase
B. Emotional and Moral Development		
1.	Personal and self discovery	Large increase
2.	Psychological well-being	Moderate increase
3.	Human sympathy	Moderate increase towards groups in the abstract; no change toward individuals
4.	Morality	Not ascertainable
5.	Religious interest	Moderate decrease
6.	Refinement of taste, conduct, manner	Small increase
C. Practical Competence		
1.	Traits of value in practical affairs generally	
	a. Need for achievement	Not ascertainable
	b. Future orientation	Strong correlation
	c. Adaptability	Strong correlation
	d. Leadership	Not ascertainable
2.	Citizenship	Moderate qualitative gain
3.	Economic productivity	Moderate increase
4.	Sound family life	Large qualitative gain
5.	Consumer efficiency	Small qualitative gain
6.	Fruitful leisure	Small qualitative gain
7.	Health	Moderate improvement

Source: Bowen, 1977, pp.98, 138-143, 218

It should be stressed that the studies Bowen (1977) examined measured only the average changes in each quality in groups of students and did not examine the effects of education on all these qualities in individual students. Anyone who actually acquired all these traits would indeed be awesome. Yet, this seems to have been just what August Vollmer (1971) had in mind. And the idea of having truly exceptional men serve as police officers did not die with Vollmer, as the testimony at a public forum by Anthony V. Bouza, Deputy Police Chief of New York City Transit Authority suggests: "The proper role of the educational system, in terms of the police, is to turn out the Renaissance man...a man of thought and action, a man at home in the world of ideas, who would nevertheless actively confront, on the basis of these ideas, the situations on the streets of the cities."

These characteristics may well be worth striving for—not only as ultimate purposes for higher education but also as life goals in general. Yet, it is unrealistic to expect higher education to accomplish all these things in all students. Education is only one of many forces shaping human behavior. Documented failures of many graduates of the Harvard College classes of 1938 through 1942 to develop many or even most of these traits (Vaillant, 1977) suggests that even a high-quality education is no guarantee of a successful life. However, as Bowen (1977) et. al., found, there is considerable evidence suggesting that many students do develop many of these traits over the course of a college education. His findings confirmed those of an earlier review (Feldman and Newcomb, 1969) of almost 1,500 empirical studies of the impact of college on students. These studies almost always show that students' intellectual aptitudes, including the ability to think critically and independently, increase as they progress through college. They also show that students increase in their factual knowledge of various content areas. Moreover, students in many different types of colleges have been found in recent decades to become more open-minded during their college careers, declining in their measured

authoritarianism, dogmatism, and prejudice. For the most part, the attitudes held by college graduates tend to persist after they leave college, particularly if their post-college environment supports those attitudes.

Qualities and Skills Required.—How does the impact of college relate to the qualities required of a good police officer? Once again, a lack of consensus makes this question difficult to answer. The attempts to identify the qualities of a good police officer on the basis of supervisor's performance ratings (Baehr, Furcon, and Froemel, 1968) or empirical task analysis (American Justice Institute, 1976) have been attacked for failing to look beyond the present state of police work to how it ought to be. A relatively modest list of ideal qualities offered by one observer, however, is hard to quarrel with (Goldstein, 1977, p. 263); intelligence sufficient for making complex decisions, tolerance, and understanding of differences between cultures, values supporting the controls on police conduct, self-discipline, and the ability to control one's emotions. Despite some important methodological questions about the evidence on the impact of college on students, it does suggest that higher education can help develop those ideal qualities mentioned by Goldstein (1977).

Sherman (1978) suggests that the most important question, perhaps, is not whether higher education can develop these qualities but rather what kind of education is most likely to develop these qualities. As Feldman and Newcomb (1969) et. al., point out, "American colleges are diverse, and so are their students—even within the same institution; no generalizations could be expected to apply equally to all colleges, nor, to all individual students. The more interesting questions...are more specific—what kind of students change in what kind of ways following what kinds of experiences...(see Dalley's study, 1975) mediated by what kinds of institutional arrangements?"

A second viewpoint on the objectives of college or individual students is that they should learn the practical skills and knowledge required for functioning as a police officer. The distinction between the "qualities" identified in the first viewpoint and the "skills" identified by this viewpoint is largely one of breadth. The qualities that education should develop for a police career, according to the first viewpoint, are broadly applicable to many careers. The skills that education should develop, according to this second viewpoint, are limited to a career in law enforcement and are of little use in other occupations.

The Research and Evaluation Office of the Rochester, New York Police Department, for example, wrote The National Advisory Commission on Higher Education for Police Officers that an objective of police education should be "to provide technical expertise in the skills of the trade; that is, to provide the necessary training to develop the skills required to perform the duties of patrol and investigation in a comprehensive and efficient manner." This viewpoint is the basis for the state of California's long-standing practice of certifying graduates of a two-year college program in police science for immediate entry into police work without their having to attend a police training academy (Myren, 1978). Two-year colleges in most states have adopted a mission of providing career training in specific skills (Harris and Grede, 1977) and the published guidelines for police education programs at the two-year level clearly imply this objective (Crocket and Stinchcomb, 1968). The objective of educating for specific careers has even been endorsed by a U.S. Commissioner of Education (Marland, 1974).

Career Specific Education.—The growth of support for the objective of educating for specific careers has intensified the ancient conflict in education between the "useful" and the "liberal." Aristotle described the conflict over 2,000 years ago: "Should the useful in life, or should culture, or should the higher knowledge be the aim of our training?" (Cheit, 1975, p. 3). Plato's academy was devoted to the search for truth; the Pythagoreans were concerned with mathematical

precision; the Sophists taught the useful skills required for material success; and these "three cultures" of the humanists, the scientists, and the professionals are still at odds over the objectives of higher education (Kerr, et. al., 1964).

Sherman et. al., (1978) states that to a large extent, the career education movement has underestimated the practical utility of the more general objectives of higher education. A major history of the undergraduate curriculum, for example, concluded that, even when the seven classical liberal arts dominated college curriculum, "the course of study had always to some degree...been relevant to the practical affairs of men, intentionally oriented to social utility" (Rudolph, 1977, p. 14). The question has never been whether to educate for specific careers but, rather, how specifically or generally to educate and which careers (Cheit, 1975).

The career education movement has recently been attacked on its own grounds, not for holding the wrong objectives it articulates. The greatest failure is the widespread unemployment of many students educated for specific careers: "Vocationally trained students have been consistently unable to obtain work in the fields for which they were trained" (Grubb and Lazerson, 1975, p. 461). Among "preservice" college students majoring in law enforcement or criminal justice, studies conducted in 1967 and 1974 both found that over half failed to find work in law enforcement (Newman and Hunter, 1968; U. S. Comptroller General, 1975). Even those who advocate career training for police education criticize it on these grounds. For example, the Sheriff's Department of Arapahoe County, Colorado, in its statement to the commission, noted: "Too often the academic community has been guilty of overpopulating the employment field with educated people with no jobs for them to go to. We feel it is incumbent upon the academic community to survey the field to make sure their programs do not turn out an inordinate amount of graduates which the field of law enforcement could not possibly absorb. We feel this type of fraud perpetrated upon the students is one which cheapens the profession and

degrades the academic community."

One educational researcher believes that this kind of attack is encouraged by academic adherence to the objective of educating people for specific jobs (Solmon, 1977). Even if jobs were readily available for every college graduate, however, it is by no means clear that a "career education" would actually have prepared them for their career. Relatively little is known about the extent to which any education provides the knowledge and skills required for any occupation (Bird, 1975); Bisconti and Solmon, (1976) found evidence that college education in some subjects is used on the job, but no research on this question has been conducted in the area of policing. Even so, one may wonder whether a college education in report writing, traffic control, and firearms—the typical content of many "career education" courses on policing—can possibly prepare a student for the wide diversity of tasks and problems faced during the course of a police career. One may also wonder how much a college education of that nature contributes to developing the qualities described by Goldstein, (1977, et. al.); those of intelligence, tolerance, and understanding, self-control, and self-discipline. Sherman (1978) suggests that the goals of "career education" may well conflict with the more general goals of higher education.

Creating a Change Agent.—Sherman's (1978) third viewpoint on the objectives of police education's impact on individual students falls somewhere between the first two; developing general "qualitites" and developing "skills." The objective of creating change agents can be seen as consistent with general objectives of higher education, or it can be seen as providing a specific career skill. In either case, the objective is to make students imaginative, critical, and to a certain extent, rebellious: the antiorganization man in contrast to career education's implied model of the well-adapted organization of company man.

Despite a number of published statements of this objective (Tenney, 1971; Brown, 1965; K. W. Johnson, 1977; Mills, 1977), only one of the several hundred statements of objectives received by the National Advisory Committee on Higher Education for Police Officers adopted this position. Texas Christian University professor Joseph L. Schott, a former FBI agent and president of the Southwestern Association of Criminal Justice Educators, acknowledged the influence of Tenney's (1971) work in formulating his own position: "I personally favor a change-agent role for higher education, but again must bow to a Tenney restraint which holds that...no system...can be changed or improved until there are substantial numbers of individuals both within and without, who recognize the need for change and have the competence to bring it about..."

Goldstein (1977, p. 296) expresses "the hope that higher education will result in the police having in their ranks a greater number of people who have the breadth of understanding, the creativity, and the motivation to bring about changes in the orientation, policies, and operations of the typical police organization, and resolve the many conflicting pressures that currently hamper their effectiveness. This objective must be made explicit."

Masini (1977, p. 21) proposes a somewhat different conception of the change agent that higher education should produce, one who can effect change not in the police agency but in the community: "We have to have officers skilled enough to get out there in the community, identify those groups that are representative of the community, be able to bring them together in meetings, be able to sit down with them and talk about problems, and then be able to do something. If we can use the skills that are being taught (namely, problem identification, analysis, and development of alternatives), that's what the term change agent means."

An interesting parallel to Masini's (1977) "community" concept and "change agent" exist in the literature of Community Education. Udeil (1980) refers to Steele and Elzy (1973) who states that the "...objectives of the Wilmington, Delaware

community schools program are listed." Of the eight objectives listed, one restates Masini's concept: "...Assisting the community in identifying community problems and developing strategies for solution." Van Voorhees (1969) described a generic procedure he terms "systematic community study." He lists three basic steps:

1. Identify the problems and needs of people
2. Isolate the causes of the identified problems and needs
3. Develop alternative solutions to the identified problems and needs with the probable consequences.

Udell and Nance (1975) give additional support to Masini's (1977) concept of community involvement and change agent within the community in their review of The Independence Plan. "The Independence Plan for Neighborhood Councils is a process model for community education being implemented in Independence, Mo., a city of approximately 120,000 people. The essential elements of the plan for increased involvement are the organization of:

Neighborhood Councils in every neighborhood, the organization of a
Citizens Advisory Council composed of the presidents
of Neighborhood Councils, the organization of
Citizens Committees for every department in the city,
and the organization of Citizens Workshops and
Assemblies for monthly communication sessions.

...The Citizens Committees are sub-committees of the Citizens Advisory Council. A Citizens Committee is formed to function with the fire department, the street department, and each of the other departments.

The purpose of the preceding quotation is to point out that while Udell and Nance did not specifically state the Independence Police Department was involved, it most assuredly would be Masini's recommendation that it be involved if in fact it were not.

Udell and Nance (1975) continue "...In the typical meeting, held usually in a public building such as a school, the Citizens Committees meet for the first hour in separate rooms, with a departmental representative in each room. This meeting is called a Citizens Workshop. Departmental representatives share information on their departments and how they operate. Citizens are invited to ask questions and share information with city leaders."

Udell and Nance (1975) concluded with a statement which eloquently brings together the literature of higher education for police officers and community education "...The genius of democracy depends on the participation of the people—a process which may be depended upon to produce new insights—the people themselves, as they meet to solve the problems of neighborhoods and of the city, may be expected to create better ways...for the smooth functioning of a social structure whose primary purpose is to enable all to work together for the building of a better society."

Professionalization of the Police.—The objective of police education as a means of professionalizing has two distinct elements: providing professional behavior and professional prestige. (Sherman, 1978, p. 54). Of the two, prestige has been of much greater concern to police reformers and others. Raising the social status of police work, in fact, has been described as the "overriding objective" of the police reform movement since World War II (Fogelson, 1977). Thomas Carroll (1977), a former New York City police officer who became a community college instructor after his retirement, provided a frank statement of this concern which suggested that police "occupational paranoia" (Fogelson, 1977) is still quite strong. Carroll (1977) argued that education will help reduce "the contempt of the general public toward the policeman's background. Most people don't like us...The average businessman has no use for a policeman. Education will lead to less contempt and superiority...by judges, the district attorneys and lawyers toward the police...better

education will lessen the hate by the pressure groups, civil rights and political groups.

Other opinions seem to stress professional police "behavior" more than professional "prestige," although the definition of "professionalism" in such statements is rarely explicit. Police Chief Robert Watson of Junction City, Kansas, whose officers attend both a local community college and Kansas State University states: "Obviously, from a police standpoint, the principal objective of higher education for police is the coveted goal of professionalism. While many already refer to law enforcement as a profession, it unfortunately will not stand the test. The law enforcement community, as a whole, does not possess all the basic characteristics of a professional group and is lacking primarily in educational and competency standards for admission to the field...There are, of course, other objectives to be achieved through advanced education of police officers. However, all lesser objectives are really fragmentations of the prime goal: Professionalism."

The concept of police professionalism is so vague that divergent group and individuals such as unions and management, conservatives and liberals, J. Edgar Hoover and Ramsey Clark have all supported it (Fogelson, 1977). For some people in policing, professionalism is simply a matter of prestige and dignity for the members of the profession, which can be achieved by high standards for entry. For others, police professionalism means adopting the ideal social structure of the established professions: practice based on complex formal knowledge, autonomy from lay interference and decision making, collegial discipline and peer accountability, and a value system placing public service higher than selfish concerns. Regardless of how professionalism is defined, however, the proponents of professionalism have generally failed to specify how it would change police behavior, other than saying that a professional police would be more ethical (White, 1972). Without a more explicit conception of how a professionalized police would behave, it is difficult to assess the ability of higher education to help professionalize the

police.

Nonetheless, there is some evidence that higher education might at least raise the prestige of the police. The correlation between the general educational level of an occupation and its prestige has been quite high for centuries (Ben-David, 1977) and persists in modern times around the world (Treiman, 1977). The historical development of crafts into professions has always included higher education (Kerr, 1964; Rudolph, 1977), not necessarily for improving the practical skills but for increasing the social status of the occupation (Bledstein, 1976; Collins, 1977). For as Becker (1964), Coleman (1966), Bird (1975), and others have pointed out, higher education can teach status-reflective behavior "style" as much as it teaches substantive knowledge.

The relationship of prestige to performance, however, is not at all clear (Fogelson, 1977). On the one hand, there is some evidence that the prestige of the police is higher in those countries where the police are less repressive and more restrained by constitutional safeguards (Treiman, 1977). On the other hand, the status of the American police increased substantially from 1947 to 1963 (Hodge, Siegel, and Rossi, 1964), as did their education, despite a later survey finding that the public rates the police very low on competence (Rotter and Stein, 1971). It may be quite possible for education to improve the social status of police work without police behavior changing at all.

If the only purpose of higher education is to make the police feel better about themselves by giving them more prestige, then it should probably not be supported as a priority (Sherman, 1978). If the police deserve such special treatment, why not garbage collectors or engineers? Police prestige for its own sake would do little good for the public interest.

The consequences of greater prestige, however, might well justify public support for its attainment. Greater public respect might increase the level of

civility in police—citizen encounters (Reiss, 1971) and reduce the level of force that police use to accomplish their tasks and maintain their authority. Greater prestige might also attract more individuals to police work who have the personal qualities necessary for good police performance.

Whatever the effects of higher education on the prestige of police work, they should be treated as by-products rather than as a primary objective. Above all, however, the importance of education resides in the fact that...empirical links exist between occupations and scholarship. It is difficult to overestimate the practical and symbolic significance of this fact. For better or for worse, in our society occupations progress to the strength of the connections they maintain with academic scholarship (Bittner, 1975).

Bittner (1975) argues in all seriousness that "the licensing of professional policemen and the establishment of professional police schools are non-deferrable projects, they are clearly of a long-range nature. Even if the proposals were to be accepted, it would take years for them to gain momentum. But changes could be instituted in existing methods of police training and recruitment that would enhance this development immeasurably. In simplest terms: it must be made clear as unambiguously as possible that education does matter to police work...The main objective of (this) recommendation is to abolish permanently the idea that is all too prevalent in our society that if one does not want to take the trouble of becoming something worthwhile, he can always be a cop."

Bittner (1975) demonstrates the relevance of education to the police profession by arguing that the "...possession of a regular college degree should be made a minimum prerequisite for employment as a policeman...The main argument that is ordinarily marshalled against recruiting at the college level is that police departments find it difficult to fill vacancies even through recruiting at lower educational levels. The argument has a certain surface cogency, but is faulty on several counts. For

one thing, by recruiting at the level of the high school diploma, police departments in effect lower their standards from year to year." While it must certainly not be assumed that all those young people who decide not to go to college are necessarily lacking in intelligence or aspirations, it is only reasonable to expect that as progressively larger percentages of high school graduates do continue their education, the remaining pool of eligibles will decline in average quality. Thus, it should not come as a surprise that many police departments find it impossible to accept more than a ridiculously small fraction of applicants. In 1961, only 22.3 percent of applicants for positions in 368 police departments were accepted. The applicant success rate in many departments is far lower. According to the Task Force Report: The Police (President's Commission on Law Enforcement and the Administration of Justice, Government Printing Officer, 1967) in 1965, only 2.8 percent of the candidates for the Los Angeles Police Department were eventually accepted into the force. In 1966, only 29 of 3,033 applicants were hired by the Dallas Police Department.

Recruiting at the College Level.—Bittner (1975) further argues that "...the fact that an occupation recruits at the high school level and cannot find sufficient numbers of eligible applicants does not, in and of itself, compel the conclusion that it would do worse by recruiting at the college level. In fact, it makes a good deal of sense to suppose that, given the rather attractive remuneration—in comparison with teaching or social work—many a young man with a college degree does not choose to become a policeman because his diploma is not required...Furthermore, many occupations suffer from personnel shortages, but they do not meet this problem by taking in whoever they can get. For example, registered nurses are in even shorter supply than policemen...but the entrance requirements have been increased. The shortages are coped with by purging nursing of menial tasks that require no professional competence, and employing attendants for this purpose."

Finally, and perhaps most importantly, Bittner (1975) continues "...an occupation that cannot find sufficient numbers of candidates of adequate background and quality, and yields to the compulsion to take what it can get, obviously veers into a course of decline. There is no use in having policemen if they are not the ones we need."

Criticism of College Recruitment.—Critics do not quibble with the basic notion that further education—of any kind—generally has some beneficial, if not quantifiable, results. It may benefit the individual, if not the agency or the field. The discomfort is with some of the assumptions behind the notion, i.e., the contention that college graduates will be more tolerant and more sensitive in their contacts with citizens, has not been proved. Future research may support it, but at the moment skeptics are increasingly seeking to disabuse us of the notion that college education guarantees any specific result (Goldstein, 1977). One recent study found that a group of largely middle-class college students, assigned to accompany police officers in the core precincts of a large city, developed a low tolerance for the kind of activity and treatment to which they were newly exposed (Ford, 1975).

The most direct challenge of the college requirement has come from those who want to recruit more members of minority groups into police services. It has always been apparent that increased educational requirements would impede efforts to reach this objective. The dilemma was acknowledged by the President's Commission on Law Enforcement and Administration of Justice (1967), which went on to propose three levels of entry to police service, each with different assignments, educational requirements, and compensation, as a way of reconciling the need for minority representatives and college-trained personnel. To enter at the highest level would require a college degree (Goldstein, 1977).

Critics of this proposal feared it would create new patterns of segregation; and some questioned why, without clear proof that a college education makes for

a better officer, such importance should be attached to higher education when there may be more persuasive evidence that the addition of minority members to a police force has greater potential for directly improving the quality of police service.

These challenges of the college requirement came at a time when society is beginning to question more broadly whether it has erred in requiring a college degree for entry into such a high percentage of the work force. As is true of many other aspects of their development, the rate of progress in policing is so slow that the police are often only beginning to implement concepts, procedures, and standards when others in both the public and private sectors, having used them for some time, are having second thoughts about their values. For many people who think policing is a simplistic job, the proposal that police be required to have a college degree is the ultimate absurdity. Understandably, it seems ironic to those who have been advocating college education for police personnel that the police should now have to plead a case for education when they have been exhorted for so long to attract the college graduate and when, in other fields, a college education has been accepted on faith as highly desirable.

The factor that makes the whole movement toward college education for police personnel most vulnerable to attack is the emphasis which has been put upon the acquisition of college credentials without sufficient concern for what is to be learned. Given the multitude of colleges and the number of people who attended them, the degree itself reflects little about the value or relevance of the educational experience. That is why it is so difficult to react to proposals, such as that of the National Advisory Commission on Criminal Justice Standards and Goals (1973), requiring that new recruits have a college background. And that is why it is difficult for a local police agency to determine what requirements, if any, ought to be established for formal education beyond the high school level. The range of

college experience available to high school graduates today is such that one can be for or against college education for police personnel without making any commitments as to what this might mean for the form and quality of police service.

Problems with Previous Studies.—The major problem with the few studies that have been made is the one encountered in measuring qualifications and traits which make one promotable (Selznick, 1957; Germann, 1971) and in screening applicants for police service (National Advisory Commission on Criminal Justice Standards and Goals, 1973). The measures used reflect a judgment of the goals and functions of the police about which there is considerable disagreement. One often cited study, for example, related educational level to traditional self-reported measures of patrol performance, such as the number of parking tickets issued, concluding the productivity of officers declined as their years of college increased (National Advisory Commission on Criminal Justice Standards and Goals, 1973). Several have relied heavily on the performance ratings of superiors, which are notorious for their inadequacies as measures of performance (National Advisory Commission on Criminal Justice Standards and Goals, 1973). Moreover, the use of the performance rating implies that a supervisor's standard of desirable performance is also the standard of the agency and the community (Goldstein, 1977).

From the research cited, it is concluded that the level of education is an important variable affecting employee performance. Additional research is warranted which is directed at the assessment of empirical evidence demonstrating the relationship between the educational level of Oklahoma Highway Patrol troopers and performance as measured by the employee's mastery of those subject matters identified in the 1982 Job Task Analysis.

CHAPTER III

METHODOLOGY

The purpose of this study was to examine the relationship between the educational level of Oklahoma Highway Patrol troopers and their respective score rankings on the 1982 Knowledge Achievement Test (KAT).

Population.—The population of this study consists of 497 Oklahoma Highway Patrol Troopers. The population was divided into five mutually exclusive stratified groups according to levels of education. Each strata will have thirty KAT scores and is defined as follows:

- Group 1. High school diploma or G.E.D. certificate
- Group 2. Those having one year of college
- Group 3. Those having two years of college
- Group 4. Those having three years of college
- Group 5. Those having four years of college

Thus, a N of 150 will be used in this study.

The educational level of the population was determined by conducting a written survey (Appendix A), personal and telephone interviews. For a review of the survey findings as relates to level of education, see Table VII. This survey was conducted in an effort to determine the following:

1. Level of education in years
2. Whether or not currently enrolled in college
3. If yes, is there financial assistance being received
4. Has LEAA fundings ever been received
5. Reason for leaving college
6. Willingness to apply for education financial aid

7. Degree program desired

8. College or university to be attended

There were 497 survey instruments mailed out with 465 being completed and returned. This represents a return rate of 93.6%. The numerical breakdown of the population is found in Table VII.

Sample.—The subjects used in this study were randomly selected from stratified population groups. Each sample consists of 30 subject's respective 1982 KAT scores. The proportionally stratified sample scores are shown in Table VIII.

TABLE VII
EDUCATIONAL LEVEL BY YEARS

12 Years (High School/G.E.D.)	118 (25.4%)
13 Years	62 (13.3%)
14 Years	123 (26.5%)
15 Years	71 (15.3%)
16 Years	<u>91 (19.5%)</u>
TOTAL	465 (100.0%)

Data Collection Technique.—All subjects were given the 1982 KAT during the months of December 1982 and January 1983. The 1982 KAT instrument was used for the following reasons:

- a. The instrument was developed using the JTA which was conducted on the position of Oklahoma Highway Patrol trooper. The JTA identified those duties, tasks, and skills associated with the work performance of traffic related functions.
- b. The JTA was completed by a committee of experts who possessed extensive knowledge of the position of state trooper.

- c. The instrument was evaluated using a one-way analysis of variance and found not to favor any of the test groups with respect to the extraneous variable of years of experience on the job.
- d. The instrument was consistently adaptable for use in the field due to ease of administration, scoring, and cost, which were considered essential elements in the present study.

TABLE VIII
PROPORTIONAL STRATIFIED SAMPLE SCORES
1982 KAT

GROUP				
(1)	(2)	(3)	(4)	(5)
72	65	77	85	78
72	70	62	64	73
73	69	65	74	77
67	66	68	78	69
62	92	70	81	87
75	81	71	74	62
70	67	73	71	76
66	80	79	77	74
63	72	73	73	77
74	85	78	74	80
74	66	76	70	82
74	74	74	82	83
73	71	79	79	78
78	75	78	75	72
68	73	74	66	82
75	74	75	65	71
66	68	74	74	79
74	74	75	79	78
65	60	74	65	69
64	70	71	68	70
79	70	75	74	74
64	75	79	84	71
84	80	77	77	75
71	80	74	74	78
71	75	81	81	82
68	72	72	78	68
80	80	76	70	78
70	74	71	74	73
67	73	67	76	77
74	67	90	72	76

Instrumentation—During this phase of the study, the first task was to find a suitable instrument designed to measure a state trooper's knowledge as it relates to his understanding of his job. A review of the relevant literature revealed no such instrument which was unique to the job position of Oklahoma Highway Patrol Trooper. Therefore, it was necessary to develop such a measuring tool using a systematic process for identifying job content.

Several approaches have been pioneered by the educational and training research staff of the military services in response to the apparent usefulness of systematic and data-based means for determining curriculum appropriate to occupational training programs. These approaches have included such complete planning processes as Instructional System Design (DAF, 1970, 1973; ICISD, 1975; which is an outgrowth of the prior Qualitative and Quantitative Personnel Requirements Information (QQPRI) system of the U.S. Air Force and the System Engineering of Training of the U. S. Army (DA, 1972). More specific procedures for accomplishing the content identification portion, which this portion of the study involves, of such overall systems have also been studied. The most well known and thoroughly researched of these techniques is the use of the task inventories to obtain job performance information by means of either questionnaire surveys, committee or panel of experts (workers) in an occupation (Morsh, Madden, & Christal, 1961; Morsh & Archer, 1967; Christal, 1974).

This task inventory approach, in various forms, has become the basis for a number of research studies of occupations by public educational and governmental agencies. The Vocational-Technical Education Consortium of States, V-TECS (Hirst, 1975) uses the Air Force procedures (Morsh & Archer, 1967) quite directly to describe occupational domains for their catalogs of performance objectives. Similarly, a recent job analysis plan developed by the Office of Texas State Comptroller of Public Accounts (Van Cleve & Porachan, 1976) employs these

procedures to obtain on going job analyses of department job positions in a timely, cost-effective, and quantifiable manner. The same basic procedures were used in the present study in the development of a task inventory for the position of Oklahoma Highway Patrol Trooper.

Work activity checklists having numerous similarities to the task inventory and occupational survey approach have been the basis of many job studies. Berger (1974) used such checklists and worker ratings of job activity statements to serve as a basis for a sound certification and licensing program that might potentially be developed by a professional association. West (1973) used a similar approach to provide explicit information and recommendations for updating secondary curriculums in relation to actual jobs of employed workers. Terry and Evans (1973) were able to distinguish specialty areas warranting differential training programs within an evolving occupational area.

While many other applications could be cited, both for job description purposes and for developing training curriculums, both in public and private agencies, there are certain common threads woven through each (Gael, 1975; Moore, 1976):

1. Comprehensive listings of tasks that comprise the specific job activities, serving as the basic unit of an occupation for analysis purposes.
2. Heavy reliance upon job incumbents (or other very close to the actual work situation) as the primary sources of information.

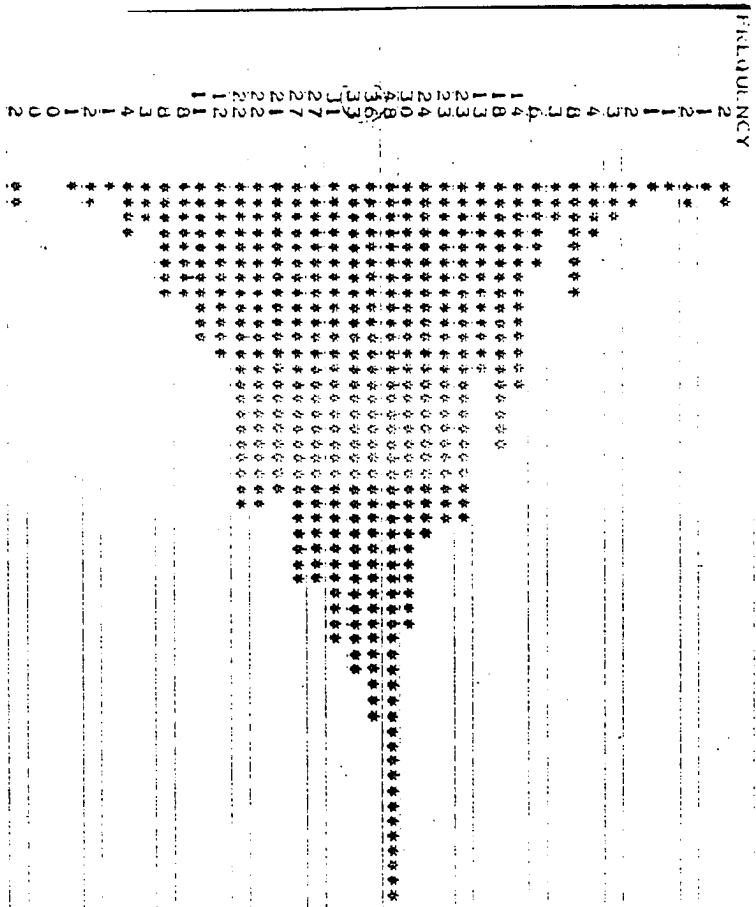
As Gael (1975) comments, "The difference between the methods appear to be mainly in format and in the kind and amount of auxiliary data—such as task importance, task difficulty, task time, etc.—requested about tasks." The procedures have been used on equipment-oriented jobs, professional occupations, and managerial positions.

Procedures.—The review of the literature and the meetings with the JTA committee members provided a tentative instrument consisting of 184 questions. These questions were submitted to 24 randomly selected Oklahoma Highway Patrol troopers, followed by a statistical analysis of the test results. The JTA committee then reviewed all relevant data, made decisions as whether to modify, omit or retain questions. Following this review, there remained a bank of 170 questions, the validity of which was established by the JTA committee. The 1982 KAT consisted of 100 randomly selected questions taken from the available bank of 170 questions. The instrument was administered during the time period of December 27, 1982 and January 15, 1983 to a total of 497 Oklahoma Highway Patrol troopers. Table V depicts the distribution of those scores, the mathematical mean and standard deviation.

Control of Extrainious Variables.—Following the completion of the JTA, the JTA Committee developed questions using the JTA task list as a data base. Upon completion of the bank of questions, they were administered to a scientific sample of Oklahoma Highway Patrol troopers. The extraneous variable of length of work experience was tested using ANOVA. The group scores were tested using the null hypothesis of there being no difference in the group mean scores of those troopers who had less than five years experience; more than five years experience but less than ten years; and more than ten years experience. The ANOVA statistics yielded no statistical significance at the $\alpha .05$. It was therefore concluded that the extraneous variable of length of work experience would not materially affect the incumbent's KAT score. Having tested for this variable, it was not tested for again in this study.

TABLE IX

DISTRIBUTION OF SCORES ACHIEVED ON THE 1982 KAT



$N = 497$
 $\bar{X} = 72.773$
 $S.D. = 6.603$

Treatment of the Data.—To test the hypothesis that there was no difference between the group scores, the analysis of variance (ANOVA) procedure was used. ANOVA is a statistical method used in comparing means from two or more groups (Toothaker, 1981). ANOVA is a method of partitioning variance into the different sources, generally of two kinds: 1) between-group variance and 2) within-group variance. The between-group variance is the part which describes the difference among scores in a particular group as compared to the grand mean of all scores. The within-group variance describes how scores within a particular group differ from each other. The ANOVA compares these two variance estimates to determine whether the difference between group means is large enough for the groups to be considered as coming from different populations. This is done by dividing the between-group variance by the within-group variance to form an F-ratio. The F-statistic obtained is compared to the tabulated F-value at a given level of significance (.05 in this study). If the calculated F-value exceeds the table F-statistic, the hypothesis tested by the ANOVA is rejected. All the ANOVA tests used in this study were computed using an Apple-Two Plus home computer and a statistical analysis package.

The hypothesis to be tested is there is no difference between the group scores of those subjects taking the 1982 KAT and educational level. This did not ask for differences according to the type of college courses taken. Therefore, a one-way ANOVA was performed to test the hypothesis.

Summary.—A Job Task Analysis was conducted for the purpose of developing a measuring instrument which would measure trooper performance. The instrument (KAT) was validated by a committee of experts (employees) who reviewed the comprehensive task listing and then constructed questions designed to measure an incumbent's knowledge of the job position of Oklahoma Highway Patrol trooper. Following its initial development, the KAT instrument was administered to 24

randomly selected troopers. Following this procedure, the JTA committee reviewed the test results, made decisions as to the modification, omission, or retention of these items. At the completion of the validation procedure, the 1982 KAT instrument was administered to the entire population.

A survey instrument was used to collect educational data from those troopers taking the 1982 KAT. The results served as the basis of identifying the level of education of the population. The population was then stratified according to educational level. The strata was then randomly sampled with 30 test scores being sampled from each of the strata.

A one-way ANOVA was used to test research hypothesis. This analysis was designed to find the differences (if any) between the attained 1982 KAT scores of those sampled and their respective level of education. The results of this analysis will be discussed in the following chapter.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Introduction.—The purpose of this chapter is to present the data that were gathered as part of the investigation of the problem and to present the analysis of those data. The problem of this study was to investigate the relationship between trooper performance as measured by their scores on the 1982 KAT and level of education.

Findings.—The findings and statistical analysis given in this chapter are based upon the data obtained from the administration of the 1982 KAT. The data were the result of computer scoring using General Purpose NCS answer sheets. Included in this study were 150 Oklahoma Highway Patrol troopers. Of this number, all were in a non-supervisory job assignment and were performing general law enforcement duties.

Results of Hypothesis Testing.—The hypothesis was stated as follows:

Hypothesis 01: There is no difference between the group mean scores on the 1982 KAT and those troopers having a high school or G.E.D. diploma.

Hypothesis 02: There is no difference between the group mean scores on the 1982 KAT and those troopers having one year of college.

Hypothesis 03: There is no difference between the group mean scores on the 1982 KAT and those troopers having two years of college.

Hypothesis 04: There is no difference between the group mean scores on the 1982 KAT and those troopers having three years of college.

Hypothesis 05: There is no difference between the group mean scores on the 1982 KAT and those troopers having four years of college.

Table X presents the ANOVA matrix which was generated as output from an Apple Two-Plus home computer using a Basic Business Software, Inc. statistical package. Table XI depicts the Analysis of Variance, partition of Sums of Squares, degrees of freedom and the calculated F-ratio. Table XII depicts the means and

standard deviations of the five sample groups.

The results of the ANOVA shows that at the .05 level of significance there was a statistically significant difference between the scores of those troopers taking the 1982 KAT and level of education. The calculated F-ratio of 2.75 exceeds the tabulated F-statistic of 2.43 at the .05 level of significance.

TABLE X
THE ANOVA MATRIX

STATISTICAL ANALYSIS PACKAGE
ONE-WAY ANOVA RESULTS

BASIC BUSINESS SOFTWARE, INC.
PAGE 1

THE DATA WAS ENTERED FROM: KEYBOARD

THE TOTAL NUMBER OF ENTRIES: 150

THE FOLLOWING IS THE ANOVA MATRIX:

Group										
(1)	72	72	73	67	62	73	70	66	65	74
	74	74	73	73	68	73	66	74	63	64
	73	64	64	71	71	68	60	70	67	74
(2)	65	70	69	66	92	81	67	80	71	83
	66	74	71	73	73	74	68	74	60	70
	70	73	80	80	73	71	80	74	72	67
(3)	77	62	65	68	70	71	73	79	73	73
	76	74	79	73	74	73	74	73	74	71
	73	79	77	74	81	71	76	71	67	90
(4)	84	64	74	73	81	74	71	77	71	71
	70	82	79	73	66	65	73	73	61	68
	74	64	77	74	81	73	70	74	76	71
(5)	73	73	77	69	87	62	76	74	71	80
	82	83	72	71	82	71	73	73	69	70
	74	71	73	73	82	68	73	73	71	75

TABLE XI
THE ANOVA RESULTS

```

*****
*
* THE TOTAL SUM OF SQUARE = 4908.95744 (SSt)
* THE TREATMENT SUM OF SQUARES = 346.093323 (SSa)
* THE ERROR SUM OF SQUARES = 4562.76611 (SSw)
* THE TREATMENT DEGREES OF FREEDOM = 4 (dfa)
*
* THE ERROR DEGREES OF FREEDOM = 145 (dfw)
* THE TOTAL DEGREES OF FREEDOM = 149 (dft)
*
* THE TREATMENT MEAN SQUARE = 86.5233307 (Sa2)
* THE ERROR MEAN SQUARE = 31.4673525 (Sw2)
*
* THE F-RATIO = 2.74962219
*
*****

```

TABLE XII
MEANS AND STANDARD DEVIATIONS FOR
THE FIVE SAMPLE GROUPS OF KAT SCORES

GROUP	MEAN	S.D.
1	71.1	5.262
2	73.3	6.334
3	74.3	5.161
4	74.4	5.383
5	75.6	5.193

The calculated ratio ($F=2.75 < .05$) leads to the rejection of the hypothesis that there is no difference between the mean scores of those taking the 1982 KAT and level of education. The very broad alternative hypothesis that the five population means differ in some way, while true, provides this study with a rather meaningless statement because it fails to answer the question: where is the real difference (or differences)? To answer this question after having obtained a significant F-value, further statistical comparisons involving group means was performed: Tukey's HSD test.

Tukey's HSD Test.—The HSD test is well adapted to making all possible pairwise comparisons between the means of groups of equal size (for this study, $N=30$ in each sample group) after a significant F-ratio has been found. The test involves determining a critical HSD (honesty significant difference) value for the test data. The hypothesis of equal population means is rejected for any pair or groups where the difference between sample means is as large as or larger than the critical value ($\alpha < .05$ in this study). The test is two-tailed. The critical HSD is determined from the following formula:

$$HSD = q \sqrt{\frac{S_w}{n}}$$

where: "q" is the value of the studentized range statistic obtained from a studentized range statistic table for the desired level of significance (α), within groups df, and number of group (k), S_w is the within-groups variance estimated, and "n" is the number of cases within each group.

Using the data from this study, Tukey's Test formula appears as follows:

$$HSD = 3.86 \sqrt{\frac{31.467}{30}} = 3.95 (\alpha .05)$$

Table XIII depicts the pairwise comparisons called for by Tukey. Using the calculated HSD value of 3.95, it can be determined by inspection that the differences indicated that only $X_a - X_e$ exceeds a magnitude of 3.95 and thus is the only significant relationship at the .05 level to be found. It can therefore be stated that the attainment of 120 college credits or a baccalaureate degree leads to performance on the 1982 KAT which is statistically significant as opposed to those who possess the high school or G.E.D. diploma. We cannot reject the null hypothesis for the comparisons between the remaining patterns.

TABLE XIII
TUKEY'S PAIRWISE COMPARISONS
OF SAMPLE MEANS 1982 KAT SCORES

	Xa	Xb	Xc	Xd	Xe
Xa	0	2.2	3.1	3.3	4.5
Xb	-2.2	0	1.0	1.1	2.3
Xc	-3.2	-1.0	0	.1	1.3
Xd	-3.3	-1.1	-.1	0	1.2
Xe	-4.5	-2.3	-1.3	-1.2	0

* $X_1=71.1$; $X_2=73.3$; $X_3=74.3$; $X_4=74.4$; $X_5=75.6$

** HSD = 3.95 α .05 level

Summary of Hypothesis Testing.—The null hypothesis was rejected and upon additional statistical analysis, it was determined that the true difference was between those troopers having the high school or G.E.D. diploma and those troopers having 120 college credits or a baccalaureate degree. The conclusions drawn from these test results are presented in Chapter V of this study.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATION

"For better or for worse, in our society occupations progress to the strength of the connection they maintain with academic scholarship. It is difficult to overestimate the practical and symbolic significance of this statement."

Bittner, 1975

Summary.—The purpose of this study was to investigate the relationship between the educational levels of troopers and their work performance as measured by their scores on the 1982 Knowledge Achievement Test. The study sample consisted of 150 Oklahoma Highway Patrol Troopers consisting of 5 groups of 30 each. These groups were:

- | | | |
|--------|----|-------------------------------------|
| N = 30 | 1. | High school or G.E.D. diploma |
| N = 30 | 2. | Those having one year of college |
| N = 30 | 3. | Those having two years of college |
| N = 30 | 4. | Those having three years of college |
| N = 30 | 5. | Those having four years of college |

So as to be able to measure work performance as defined in this study, it was necessary to develop a test instrument. The Job Task Analysis (JTA) technique was used to develop a measuring instrument. The JTA provided a comprehensive listing of tasks comprising the job of an Oklahoma Highway Patrol trooper. The JTA relied heavily upon the incumbents as the primary source of job related information (Gael, 1975; Moore, 1976).

The JTA committee reviewed the results of the initial validation test and made recommendations as to the omission, modification, and retention of test items. There resulted a final bank of 170 test questions. One hundred test

questions were randomly selected and those questions became the 1982 KAT instrument which was used in this study to measure work performance.

The data were analyzed using ANOVA to test the null hypothesis. The obtained F-ratio ($F = 2.75 < .05$) lead to the rejection of the null hypothesis in as much as the tabulated F-statistic was found to be $2.43 < .05$.

Tukey's HSD procedure was performed using the group mean scores. This comparison revealed the true and statistically significant difference to be between those troopers possessing a high school or G.E.D. diploma and those troopers who had 120 college credits or a baccalaureate degree.

Conclusion.—Based upon the idea of a relationship between improved job performance and increased education as stated by Sherman (1978), Eskridge (1977), Smith and Ostrom (1974), and Becker (1979), it was postulated that there would be a relationship between these two variables.

This study suggests:

1. That there is a significant relationship between improved work performance and increased college education at the 120 college credits or baccalaureate degree level.
2. A review of the group mathematical means (see Table XII) shows that while not statistically significant at other levels of education, there is a clear, observable positive relationship between improved work performance and level of education. From this study, one variable seems related to the other. It is difficult to overestimate the practical and symbolic significance of this relationship.
3. The presence of a significant relationship in the variable that is postulated as being associated with improved work performance, that of increased education, gives credence to Sherman (1978), Eskridge (1977), Smith and Ostrom (1978), and Becker's (1979) notion of

improved police performance.

The findings of this study support the 1973 recommendation of the National Advisory Commission on Criminal Justice Standards and Goals (1973) relating to educational standards for the selection of police personnel. Particular attention is directed to the fourth listed recommendation:

1. Every police agency should require immediately, as a condition of employment, to completion of at least one year of education (30 semester units) at an accredited college or university. Otherwise qualified police applicants who do not satisfy this condition but who have earned a high school diploma or its equivalent should be employed under a contract requiring completion of the education requirements within three years of initial employment.
2. Every police agency should, no later than 1975, require as a condition of initial employment the completion of at least two years of education (60 semester units) at an accredited college or university.
3. Every police agency should, no later than 1978, require as a condition of initial employment the completion of at least three years of education (90 semester units) at an accredited college or university.
4. 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.

The Oklahoma Highway Patrol should require as a condition of initial employment the completion of at least four years of education (120 college credits or a baccalaureate degree) at an accredited college or university.

The Oklahoma Highway Patrol must come to realize that the argument

against preemployment education at entry levels of employment has never been valid. The need to keep abreast of technical improvements (legal, administrative, and scientific) is mandatory for both improvement and survival in a competitive, socially changing, individualized society. The 21st century will introduce changes in social and scientific areas that will have a direct relationship to social control. It must be clearly stated and understood by those who are today concerned with improving the services afforded by the Oklahoma Highway Patrol, that those individuals who enter employment with that agency will at some time in the future become its leaders and chief administrators. It is the conclusion of this research that this challenge and responsibility must be met by the best possibly trained and educated person. As indicated by this study, that person most probably is the trooper who possess four years of college education.

Recommendations For Future Research.—The first recommendation for further research concerns replication of the present study. In order to determine the extent to which generalizations can be made, similar studies are needed using samples from other populations but still within the law enforcement profession. Studies using comparative groups, such as rural and municipal police agencies and supervisory personnel could provide useful information.

Future investigation should also focus upon the possible interaction of variables such as improved work performance and types of college degrees received. The question of college curriculum should be investigated for the purpose of making conclusions as to what type of college experience is most beneficial in the sense of improved worker performance. As Bittner (1975) suggests "...For better or for worse, in our society occupations progress to the strength of the connection they maintain with academic scholarship."

BIBLIOGRAPHY

- American Justice Institute, Project Star: Role Performance and the Criminal Justice System, Anderson, Cincinnati, 1976.
- Baehr, M. E., Furcon, J. E., & Fromel, E. C., Psychological Assessment of Patrolmen Qualifications in Relation to Field Performance, U.S. Government Printing Office, Washington, D.C., 1968.
- Becker, H. S., "What Do They Really Learn in College?", Trans-Action, Vol. 1, 1964.
- Becker, Harold K. & Whitehouse, Jack E., Police of America, Charles C. Thompson, Springfield, Illinois, 1979.
- Ben-David, J., Centers of Learning: Britain, France, Germany, United States, McGraw-Hill, New York, 1977.
- Berger, R. M., Computer Programmer Job Analysis, American Federation of Information Processing Societies, Montvale, N. J., 1974.
- Bird, C., The Case Against College, Bantam, New York, 1975.
- Bisconti, A. S. & Solmon, L. C., College Education on the Job: The Graduates Viewpoint, CPC Foundation, Bethlehem, Pa., 1976.
- Bittner, Egon, The Functions of the Police in Modern Society, Aronson, New York, 1975 First Edition.
- Bledstein, B., The Culture of Professionalism: The Middle Class and the Development of Higher Education in America, Norton, New York, 1976.
- Boolsen, F. M., Directory of University and College Criminology Programs, Columbus, Ohio, 1950.
- Bowen, H. R., Investment In Learning: The Individual and Social Value of American Higher Education, San Francisco, Jossey-Bass, 1977.
- Brandstater, A. F., "History of Police Education in the United States", Report of the Standards Committee, Vol. II, 1963.
- Brown, L. P., "The Police and Higher Education: The Challenge of the Times", The Police Chief, 32 (5), 1965.
- Carnegie Commission on Higher Education, The Purpose and the Performance of Higher Education in the United States: Approaching the Year 2000, McGraw-Hill, New York, 1973.

- Carnegie Foundation for Advancement of Teaching, Missions of the College Curriculum: A Contemporary Review with Suggestions, Jossey-Bass, San Francisco, 1977.
- Carroll, T., Statement presented to National Advisory Commission on Higher Education for Police Officers, John Jay College of Criminal Justice, New York City, June 1977.
- Cheit, E., The Useful Arts and the Liberal Tradition, McGraw-Hill, New York, 1975.
- Chevigny, Paul, Police Power, Vintage Press, New York, 1969.
- Christal, R. E., The United States Air Force occupational research project (AFHRL-TR-73-75), Lackland Air Force Base, TX: Air Force Human Resources Laboratory (AFSC), Occupational Research Division, January 1974. (NTIS No. AD-774 574).
- Coleman, J. S., "Peer Culture and Education in Modern Society" In T. M. Newcomb and E. K. Wilson ed., College Peer Groups: Problems and Prospects for Research, Chicago, Aldine, 1966.
- Collins, R., "Some Comparative Principles of Educational Stratification", Harvard Educational Review, 47, 1977.
- Crockett, T. S. and Stinchcomb, J. D., Guidelines for Law Enforcement Education Programs in Community and Junior Colleges, American Association of Community & Junior Colleges, Washington, D. C., 1968.
- Dalley, A. F., "University vs. Non-University Graduated Policeman: A Study of Police Attitudes", Journal of Police Sciences and Administration, Vol. 3 #4, 1975.
- DAF (Department of the Air Force), Instructional system development (AFM 50-2), Washington, D.C.: Headquarters, U.S. Air Force, December 1970.
- DA (Department of the Army), Systems engineering of training (TRADOC Reg 350-100-1), Fort Monroe, VA: Headquarters, Training and Doctrine Command, April 1972.
- Deutsch, Albert, The Trouble With Cops, Crown Publishers, New York, 1955.
- Dewey, J., Democracy and Education: An Introduction to the Philosophy of Education, Macmillan, New York, 1916.
- Eskridge Chris W., "Problems in the Use of Educational Standards: Another Side of the Controversy", XLIV #8, 1977.
- Farris, E. A., "A History of Criminal Justice Education: Seven Decades (1900-1970)", Report of the Standards Committee, Vol. I, 1972.
- Feldman, K. A. & Newcomb, T. M., The Impact of College on Students, Jossey-Bass, San Francisco, 1969.
- Flexner, A., Universities: American, English, German. London; Oxford University Press, 1930.
- Fogelson, R. M., Big City Police, Harvard University Press, Cambridge, Mass., 1977.

- Ford, R. E., Meeker J., & Zellner, R., "Police Students and Racial Hostilities", Journal of Police Science and Administration, Vol. 3, 1975.
- Frost, Thomas, "Selection Methods for Police Recruits", The Journal of Criminal Law Criminology and Police Sciences, Vol. 64 #1, May-June 1955.
- Gael, S., The Development of Job Task Inventories and Their Use in Job Analysis Research. In P.E. Schroder (Ed.), Proceedings of a Symposium on Task Analysis/Task Inventories. (UN Series No. 10). Columbus: The Ohio State University, The Center for Vocational Education, 1975.
- Gammage, Allan Z., Police Training in the United States, Charles C. Thompson, Springfield, Illinois, 1963.
- Germann, A. C., "Changing the Police--The Impossible Dream?", Journal of Criminal Law, Criminology, and Police Science, Vol. 62, 1971.
- Girand, Dan, "What is Right for Education in Law Enforcement", The Police Chief, Vol. XLIV, August 1977.
- Germann, A. C., "Law Enforcement Education and Training in the U.S.," The Police Chief, XXIV, Oct. 1957.
- Goldstein, H., Policing a Free Society, Ballinger, Cambridge, Mass., 1977.
- Gross, Solomon, "Higher Education and the Police: Is There a Need for a Closer Look?", Journal of Police Sciences and Administration, Vol. 1 #4, 1973.
- Grubb, W. N. & Lazerson, M., "Rain Round the Workplace: Continuities and Fallacies in Career Education", Harvard Educational Review, 1975.
- Guller, Irving B., "Higher Education and Policemen: Attitudinal Differences Between Freshmen and Senior Police College Students", Journal of Criminal Law, Criminology, and Police Science, 63 #3, 1972.
- Harris, N. C. and Grede, J. F., Career Education in Colleges: A Guide for Planning Two- and Four-Year Occupational Programs. San Francisco: Jossey-Bass, 1977.
- Hirst, B. S., Jr., "The instructional systems model of the Vocational-Technical Education Consortium of States used to develop performance objectives, criterion-referenced measures and performance guides for learners." In P. E. Schroder (Ed.), Proceedings of a symposium on task analyses/task inventories (UN Series No. 10), Columbus: The Ohio State University, The Center for Vocational Education, 1975.
- Hodge, R. W., Siegel, P. M., & Rossi, P. H., "Occupational Prestige in the United States 1925-63", American Journal of Sociology, 70, 1964.
- Hutchins, R. M., The Higher Learning in America. New Haven, Conn., 1936.
- ICISD (Interservice Committee for Instructional Systems Development), Interservice procedures for instructional systems development (NAVEDTRA 106A, Five volumes), Fort Benning, GA: U.S. Army Combat Arms Training Board, August 1975.

- Johnson, K. W., New Directions in Criminal Justice Education: Training Change Agents for Entry Level Positions, Institute of Criminal Justice and Criminology, University of Maryland, College Park, 1977.
- Kerlinger, Fred W., "A Social Attitude Scale: Evidence on Reliability and Validity", Psychological Reports, Number 26, 1970.
- Kerr, C., The Uses of the University, Harvard University Press, Cambridge, Mass., 1964.
- Kobetz, Richard W., Criminal Justice Education Directory: 1978-1980, Gaithersburg, Maryland, International Association of Chiefs of Police, 1978.
- LEAA: Fifth Annual Report, Washington, D.C., U.S. Government Printing Office, 1969.
- LEAA: Fifth Annual Report, Washington, D.C., U.S. Government Printing Office, 1973.
- LEAA: Fifth Annual Report, Washington, D.C., U. S. Government Printing Office, 1980.
- Lien, Arnold J., Measurement and Evaluation of Learning, Wm. C. Brown, Co., Dubuque, Iowa, 1976, Third Edition.
- Masini, H., "The Role of Police: Why Is a College Education Necessary?", In M. Neary (ED.) Higher Education for Police, New York: American Academy for Professional Law Enforcement, 1977.
- Mathias, William J., The Ambivalent Force: Perspective on the Police, Dryden Press, Hinsdale, Illinois, 1977, Second Edition.
- Miller, Jon & Fry, Lincoln, "Some Evidence on the Impact of Higher Education for Law Enforcement Personnel", The Police Chief, Vol. XLV, No. 8, August 1978.
- Mills, R. B., "Implications of the Ohio Task Force Study on Law Enforcement Education", Paper presented to the Academy of Criminal Justice Sciences, San Mateo, California, March 1977.
- Misner, Gordon E., "The Need for Quality Control and Criminal Justice Degree Program", The Police Chief, XLII #8, August 1975.
- Moore, B. E., Occupational Analysis for Human Resource Development, U. S. Department of the Navy, Office of Civilian Manpower Management, Washington, D.C., 1976.
- Morsh, J. E., Madden, J. M., & Christal, R. E., Job Analysis in the U.S. Air Force (WADD-TR-61-113), Lackland Air Force Base, TX: Wright Air Development Division, Personnel Research Laboratory, February 1961. (NTIS No. AD-259 389).
- Morsh, J. E. & Archer, W. B., Procedural guide for conducting occupational surveys in the United States Air Force (PRL-TR-67-11), Lackland Air Force Base, TX: Aerospace Medical Division, Personnel Research Laboratory, September 1967. (NTIS No. AD-664 036).
- Myren, R. A., Baridon, A., and Laskowski, R., Programmatic Issues Arising from Administration of the Law Enforcement Education Programs Second Progress Report, Washington, D. C. Center for the Administration of Justice, American University, 1978.

- National Advisory Commission on Criminal Justice Standards & Goals, The Police, Government Printing Office, Washington, D.C., 1973.
- National Planning Association, "A Nationwide Survey of Law Enforcement Criminal Justice Personnel Needs and Resources: Final Report." Unpublished manuscript. Washington, D.C.: U. S. Law Enforcement Assistance Administration, 1976.
- Newcomb, T. M., Personality and Social Change, Holt, Rinehart & Winston, Inc., New York, 1943.
- Newman, C. L. & Hunter, D. S., "Education for Careers in Law Enforcement: An Analysis of Student Output 1964-67", Journal of Criminal Law, Criminology, and Police Science, Vol. 59 #1-1968.
- Newman, J. H., The Idea of A University, Longmans, Green, New York, 1947 (originally published 1873).
- Newport, Al, Attitudes and Opinions of Police Training Directors Regarding Higher Education for Law Enforcement Personnel, Unpublished Master's paper, Oklahoma State University, 1980.
- Niederhoffer, Arthur, Behind The Shield: The Police in Urban Society, Doubleday & Co., Inc., New York, 1967.
- Oklahoma Crime Commission, Comprehensive Law Enforcement Action Plan, Oklahoma City, Oklahoma, 1972.
- President's Commission on Law Enforcement and Administration of Justice, The Challenge of Crime in a Free Society, Government Printing Office, Washington, D.C., 1967.
- Reiss, A. J., The Police and the Public, Yale University Press, New Haven, Conn., 1971.
- Rosovsky, H., "Undergraduate Education: Defining the Issues", Dean's Report 1975-76. Reprinted from Report of the President of Harvard College and Reports of Departments, 1975-76.
- Rotter, J. B. & Stein, D. K., "Public Attitudes Towards the Trustworthiness, Competence, and Altruism of Twenty Selected Occupations", The Journal of Applied Social Psychology, 1, 1971.
- Royal Commission on the Police, Final Report, London, Her Majesty's Stationary Office, 1962.
- Rudolph, F., Curriculum: A History of American Undergraduate Courses of Study Since 1936, Jossey-Bass, San Francisco, 1977.
- Sanderson, B. E., "Police Officers: The Relationship of College Education to Job Performance", Unpublished Master's Thesis, California State University at Los Angeles, 1975.
- Selznick, Philip, Leadership in Administration, Row-Peterson and Co., New York, 1957.
- Sherman, Lawrence W., The Quality of Police Education, Jossey-Bass, San Francisco, 1978.

- Smith, Dennis & Ostrom, Elinor, The Potential Reform of Criminal Justice, Sage Publications, Beverly Hills, 1974.
- Solmon, L .C., Too Many College Graduates, Jossey-Bass, San Francisco, 1977.
- Spaeth, J. L. & Greeley, A. M., Recent Alumni & Higher Education, McGraw-Hill, New York, 1970.
- Stagner, R., Psychology of Personality, McGraw-Hill, New York, 1948.
- Steele, M. & Elzy, J. B., "From the Ashes of the Riots—The Wilmington, Delaware Community School Program is Born", Community Education Journal, Vol. III, January 1973.
- Tenney, C. W., Jr., Higher Education Programs in Law Enforcement and Criminal Justice, LEAA, Washington, D.C., 1971.
- Terry, D. R. and Evans, R. N., Methodological Study for Determining the Task Content of Dental Auxiliary Educational Programs, University of Illinois at Urbana-Champaign, Bureau of Educational Research, 1973.
- The Police Chief, Vol. XLII, No. 6, (June 1975), p. 42.
- Toothaker, Larry, "Toothaker's Notes", Unpublished Instructor Notes, 1981.
- Treiman, D., Occupational Prestige in Comparative Perspective, Academic Press, New York, 1977.
- Udell, D. S., "The Technology of Community Education", Monograph, 1980.
- Udell, D. S. & Nance, E. E., "Administrative Alternates: Implementing Community Education", NASSP Bulletin, November 1975.
- U.S. Comptroller General, Report to the Congress: Problems in Administration Programs to Improve Law Enforcement Education, Washington, D.C.: U.S. Government Accounting Office, 1975.
- Vaillant, G., Adaptation of Life, Little, Brown, Boston, 1977.
- Van Cleve, R. R. & Porachan, G. A., "Job Analysis Report, Part I", State Comptroller of Public Accounts, September 1976.
- Van Voorhees, Curtis, The Role of the School in Community Education, Perdel Publishing Company, Midland, Michigan, 1969.
- Veblen, T., The Higher Learning in America: A Memorandum on the Conduct of Universities by Businessmen, Sagamore Press, New York, 1957 (Originally published 1918).
- Vollmer, A., Police in Modern Society, Patterson Smith, Montclair, N. J., 1971 (originally published 1936).
- Vollmer, August, The Police and Modern Society, The University of California, Berkley, California, 1936.

West, L. J., Survey of Entry-level Bookkeeping Activities in Relation to the High School Bookkeeping, City, New York, 1973.

White, S. O., "A Perspective on Police Professionalization", Law and Society Review, 1972.

Wilson, James Q., Varieties of Police Behavior, Harvard University Press, Cambridge, Mass., 1968.

APPENDIX A

Educational Survey

There is a group of Oklahoma businessmen who are considering the creation of an Oklahoma Highway Patrol Scholarship Fund. It would be the purpose of this fund to provide grants to troopers for payment of higher education tuition and books.

In an effort to provide accurate information to these businessmen, your cooperation is requested in completing the following questionnaire.

Your Name: _____ Badge # _____ Troop _____ Age _____

1. Please circle the highest educational level attained:

- A. High School or G.E.D., 13 - 14 - 15 - 16 - Masters
- B. Please describe anything higher than Masters.

2. Are you currently enrolled in a college course? YES NO

3. If you answered Yes to question #2, are you receiving tuition assistance and if so, what type?

4. Have you ever received LEAA grants for education? YES NO

5. If you have attended college, but have stopped, state your reason for doing so. (Circle One).

- A. Job conflict
- B. Graduated
- C. Financial hardship
- D. Lost interest
- E. Other

6. Would you apply for an educational grant from a Trooper's Scholarship Fund? YES NO

7. If you received such a educational grant, what program of study would you undertake?

8. What college or university would you attend? _____

RETURN TO YOUR TROOP COMMANDER WITH NEXT FIVE DAY REPORTS