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TASK ANALYSIS OF THE PHYSICAL PERFORMANCE REQUIREMENTS NECESSARY TO PERFORM AS A MICHIGAN POLICE OFFICER

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TASK ANALYSIS OF THE PHYSICAL PERFORMANCE REQUIREMENTS NECESSARY TO PERFORM AS A MICHIGAN POLICE OFFICER

By

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ABSTRACT

TASK ANALYSIS OF THE PHYSICAL PERFORMANCE REQUIREMENTS NECESSARY TO PERFORM AS A MICHIGAN POLICE OFFICER

By

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The purpose of this study was to: (1) identify the physical tasks required to be performed by Michigan police officers in the regular completion of their duties, and (2) to determine if different types of police agencies have significant differences in physical performance requirements.

In order to obtain a representative sample the Michigan police population (22,464 sworn police officers employed in 608 individual law enforcement agencies) was stratified into seven distinct department types as follows: Type I - Michigan State Police, Type II - Detroit Police Department, Type III - metropolitan agencies 100-500; Type IV - metropolitan agencies 30-99; Type V - metropolitan agencies 1-29; Type VI Sheriff departments; and Type VII - non-traditional agencies, i.e., DNR, park police. A proportionate random sample was then obtained from each of these agency types. The final sample consisted of 67 different agencies and approximately 1950 police officers.

The research questionnaire was two pages and was developed specifically for this study utilizing the diary approach. The isntrument was field tested on four separate occasions with regard to reliability and internal consistency.

Two 7-day survey periods were used: the first was November 27-December 3 and the second was April 10-22, 1979.

The study design is descriptive in nature, employing two research questions for which the principal findings in department types I-VI were:

Research Question I

What are the identifiable physical requirements of the job of police officers in Michigan? The average police officer in Michigan will be involved in a physical incident once in every 5.46 eight-hour work shifts or 40.99 times a year. The officer will have a successful outcome in 70% or approximately 28.69 times out of 40.99 physical incidents. Approximately 65% of the physical activities were deemed potentially critical. For the purpose of analysis the physical activities were divided into two broad categories, that is those activities involving athletic skills, and those activities involving defensive skills.

Athletic skills were defined as lifting/carrying, pushing, dragging/pulling, running, climbing, jumping and crawling. The activities of lifting/carrying and pushing were the two most frequent activities in occurrence and crawling occurred the least often. The object most often lifted/carried and dragged/pulled was a person.

Defensive skills were measured when an officer encountered physical resistance during the performance of his job. A Michigan police officer can expect to encounter physical resistance approximately 11.47 times per year. Eighty-five (85) percent of the persons resisting were found to be males. The average height of a subject offering resistance was 5'9" and the average weight was 165.66 pounds. The majority of times resistance was encountered by a police officer (58%) involved the subject pulling away or wrestling.

Research Question II

Does the difference in type of agency, i.e., the Michigan State Police vs. Oakland County Sheriff's Department, affect the type of physical tasks performed by police officers? The answer to this question was yes; various types of departments have significant differences of physical tasks performed. Type VII (non-traditional) departments were by far the most physically active in activities involving lifting/carrying and dragging/pulling. Type II (Detroit) department was shown to be least involved in all physical activities. Type III (metro 100-500) departments proved to be the most highly active departments physically and in encountering resistance, across the board.

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CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

The requirement to receive and successfully complete a minimum amount of basic police training prior to becoming a sworn police officer in Michigan is of relatively new origin.

Prior to 1965 the police training that was conducted in Michigan varied greatly in quality and quantity. The larger metropolitan departments provided their recruits with structured schools prior to placement in the field. Generally, medium sized departments had only limited class time. The emphasis here was on field training with a more experienced officer. With few exceptions the small police departments relied solely on training through field experience. During the two decades preceding 1965, the Michigan State Police and the Federal Bureau of Investigation can be credited with providing the bulk of standardized police training activities within Michigan.

Statewide standards for the training of Michigan police officers began with the passage of Public Act 203, on July 16, 1965. This legislation created the Michigan Law Enforcement Officers Training Council (MLEOTC).* The Council was a policy making board

*In the remainder of the dissertation this Council will be identified as MLEOTC.

consisting of eleven members; three from the Michigan Sheriffs' Association, three from the Michigan Association of Chiefs of Police, and one member each from the Detroit Police Officers' Association, The Fraternal Order of Police, and the Metropolitan Club. The other two members are the Director of the Michigan State Police and the Attorney General of Michigan.

The legislation of P.A. 203 empowered the Council to establish and publish recommended minimum standards with regard to the recruitment, selection and training of all police officers employed in Michigan. The initial basic police training program was developed in 1966 by the Council and was 120 hours in length. This curriculum was only recommendatory to all police agencies until the passage of mandatory police training legislation which became law January 1, 1971. Effective January 1, 1971, P.A. 203 was amended and the Council was given the power to establish mandatory standards in the above cited areas of recruitment, selection and training.

Based upon the 1971 revision of P.A. 203 the Council established a 256 hour basic police training program (see Appendix A). Currently a 296 hour program is in existence and is practically unchanged from the original 256 hour curriculum. The design of the mandatory basic police training program was at that time the "best shot" so to speak, of the members of the Council and staff during the period of 1970-1971.

Little or no empirical examination was conducted of the police job within Michigan in the design of the 296 hour curriculum. A task analysis of the job of policemen within this state had not

been conducted as of the writing of the proposal for this dissertation. In reality no positive correlation had been established between the completion of the existing basic police training curriculum and job performance in one of Michigan's 608 police agencies.

At the present time, Michigan, via council-certified basic police training academies, is training between 1500-2000 police officers under the 296 hour training curriculum. The Council exercises the following types of control over this training:

1. Basic police training is administered in one of fourteen Council approved regional training facilities.
2. Each academy is administered by a coordinator approved by the Council.
3. All instructors in the regional academies are certified by the Training Council.
4. Standardized prepublished curriculum guidelines are utilized by the instructor for each subject module taught.
5. All trainees are tested by a Council administered Post Examination covering the entire curriculum content. This Post Exam is administered the last day of each school and a statewide norm of 70% has been established on the examination.

In effect the Council has attempted to establish uniformity and consistency in their role of police training within Michigan. However, the rapidly expanding field of police work has perhaps outstripped the existing training system. Several immediate concerns are apparent in light of the present system:

1. The expense of placing a police officer "on-the-street" has increased to a point that average costs run in excess of $2,000/trainee.

2. The Council is continually being challenged by court action and/or threat of court action which challenges the validity of a portion of the established police training program. The majority of these challenges never get to court but each time the Council concedes--standards weaken.

3. Since the late 1960s there has been a strong national movement toward police professionalism.

4. Professionalism by its very nature entails a unified body of knowledge.

5. There is increasing pressure to consider licensing Michigan police officers. Obviously the licensing concept requires an accepted "validated" statewide examination.

6. The establishment of a statewide licensing examination must be directly related to the job performance requirements of today's police officer in Michigan.

Based upon the above stated concerns, MLEOTC decided to conduct a general statewide task analysis of the job of police officer in Michigan. Additionally, certain sections of the current mandatory selection standards were to be singled out for an "in depth" study. One of the areas to receive primary focus was the area of physical standards for police officers. This area was the direct concern of the writer's dissertation research.

Statement of the Problem

At present, MLEOTC selection and training standards for the physical requirements of the police job are the result of collective judgments by professionals based upon their subjective estimates of

what skills and attributes an officer should possess. Therefore, a systematic task analysis of Michigan law enforcement physical skill requirements is the necessary first step in determining job-related pre-employment and training standards.

Purpose of This Study

The purpose of the researcher in this study was to: (1) identify the physical tasks required to be performed by Michigan police officers in the regular completion of their duties; and (2) to determine if different types of police agencies have significant differences in physical performance requirements.

Research Questions

This study addresses two primary research questions which are stated below:

1. What are the identifiable physical requirements of the job of police officers in Michigan?
2. Does the difference in type of agency, i.e., Michigan State Police vs. Oakland County Sheriff's Department, affect the type of physical tasks performed by police officers?

Limit and Scope of This Study

Several limitations to this study must be emphasized because they directly affect the sample selection process and the scope of the data analysis.

1. While the Michigan police system is believed to comprise approximately 22,464 sworn police personnel--only the uniform patrol function is of concern to this study; i.e., other primary duties

of police departments, detectives, command personnel, juvenile officers are specifically excluded from the scope of this study.

2. An additional research question deals with the possibility that different types of police agencies are likely to impose different sets of physical requirements within their job setting. To accurately measure this concern, the sample must be representative of the following agency types.

    a. Michigan State Police
    b. Detroit Police Department
    c. Metropolitan Police Departments 100-500
    d. Metropolitan Police Departments 30-99
    e. Metropolitan Police Departments 1-29
    f. Sheriff Departments and Contract Townships
    g. Non-Traditional Police Agencies

3. Although it is projected that many of the physical tasks identified as performed by Michigan police officers will be similar to officers in other states, the results of this study can only be applied to the design of standards for Michigan police officers.

4. It is recognized at the onset that some of the police officers selected as participants in the survey will, either because of lack of interest, or "overkill," report incidents in an inaccurate manner. The impact of this inaccurate reporting is expected to be kept at a minimum by the use of a large sample (approximately 10,000 man shifts surveyed) and by active monitoring by data collection personnel.

5. It is recognized that on-site observation of the police tasks performed would be more accurate than the questionnaire method but the magnitude of the survey and the financial constraints of this research effort made this type of data collection impossible at this time.

6. The concept of criticality of job tasks is vital to the establishment of statewide standards. For the purpose of this study criticality has been defined and measured only as a ratio of the number of physical activities deemed critical to the number of physical activities actually performed during the study. Phase II of the statewide study (which continues beyond the scope of this dissertation) will deal with a thorough analysis of the criticality of each of the athletic and defensive skills performed by a Michigan police officer.

7. Expected annual frequency (EAF) of activities is the primary format used to describe the data obtained in this dissertation. The EAF quotient has been computed and applied in accordance with the procedures developed by Wollack & Associates and has been successfully used in physical task analysis studies in the states of Texas, Washington and Kentucky.

Definition of Terms

In an effort to clarify a number of terms used in a particular manner in this study, the following definitions are provided:

Athletic skill: This term refers specifically to the physical activities of running, climbing, pushing, lifting/carrying, dragging/pulling, crawling, and jumping.

Agency or local department coordinators: Because of the size of the survey sample, local department coordinators (usually a person in a mid-management position) were chosen from each department. These coordinators were specially trained in workshops held by MLEOTC in the techniques of administration of the questionnaires within their respective departments. Two weeks prior to each of the two survey periods a package of survey instruments plus instructions was mailed out to each of the coordinators.

Critical physical activity: A physical activity was considered to be critical in this study if one of the following three criteria were present:

1. Failure to successfully complete the activity might have resulted in the death/injury of the officer and/or other persons.

2. Failure to successfully complete the activity might have resulted in the escape of a subject.

3. Failure to successfully complete the activity might have resulted in the loss damage to property.

Defensive skill: This term identifies each situation where a police officer meets physical resistance from one or more subjects. Resistance is defined as a subject: pulls away, wrestles, offers passive resistance (going limp), hit/kicked, ran away (escape or attempt), threatened with a weapon, threw an object, used a barricade (door, etc.), used other special tactics.

Expected Annual Frequency (EAF): The number of physical incidents was related to the total number of officer/watches 10,212 for the purpose of computing the frequency rate. One thousand eight hundred and seventy-two (1,872) physical incidents were recorded, as indicated, which is 18.33% of the total number of officer/watches (10,212). Therefore, the rate of occurrence is 18.33% or, more precisely, .1833 per officer/watch. My multiplying this rate times the number of officer/watches per year, one may compute an expected annual frequency per officer for incidents requiring physical skills. The MLEOTC staff provided data based upon their own analyses which indicate that an officer works an average of 223.6 days per year. By multiplying the ratio of physical incidents to total responses, .1833 times the total number of days worked per year (223.6), one can determine the expected number of times an officer should be involved in incidents requiring physical skills on an annual basis. The expected annual frequency (EAF) for physical incidents is 40.99 incidents per officer per year. The survey data reveal that a patrol officer can expect to encounter

an incident involving physical skills once approximately every fifth shift, for a total of approximately 41 times annually.

Law enforcement physical activity questionnaire: This is the two page survey instrument developed by the research team for the specific purpose of conducting the Physical Task Analysis Study of Michigan Police Officers as defined above.

Research team: Because of the enormity of the undertaking, the physical task analysis study was conducted by a seven person team comprised of the writer, Mr. Patrick Judge, William Nash and three additional members of the MLEOTC research and development division and Dr. Stephan Wollack; Wallack and Associates of California. All persons on the team shared significantly in each stage of the study from the definition of the population to the analysis and interpretation of the data.

Outcome: This term is used to describe the result of the physical incident. In other words, was the police officer successful in chasing a suspect on foot, assisting a stalled motorist, etc. Success was measured in terms of the officer completing his/her intended task.

Participation rate: This term refers to the number of police officers who participated in the survey as compared with the total number of police officers in the department.

Physical activity: A physical activity might consist of such diverse events as running, climbing, pushing, jumping, dragging/pulling, lifting/carrying and/or crawling. Several activities could comprise one physical incident.

Physical incident: The term physical incident refers to a comprehensive situation or occurrence such as the pursuit and apprehension of a subject. A questionnaire was to be completed for each such incident. It should be further noted that each incident could involve several physical activities, i.e., running, climbing, pushing, etc.

Police officer: This term is defined as sworn full-time uniformed police personnel who are responsible for all basic police functions which may include enforcement of laws, maintenance of order, prevention of crime and protection of property. This definition includes officers who respond to calls for assistance and who are responsible for observed violations of the law. This definition clearly does not include officers assigned to special functions within an organization such as controlled substances, detective division, juvenile division, jail security, intelligence and/or administration.

Response rate: The ratio of the number of questionnaires completed by the department to the number of expected questionnaires for that department.

Format of the Study

This study is organized into five chapters.

Chapter I, The Problem, includes the need for the study, statement of the problem, purpose of the study, research questions to be addressed and format of the study.

Chapter II, A Review of the Literature, contains a review of the current research being done on task analysis of the police job as it relates to physical tasks.

Chapter III, Research Methodology, includes the scope of the study, development of the survey instrument, instrument validation process, logistics of data collection and analytic techniques utilized.

Chapter IV, Analysis of Data, includes an analysis and presentation of the data obtained in the study.

Chapter V, Summary and Conclusions, includes the major findings, conclusions and a discussion of the implications for police selection and training.

CHAPTER II

REVIEW OF THE LITERATURE

In Chapter I the context of this research was defined as dealing with the following problem:

> At present, MLEOTC selection and training standards for the physical requirements of the police job are the result of collective judgements by professionals based upon their subjective estimates of what skills and attributes an officer should possess. Therefore, a systematic task analysis of Michigan law enforcement physical skill requirements is the necessary first step in determining job-related pre-employment and training standards.

Based upon this problem statement the researcher focused on the following two research questions:

1. What are the identifiable physical requirements of the job of police officer in Michigan?

2. Does the difference in the type of agency, i.e., Michigan State Police vs. Oakland County Sheriff's Department, effect the type of physical tasks performed by police officers?

To effectively deal with each of the above cited research questions the reader will have to clearly understand: (1) the current need for job validation studies which has been brought about by federal legislation and administrative policies along with court decisions dealing with employment practices, (2) "The state of the art" of General Task Inventory Studies as they relate to the law enforcement positions, and (3) specific task analysis studies being conducted on the physical requirements of the police function.

An Overview of Police Personnel Practices Nationally

An area of rapidly growing concern in law enforcement is the selection process for sworn officers. This concern is proper for at least two major reasons: First, the ultimate success of any organization, regardless of its nature or purpose, is primarily dependent upon the competence of personnel. All other organizational resources are less valuable until personnel are properly selected and trained. The selection process is especially critical as it applies to law enforcement agencies because a police officer is entrusted with awesome power and responsibility. Therefore, administrators must take special care to ensure that only highly capable individuals are permitted to serve. Failure to do so can have serious consequences for everyone involved. A second major factor influencing the need for careful, scientific personnel selection is the necessity for guaranteeing that each applicant is processed in accordance with equal opportunity employment procedures. Federal court rulings based upon such procedures have stated that each step of the selection process must be scientifically validated to insure that the procedure used is strictly job related. In other words, the selection process can discriminate among applicants only in terms of their suitability to do the job. Therefore, police administrators and supervisors must be aware of the factors involved in designing and implementing a valid personnel selection process.[1]

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[1]Leonard Territo, C. R. Swanson, Jr., and Neil C. Chamelin, Police Personnel Selection Process (Indianapolis: Bobbs-Merrill, 1968. Forward by Truett Ricks, Ph.D., Commissioner, Kentucky State Police.

Policing in America is big business. At the local, state, and federal governmental levels, its employees exceed some 620,000 and total expenditures are in excess of $5 billion. The overwhelming portion of this burden is borne by local units of government which employ some 82 percent of all police personnel in the country and appropriate the funds which account for some 75 percent of all expenditures for these services.[2]

Given that the local units of government must bear the greatest burden for the delivery of police services, it is not unusual to find in a typical municipal or county budget that 30 percent or more of the total funds appropriated by the legislative body are for this activity alone. Ordinarily for any unit of local government, at least 80 percent of the total appropriations for police services will be consumed by personnel costs. Despite the reality that the human resource is a principal object of expenditure, relatively little emphasis has been given to its appropriate management. "Few police agencies have viable, adequately staffed, sufficiently supported personnel units that can maximize the agency's human resources; the most likely causes of these problems are:

1. The failure of police management to determine its human resource objective. What does management really want its personnel arm--or, for that matter, its total personnel strength--to accomplish?

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[2]Law Enforcement Assistance Administration, Sourcebook of Criminal Justice Statistics 1973 (Washington, D.C.: Government Printing Office, 1973), Table 1.3, p. 25. The number of employees is a projection of 1976.

Without clearcut program objectives, it is difficult even for the best personnel administrator to adapt to the police function.

2. The inability or unwillingness of the police administrator to delegate clearcut authority to accomplish the human resource goals. Confusion is allowed to exist between the respective roles of field supervision and personnel staff. In some jurisdictions civil service laws deny to the police chief, as well as to other line managers, sufficient authority over personnel matters. Without this authority, the personnel director is less than fully effective.

3. The inadequacy of total resources available to the police agency, leading to emphasis on field strength at the expense of personnel administration and frequently other management functions. While it is politically attractive to the chief to get as many officers into the field as possible, they may be underutilized unless there is adequate management direction.

4. The intransigence of some police officials and unions against changes in personnel practices and policies.[3]

In order to establish eligibility for employment as a police officer in almost all states within the United States an individual must demonstrate that he or she meets certain qualifications. As depicted in Table 2.1, forty-four states have enacted police minimum standards legislation based upon a national survey completed in 1975. The leader in this trend was California followed by New York.

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[3] O. Glenn Stahl and Richard A. Staufenberger, eds., Police Personnel Administration (The Police Foundation, 1974), pp. 1-2.

TABLE 2.1.--Police Minimum Standards Programs as of January 1, 1975.

State	Enacted	Status		Hours
		Voluntary	Mandatory	
Alabama	1971		x	240
Alaska	1972		x	270
Arizona	1968		x	280
Arkansas	1974	x		170
California	1959		x	200
Colorado	1973		x	264
Connecticut	1965		x	400
Delaware	1969		x	350
Florida	1967		x	320
Georgia	1970		x	114
Idaho	1970		x	300
Illinois	1965	x		240
Indiana	1967		x	240
Iowa	1968		x	240
Kansas	1968		x	240
Kentucky	1966	x		400
Maine	1972		x	400
Maryland	1966		x	350
Massachusetts	1966		x	480
Michigan	1971		x	240
Minnesota	1967		x	280
Montana	1973		x	280
Nebraska	1970		x	300
Nevada	1965		x	120
New Hampshire	1971		x	295
New Jersey	1961		x	280
New Mexico	1971		x	120
New York	1959		x	285
North Carolina	1972		x	160
North Dakota	1964	x		200
Ohio	1965		x	280
Oklahoma	1961		x	120
Oregon	1961		x	330
Rhode Island	1973		x	480
South Carolina	1970		x	320
South Dakota	1966		x	120
Tennessee	1966	x		240
Texas	1967		x	240
Utah	1967		x	321
Vermont	1967		x	250
Virginia	1967		x	200
Washington	1965	x		400
Wisconsin	1970		x	240
Wyoming	1972		x	150

SOURCE: National Association of State Directors of Law Enforcement Training Published Annual Report 1975

Requirements related to the minimum standards for employment as a police officer are administered through state level organizations often termed police officers standards and training commissions, which generally operate under three broad mandates for action. First, the establishment of minimum standards for employment as related to individuals in a state, county or local law enforcement agency. Secondly, the articulation of curriculums of training for police officers. Thirdly, conducting and encouraging research designed to improve all aspects of law enforcement.

The following are fairly standard requirements established under minimum standards legislation:

1. Be a citizen of the United States
2. Be at least 18 years of age
3. Be of good moral character as determined by a thorough background investigation
4. Be fingerprinted and a search made of local, state, and national files to disclose any criminal record
5. Not have been convicted by any local, state, federal or military court of a felony or crime, the punishment for which could be imprisonment for more than two years; or of any offense involving moral turpitude. The term "moral turpitude" is as elusive to definition as is "the public interest" and as fluid as the concept of what constitutes "due process." Moral turpitude may be defined as: an act of baseness, vileness, or depravity in the private and social duties which a man (sic) owes to his fellow man or to society in general, contrary to the accepted and customary rule of right and duty between man and man. The following acts are among those which the courts have held to involve moral turpitude: income tax evasion, perjury or its subordination, petty larceny, bad checks, indecent exposure, sexual crimes, conspiracy to violate an individual's civil rights, book making, conspiracy to commit a crime, defrauding the government, illegal drug sales, and possession of counterfeit money with the intent to cheat or defraud. Conversely, the

violations listed below are some of the ones which have been held not to involve moral turpitude: public drunkenness, carrying a concealed weapon, assault and battery, breaches of the peace, trespassing, driving while under the influence of intoxicating beverages and any misdemeanor not intentionally committed through an error of judgment without contemplating wrong. Various factors, however, may cause an offsens which is generally not regarded as constituting moral turpitude to be regarded as such. For example, a record of a number of convictions for assault and battery would involve moral turpitude, whereas a singular act would not. In order to be utterly certain it will occasionally be necessary for the personnel investigator to seek legal advice from the city or county attorney or the state's attorney general.

6. Be a high school graduate or have passed the General Education Development (GED) test indicating high school equivalency.

7. Be examined by a licensed physician or surgeon and meet the physical requirements necessary to fill the responsibilities of a law enforcement officer.

8. Be interviewed personally prior to employment by the department head or his or her representatives to determine such things as the applicant's appearance, demeanor, attitude, and ability to communicate.

9. Completion of a basic course of study with such curriculum and administered by such personnel, agencies, and institutions as the commission shall approve.

In a limited number of states there are requirements that every person seeking employment as a police officer be examined by a licensed psychiatrist or clinical psychologist in order to determine the candidate's mental and emotional suitability to perform the duties of an officer, which often include situations of severe stress. Additionally, certain states require that an officer earn a specific number of college credits within 12 to 24 months after appointment to the service.

It should be noted that the requirements established in the various states by statute are minimum: nothing prohibits the chief executive of an agency from setting more stringent criterion. For example, in Texas, the entry level minimum standards training course consists of 240 hours, but that state's Department of Public Safety has a recruit program of some 1,049 hours.

Minimum standards legislation generally falls into two categories: voluntary and mandatory. The overwhelming number of the states have mandatory acts, meaning that all minimum standards prescribed must be fully met. In states where voluntary legislation exists it will be one of two types. First, the minimum standards for employment and completion of the training course are at the discretion of the agency head. A variation of this is found in states where meeting either the employment minimum standards or the training course are at the option of the chief executive.[4]

Federal Regulations Affecting Police Selection Process

Matters of personnel administration in the public sector have not gone without their fair share of notice from government in recent years. The legislative, executive and judicial branches of government on both federal and state levels have addressed the problems associated with the equal employment opportunity movement that has extended the coverage of the 1964 Civil Rights Act to the 13,000,000 employees in public service through the 1972 Equal Employment

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[4]Territo, et al., Police Personnel Selection Process, pp. 5-8.

Opportunity Act. This coverage extends to law enforcement agencies and particularly to the police personnel selection process.

The concept of equal employment opportunity has its origins in civil rights legislation dating back to the ratification of the United States Constitution including the due process clause of the Fifth Amendment. However, the impetus of fair employment practices in public service is relatively recent as indicated by the date of passage of the Equal Employment Opportunity Act.[5]

Seberhagen in Legal Aspects of Personnel Selection comments:

> Whether by design or by chance personnel selection has become one of the most over-regulated areas in American life, with the United States Constitution; state constitutions; federal, state and local laws; federal, state, and local executive orders; federal, state and local court decisions and hearing decisions; and federal, state, and local regulations and guidelines.[6]

Territo, et al., go on to state:

> Experts in the area of equal employment opportunity--individuals who understand and can interpret the multitude of laws, regulations and court decisions that have been and are being handed down--are few and far between. The whole area is one that is full of complexities, complications, overlapping and confusion. The laws that have been enacted on the federal and state level dealing with fair employment practices are broad in their coverage, but all law must be interpreted on a case by case basis to determine its applicability. Thus far, there has been little agreement by various administrative agencies and courts in that interpretation.
>
> The obvious confusion that results has been complicated by a number of other factors including a great deal of apprehension as laws, rules, regulations and guidelines are

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[5]Ibid., p. 18.

[6]Lance W. Seberhagen, et al., Legal Aspects of Personnel Selection in the Public Service (Chicago: International Personnel Management Association, 1972), p. 8.

> filtered down through governmental channels to operating agencies. In addition, the rapidity with which events are occurring in terms of legislation and judicial pronouncements makes it almost impossible to keep up with the entire field. A further complication is that the combined legal framework and guidelines developed and administered by the various regulatory agencies and courts are half legal and half technical in nature, thus making comprehensive even for the most well-informed agency administrator or personnel director most difficult. Conflicts are bound to and do exist between legal standards and scientific standards in the technical area of personnel selection. The law does not usually keep pace with advancements in technology and research and often, when laws are passed, they produce unintended consequences, or have definite political roots.
>
> The problems and confusion that have resulted from the wealth of laws and guidelines developed in recent years has caused much frustration among personnel people and administrators, particularly on the local level. Consequently, many have considered dropping a great number of their presently used selection procedures--particularly testing. This type of reaction is designed to avoid legal complications for the jurisdiction, however, it is not a viable solution since it is inconsistent with merit principles which form the basis for all civil service systems and other similar programs that seek to provide open competition, equal employment opportunity, valid selection procedures, and selection from among the best qualified to fill positions in public or private agencies on a non-political basis.[7]

The area of equal employment opportunity falls under the category of concerns subject to concurrent legislative jurisdiction of both federal and state government. Of course, it is to be remembered that in the event of conflicts between state law and the United States Constitution, federal requirements control. As noted earlier, the impetus for fair employment standards had its beginning with civil rights legislation and the due process clause of the Fifth Amendment which states, "No person shall . . . be deprived of

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[7]Territo, et al., Police Personnel Selection Process, p. 19.

life, liberty, or property, without due process of law . . . ."[8] Provisions of the Fifth Amendment, like the provisions of the entire Bill of Rights, are only prohibitions upon the federal government. The concept of due process has escaped firm definition throughout the history of our constitutional system but can perhaps be most adequately described as relating to the traditional American ideal of fairness.

Civil rights also has its roots in the Thirteenth and Fourteenth Amendments to the Constitution. The Thirteenth Amendment states, "Neither slavery or involuntary servitude, except as punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction."[9] The Fourteenth Amendment provides that, "No state shall make or enforce any law which shall abridge the privileges and immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny any person within its protection equal protection of the laws."[10] Both the Thirteenth and Fourteenth Amendments have enabling clauses to the effect that the Congress shall have the power to enforce by appropriate legislation the provisions of this article. Pursuant to this authority, Congress enacted civil rights legislation in 1866 and 1871. Section 1983 of the Civil Rights Act of 1871

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[8]The United States Constitution; Fifth Amendment.

[9]The United States Constitution; Thirteenth Amendment.

[10]The United States Constitution; Fourteenth Amendment.

particularly is relevant to the field of law enforcement. That section declares:

> Every person who, under color of any statute, ordinance, regulation, custom, or usage, of any state or territory, subjects or causes to be subjected, any citizen of the United States or other person within the jurisdiction thereof to the deprivation of any rights, privileges, or immunities secured by the Constitution and laws, shall be liable to the party injured in an action at law, suit, inequity, or other proper proceeding for redress.[11]

Presidential Executive Orders on fair employment have also had an impact in the area of civil rights. Dating back to 1941 President Roosevelt issued Executive Order 8802 wherein he made a plea for non-discrimination in defense-related industries on the basis of race, creed, color, and national origin. Coverage was extended to all federal contractors and enforcement became more vigorous as years went on.[12]

In 1969, through Executive Order 11478, President Nixon prescribed that employment policies in the federal government were to be based on merit and fitness without discrimination on the basis of race, color, religion, sex, or national origin. It required the heads of each federal agency to establish and maintain a program of equal employment opportunity and declared that equal opportunity must extend to and be an integral part of "every aspect of personnel policy and

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[11]Territo, et al., Police Personnel Selection Process, pp. 20-21.

[12]Saberhagen, et al., Legal Aspects of Personnel Selection in the Public Service, p. 18.

practice in the employment, development, advancement, and treatment of civilian employees of the federal government."[13]

In addition to the importance of appreciating the historical development of civil rights and equal employment opportunity legislation, there is a great deal of significance in noting the variations and protections provided by the various constitutional amendments, federal enabling legislation and executive orders, for an employer's legal responsibility to insure equal employment opportunity cannot necessarily be defined in terms of a single piece of legislation. "Literal compliance with one law will not necessarily satisfy other laws covering the same general area."[14] All laws and regulations must be taken into account to ensure full compliance.

The phenomenal amount of attention aimed toward law enforcement personnel matters in the last few years had its origin in the passing of the Civil Rights Act in 1964. This act is divided into a number of titles each of which deals with a distinct type of discrimination. With regard to the area of fair employment we should closely examine Title VII of the Civil Rights Act. Before 1972, Title VII was directed most often toward private employers with twenty-five or more employees, labor organizations with twenty-five or more members and even private employment agencies. The primary impact of Title VII is in the portion which states:

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[13]Ibid., p. 21.

[14]Ibid., p. 17.

> It shall be unlawful employment practice for an employer (1) to fail or refuse to hire, or discharge any individual or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, or national origin; (2) to limit, segregate, or classify his employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunity or otherwise adversely affect his status as an employee because of such individual's race, color, religion, sex, or national origin.[15]

During the year 1972 the Congress decided to expand the coverage of Title VII of the Civil Rights Act. Therefore, on March 24, 1972 an Amendment to Title VII was approved which was entitled The Equal Employment Opportunity Act of 1972. This amendment expanded coverage of Title VII to both public and private employers, including state and local governmental agencies. In the case of government agencies, educational institutions and labor organizations, the act applied to those organizations with twenty-five or more employees during the first year after the date of enactment, thereafter it applied to those agencies with fifteen or more employees.[16]

Under the authority of Title VII as amended, the Equal Employment Opportunity Commission (EEOC) was established as a regulatory agency with the function of setting standards and establishing guidelines for compliance with the requirements of the law.[17] In 1970 the Equal Employment Opportunity Commission issued a set of Guidelines on Employee Selection Procedures which superseded and enlarged upon

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[15]Public Law 92-261, Section 703(9)(1)(2).

[16]Ibid.

[17]Equal Employment Opportunity Commission Guidelines, Part 1607.

earlier guidelines on Employment Testing Procedures issued by the EEOC in 1966.[18]

In effect, there are no fewer than five federal agencies and numerous state agencies involved in the implementation and enforcement of fair employment standards. A number of these (even on the federal level) may have direct implications for state and local personnel practices.

Besides the Equal Employment Opportunity Commission, the Departments of Labor and Justice along with the United States Civil Service Commission and the United States Civil Rights Commission are involved in developing guidelines concerned with equal employment opportunity. Of particular concern to the police administrator are the functions regulated by Labor, Justice and the United States Civil Service Commission. The Office of Federal Contract Compliance (OFCC) is housed in the Department of Labor. The OFCC coordinates enforcement of the federal government's policy prohibiting employment discrimination by all prime contractors and sub-contractors doing business directly with any federal agency or engaged in any federally assisted project.

The responsibility of the United States Civil Service Commission is to promulgate regulations which insure that testing guidelines for state and local jurisdictions which participate in federal grant-in-aid programs are consistent with merit system principles.

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[18] Ibid.

The Civil Rights Division, United States Department of Justice, is responsible for enforcing federal statutes relating to civil rights through both criminal prosecutions and civil remedies. The Division also undertakes actions necessary to protect the integrity of orders of federal courts in other civil rights cases instituted by private citizens. It also enforces federal, civil, and criminal statutes dealing with intimidation and discrimination against voters, obstructions of justice, peonage and slavery, and the illegal use of search warrants. It institutes investigations and prosecutions of federal, state, and local law enforcement officers who misuse their authority by deliberately depriving citizens of their constitutional rights.

In addition, the Law Enforcement Assistance Administration (LEAA) is housed under the Department of Justice. The LEAA was created in 1968 as a result of the Omnibus Crime Control and Safe Streets Act of 1968. Under the provisions of the Act, grants are awarded to state and local units of government to carry out programs to improve and strengthen law enforcement. Among other projects, the grants may be used for the purpose of recruiting and selecting law enforcement personnel. Also included under the sphere of LEAA's programs are the National Institute of Law Enforcement and Criminal Justice, the National Criminal Justice Reference Service, and the Law Enforcement Education Program (LEEP).[19]

Even the recipients of Federal Granst in the criminal justice sector have had to buckle down to federal legislation regarding equal

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[19]Territo, et al., Police Personnel Selection Process, pp. 23-24.

opportunity employment. In March 1973 the Law Enforcement Assistance Administration promulgated equal opportunity guidelines which were prepared under contract by the International Association of Official Human Rights Agencies. The essence of the guidelines are that:

> Each recipient of LEAA assistance within the criminal justice system which has 50 or more employees and which has received grants or sub-grants of $25,000 or more pursuant to the Safe Streets Act of 1968 and which has a service population with a minority representation of three per cent or more is required to formulate, implement and maintain an equal employment opportunity program relating to employment practices affecting minority persons and women within 120 days after either the promulgation of the guidelines or the initial application for assistance is approved, whichever is sooner.[20]

The guidelines further specify that where the minority representation of the agency is less than three percent, an equal employment opportunity program must still be formulated relating to employment practices affecting women.[21] The words "employment practices" include anything a covered employer within the criminal justice system does, deliberately or otherwise, which affects the recruitment or employment of potential applicants and employees, before, during and at the end or prospective end of the employment cycle. Law enforcement administrators should become fully acquainted with these guidelines.

Recognizing the havoc caused by the promulgation of guidelines from all these various federal agencies as they affect state and local government operation, Congress made an attempt to clarify the situation

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[20] 28 CFR 42.301, et seg., Subpart E - LEAA Equal Employment Opportunity Guidelines.

[21] Ibid.

by establishing the Equal Employment Opportunity Coordinating Council through the Equal Employment Opportunity Act of 1972. The Act provides, in part:

> There shall be established an Equal Employment Opportunity Coordinating Council composed of the Secretary of Labor, the Chairman of the Equal Employment Opportunity Commission, the Attorney General, the Chairman of the United States Civil Service Commission, the Chairman of the United States Civil Rights Commission, or their respective delegates. The Council shall have the responsibility for developing and implementing agreements, policies and practices designed to maximize effort, promote efficiency, and eliminate conflict, competition, duplication and inconsistency among the operations, functions and jurisdictions of the various departments, agencies and branches of the federal government responsible for the implementation and enforcement of equal employment opportunity legislation, orders, and policies.[22]

The essence of the Equal Employment Opportunity Act as it applies to state and local government is to insure that discriminatory employment practices are not used against individuals because of race, color, religion, sex, or national origin. The term "discrimination" has not been defined by the wording of Title VII or by the guidelines of the Equal Employment Opportunity Commission. However, in 1971 the United States Supreme Court in a unanimous opinion articulated the first significant definition of discrimination under Title VII. The definition contains two major components. In regard to employee selection procedures, a practice is discriminatory if it has an adverse impact on minority groups and if it cannot be shown that the procedure in question is directly related to the job to be performed.[23]

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[22]Public Law 92-261, op. cit., Section 715.

[23]Griggs vs. Duke Power Company, 401 U.S. 424 (1971).

Adverse impact--a showing that the selection procedure has a disproportionate impact on minority groups--does not automatically mean the selection procedure is discriminatory. It also has to be shown to be non-job related. The problems usually encountered by employers under this definition are procedural. The burden is upon the complaining party to establish that the selection procedure has an adverse impact. If this can be shown, the burden then shifts to the employer to establish that the requirements are, in fact, job related to avoid a finding of discrimination. For this reason, in many proceedings in which the EEOC and courts have reviewed charges, the inability of the employer to show job relatedness has caused them to lose cases on the basis of findings of prima facie discrimination (a fact presumed to be true in the absence of evidence to the contrary).

A second major holding in the Griggs vs. Duke Power Company case eliminated the need to prove the discrimination was intentional. It is sufficient to show that the employer is, in fact, engaged in discriminatory employment practices.

While equal employment opportunity guidelines and decisions do not have the force of law, they are given a great deal of weight by the courts. But courts are not required to agree nor do they always agree with regulatory agency interpretations. In fact, judicial decisions reflect that the courts are not following Title VII guidelines to the letter by measuring adverse impact against job relatedness. Instead, the courts have weighed and balanced these criteria to arrive at equitable solutions in each case.[24]

[24]Territo, et al., Police Personnel Selection Process, p. 26.

The method provided by the EEOC guidelines for establishing job relatedness is through the validation of testing procedures. Tests are defined by the EEOC guidelines as "any paper and pencil or performance measure used as a basis for any employment decision."[25]

Height and weight requirements generally were upheld for police officers prior to the passage of Title VII as amended because earlier civil rights and equal employment opportunity legislation primarily applied to racial discrimination. The present trend seems to be that, in order to exclude a potential employee on the basis of height, weight or strength, the employer must establish that, in fact, the requirement is job related, and each applicant must be tested individually rather than excluding a protected class as a whole on the basis of stereotyped characterizations. In Smith vs. City of East Cleveland, a civil rights action was brought by a group of women who alleged that they were denied the opportunity to apply for employment as East Cleveland police officers because they did not meet the 5'8" height and 150-pound weight requirements imposed by the police department. In granting the plaintiffs the declaratory and injunctive relief requested against enforcement of the height and weight requirements, the court observed that:

> The height and accompanying weight requirements were maintained and enforced by defendants as part of a process to hire only males as police officers and with the effect and intent to exclude nearly all women applicants. The Court is unable to find rational support for the height and weight requirements and concludes that the requirements are based solely on the stereotype of the large male police officer.

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[25]Equal Employment Opportunity Commission Guidelines, Section 1607.2.

In order to decide whether height and weight restrictions were rationally related to job performance, the court in the Smith case received a great deal of evidence including testimony and depositions from expert witnesses on the height and weight requirements alone. All of the justifications presented by the department to sustain the height and weight requirements were thoroughly examined by the court and subsequently rejected as having no basis, in fact, having questionable evidentiary value and of being erroneous.

In other related actions, the Iowa Civil Rights Commission ordered the Des Moines Police Department to suspend height and weight requirements until such time as they are properly able to validate in a professional manner such requirements for job relatedness. The Pennsylvania Attorney General ordered a 5'6" requirement for state police be suspended because it excluded women and some minority groups. In Florida, an opinion by the Attorney General concerning minimum height and weight requirements established for the Florida Highway Patrol concluded that such requirements had the effect of denying equal employment opportunity to women as well as certain individuals of foreign extraction and are probably invalid under applicable federal law.[26]

The "State of the Art" of General Task Inventories In Police Work Within the United States

While examining the "State of the Art" of job task analysis studies in the United States, the author was extremely fortunate to

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[26]Territo, et al., Police Personnel Selection Process, pp. 31-32.

have been invited to The National Symposium on Job-Task Analysis in Criminal Justice held in Dallas, Texas, November 12, 13 and 14, 1978. This national conference was convened by the Law Enforcement Assistance Administration's office of Criminal Justice Education and Training. Co-sponsoring agencies were The National Association of State Directors of Law Enforcement Training and The Texas Commission on Law Enforcement Officer Standards and Education.

The primary mission of this "first of its kind" national symposium in criminal justice task inventory studies was essentially a national information exchange forum to (1) identify those states and/or agencies who were presently involved in applied research within the field of job task analysis, and (2) provide a brief overview of each studies research methodology such that other states contemplating such research could benefit from past experience of those states and/or agencies reporting.

Listed below are three research studies presented at the Dallas conference which have direct or indirect impact on the design of our Michigan Physical Task Analysis Study:

1. Project "STAR" (Systems Training Analysis of the Requirements for criminal justice participants).
2. The National Manpower Survey of The Criminal Justice System.
3. The United States Air Force Occupational Research Project.

A synopsis of each of the three presentations is included in the following pages:

Project STAR - A Presentation by Charles P. Smith at the National Symposium on Job-Task Analysis in Criminal Justice (November 12, 1978).

Purpose.--Project STAR was designed for the purpose of developing attitudes and behavior which will enable criminal justice personnel and the public to achieve the goals and objectives of the criminal justice system more effectively.

Objectives.--Project objectives were:

- to identify roles, tasks and performance objectives for appropriate criminal justice positions;
- to develop and test training programs for these criminal justice positions that address needs not satisfied by existing training programs;
- to develop educational recommendations for these criminal justice positions and the public that address needs not satisfied by existing education programs;
- to develop selection criteria and recruiting strategies related to knowledge, skill, and attitudes needed for these criminal justice positions and not currently in use;
- to develop a technique for assessing the impact of social trends on the criminal justice system; and
- to develop an implementation plan for all Project end products.

Criminal Justice Positions Involved.--The project research and development effort focused on the criminal justice system positions of police officer, prosecuting attorney, defense attorney, judge, caseworker, and correctional worker.

Organization.--The project organization involved the United States Department of Justice, Law Enforcement Assistance Administration; criminal justice planning agencies and operational agencies in four states (California, Michigan, New Jersey, and Texas) and the California Commission on Peace Officer Standards and Training. The American Justice Institute (with assistance from System Development Corporation, and special consultants) was selected, through competitive procurement, to be responsible for conducting the research and development effort.

Project STAR was governed by a National Advisory Council and Advisory Councils in the participating states composed of representatives from the criminal justice system, the public, higher education, and local and state units of government. In addition, resource groups representing police, judicial process, corrections, and education and training have been involved since Project inception.

A total of some 1,500 agencies and 6,000 individuals have participated in the Project.

Funding.--Financial support for the $2.5 million Project was provided by Law Enforcement Assistance Administration discretionary funds (32%), state criminal justice planning agency action grant funds (29%), California Commission on Peace Officer Standards and training agency funds (28%), and in-kind contributions from state and local criminal justice agencies (12%).

Terms.--The Project research and development effort began in May 1971 and ended in December 1974.

Method.--The design of Project STAR involved a comprehensive and carefully executed research method including (a) search of the literature, (b) analysis of social trends, (c) survey techniques, (d) field observations, and (e) expert opinion.

Definitions.--Definitions established for Project STAR in the areas of role, task, and performance objective; criminal justice positions; were as follows:

Role, Task, and Performance Objective

Role: The personal characteristics and behavior expected in a specific situation of an individual occupying a position.

Task: An activity to be accomplished within a role and which usually involves a sequence of steps and which can be measured in relation to time.

Performance Objective: A statement of operational behavior required for satisfactory performance of a task, the conditions under which the behavior is usually performed, and the criteria for satisfactory performance.

Definition Example.--Criminal Justice Positions. Police Officer: Police patrolmen or deputy sheriffs (sworn, full-time, uniformed) who are responsible for basic, primary police functions. This includes automobile and foot patrol officers who respond to calls for assistance and who are also responsible for enforcement of observed violations of law.

Development of Survey Administration Procedures.--The research design provided for the administration of the survey by personnel employed by participating agencies with the assistance of Project staff. In recognition of the need for consistent and efficient procedures to administer the questionnaire, a detailed survey administrator's manual was developed.

This manual contained information on survey purpose and a description of questionnaire development and content. It also provided detailed instruction and materials for survey administration, including selection of respondents; distribution, collection, and disposition of questionnaires; and reporting responsibilities.

Survey Administration.--Selection of a representative sample of respondents from all criminal justice system components was made in each participating state in accordance with the following procedures established by the research design:

- Random selection of participating counties.
- Random selection of criminal justice system agencies within selected counties.
- Identification of quantity and type of personnel required in each agency selected.
- Random selection of respondents in each agency.

Upon the confirmation of willingness to participate by those agencies selected during initial sampling efforts, a total of 251 survey administrators were recruited from criminal justice system agencies involved in the survey. Fifteen one-day training sessions for survey administrators were conducted in the four states. Each survey administrator was given a manual of instructions for

respondent selection and survey administration, an adequate supply of questionnaires and forms, and the telephone number of a Project staff member assigned to each state.

Survey Administrators in each state randomly selected respondents in each agency from a roster of personnel, according to the previously agreed upon procedure to ensure random selection. The Procedure afforded the opportunity to select an alternate respondent to replace those who were selected initially, but who were then unavailable.

The survey administrator then delivered the questionnarie to the individual selected and explained its purpose and the method for completion. At a predesignated time, the survey administrator picked up the completed questionnaire from the respondent in a sealed envelope. In turn, the questionnaire was mailed to a central location for optical scanning. This procedure assured the respondents of the confidentiality of their responses, allowed the staff to predict within narrow limits the date upon which all responses would be returned, and assured a very high percentage of return from the respondents.

As can be seen in Table 2.2, a total of 1,148 agencies were involved in the survey and 3,849 individuals were selected from these agencies in the sampling procedure. Of these individuals 3,452 (or 89.2%) completed the questionnaire. It also should be noted that the average time of completion for the questionnaire was 3.41 hours.

Upon receipt at the central location, each questionnaire was audited by Project staff to ensure that it was ready for processing.

TABLE 2.2.--Summary of Responses to Survey of Operational Personnel.

State	Agencies Surveyed	Questionnaires Distributed	Questionnaires Completed	Response Percentage
California	340	1,328	1,266	95.3
Michigan	211	800	677	84.6
New Jersey	238	861	743	86.3
Texas	359	860	746	86.7
TOTAL	1,148	3,849	3,432	89.2

Each questionnaire was then optically scanned and the responses were recorded on magnetic tape. The tapes were sent to a computer facility for processing on high-speed electronic computers using predetermined statistical programs. Printouts of survey results were provided to Project staff for analysis.

Survey Results.--Police officers represented 55 percent of the respondents, 14 percent were involved in the judicial process, and 31 percent were involved in corrections. All types of operational criminal justice system agencies in the participating states were represented in the survey.

The numbers and percentages of responses to this survey were computed and statistical tests were run on the data to determine the levels of significance and representativeness. Each response was correlated with other responses and relationships were

identified and interpreted. It was these relationships that provided the foundation for role identification.

Survey of the Public.--Project design also called for a survey of public opinion and characteristics. Pursuant to this requirement, a survey of a representative sample of the adult and teenage public in California and Texas was conducted.

Purpose of the Survey.--The survey was designed (a) to obtain public views on crime impact, criminal justice system issues, values, and effectiveness; and (b) to determine if there were distorted perceptions on what roles were desirable for criminal justice personnel.

Observation of Operational Personnel.--In order to provide more depth to the research than was possible through search of the literature or survey research, a formal field observation phase was conducted as part of Project STAR. The purposes of the field observation phase were as follows:

- to provide confirmation of the preliminary roles derived from survey research;
- to identify the tasks typically associated with performance of the role; and
- to provide information required for the development of the performance objective statements for both the focal position and the other criminal justice positions with whom there is interaction.

Expert Opinion.--Assistance in all stages of the Project was received from approximately 254 outside professional resources, at all levels, in the support and review of Project staff work.

Long Term Results of Project STAR.--To date, implementation of Project STAF has been undertaken by a variety of jurisdictions and components in areas such as:

- use of the roles, tasks and performance as a basis for developing selection criteria, training programs, educational curricula, and goal setting;
- use of all or parts of the training programs;
- use of the instructional strategy;
- use of the social trends analysis findings and methods; and
- use of the selection process continuum as a framework for human resource development.

There has never been a coordinated systemwide or national effort to implement the results, in spite of the large expenditure of funds and the potential for positive impact. Although this broad-based effort may be impossible, specific activities that could be undertaken at the national level include:

- dissemination of information on the implementation results to date, and
- validation of the training programs.

Individual jurisdictions are in a position to utilize the results of Project STAR (in concert with other work like the National Manpower Survey) as a basis for developing locally acceptable roles, tasks, performance objectives, selection criteria, training programs, and educational curricula without further extensive research.

The information is there--now what is needed is the commitment to do something with it.[27]

National Manpower Survey - A Presentation by Albert Glickman at the National Symposium on Job Task Analysis in Criminal Justice (November 13, 1978), Dallas, Texas.

Project Objectives.--The National Manpower Survey of the Criminal Justice System was conducted in response to a requirement included in the 1973 Amendments to the Safe Streets Act, which provided for a survey of existing and future personnel needs of the Nation in the field of law enforcement and criminal justice and the adequacy of Federal, state, and local programs to meet such needs. Major study objectives were:

- to assess the adequacy of current personnel resources of law enforcement and criminal justice agencies and to protect future manpower needs;
- to assess training and educational needs in law enforcement and criminal justice occupations, and the adequacy of existing training and educational programs in relation to these needs;
- to recommend priorities for allocation of LEAA funds for training and academic assistance;
- to design procedures for use in criminal justice manpower planning, including manpower projection models and data collection methods; and
- to identify any other needed changes in personnel policies and procedures to improve system performance.

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[27]Charles P. Smith, "Project "STAR," Job Analysis Procedures," paper presented at the National Symposium on Job-Task Analysis in Criminal Justice, Dallas, Texas, November 12-14, 1978.

Three research organizations collaborated on this two-year effort: the National Planning Association (NPA); the Bureau of Social Science Research (BSSR); and the American Institutes for Research (AIR).

The approach in the three major areas--courts, corrections, and law enforcement--followed the same general pattern. Here the concentration is mostly upon what was done in law enforcement, and upon those aspects involving applications of job and task analysis.

Sample Development.--The majority of information collected came from field visits to about 31 state and local police agencies in the following ten states; Maryland, Illinois, New York, Massachusetts, Iowa, Florida, Colorado, Texas, Oregon and California. Of the 20 key occupations studied, nine were in law enforcement. Extensive field interviews and questionnaire responses were obtained from samples of law enforcement personnel at these agencies. The samples by department size utilized in the National Manpower Survey field site visits are indicated in Table 2.3.

It should be made clear that the number of cases the study dealt with was small and that the main aim in selection of occupations to study and sites to visit was to insure that, insofar as possible, a wide diversity of situations, innovations, and content would be encountered, and that considerable opportunity for exploration in depth would exist. The research team was more concerned with finding out what were the kinds of issues, problems, needs, skills, and knowledge that exist out there than in a count of the absolute frequency of their occurrence.

TABLE 2.3.--Numbers of Law Enforcement Agencies at Which NMS Field Site Visits were Conducted by Size and Type.

Size and Type Category		Number of Agencies
Small:	(100/less total sworn and nonsworn fulltime police personnel)	7
	- Municipal agencies	5
	- County Sheriff's departments	2
Medium Size:	(101/more, 500/less total sworn and nonsworn fulltime police personnel)	14
	- Municipal agencies	9
	- County police agencies	2
	- County Sheriff's department	3
Large:	(501/more total sworn and nonsworn fulltime police personnel)	10
	- Municipal agencies	6
	- County Police agencies	1
	- County Sheriff's departments	1
	- State agencies	2
TOTAL		31
	Total Municipal Agencies	20
	Total County Police Agencies	3
	Total County Sheriff's Departments	6
	Total State Agencies	2

When job analysis is performed in stores, offices, and factories, each unit usually starts from scratch, and the procedures and analysis are tailored, often in considerable detail, to the immediate situation and need for information. Because each data set is so unique, aggregation of the data for some larger or alternative purpose is impractical.

On the other hand, the situation exists which is more analogous to what was confronted in the NMS, where similar job titles exist in many, many places--there are patrol officers in Pocatello, Idaho, and in Dallas, Texas--but there is a lack of a consistent frame of reference, common language, comparable procedures, and equivalent data. So, it was that our research team had to find a way to translate what was going on out there all over the country, in large, medium, and small departments, into a core of work activity statements expressed in terms commonly understood and that could be cumulated to arrive at estimates of manpower and training conditions and needs applicable across wide bands and ultimately useful as input to planning and policy decisions.

Data Collection Methodology.--To begin with, a team of field interviewers was sent to a few selected police agencies to interview a small number of job incumbents in each occupational category. The result of these early interviews was a preliminary set of statements describing work tasks and the specific knowledges and skills required to perform each task. Later, during field visits to the 31 agencies, project staff conducted review conferences with small numbers of

subject matter experts in each agency, usually knowledgeable job incumbents or superiors. In addition to reviewing the task specifications for their correctness, the experts were asked to answer three questions about a given task; what was thought to be the one best way to learn to do it; how difficult it was to learn how to do it; and whether college courses were thought to be essential or highly necessary for performing the task. Several modifications in this approach were made to simplify the procedure for the NMS.

The knowledge checklists contained knowledge/skill items and scales for rating the level of knowledge/skill required for capable performance and the level typically characteristic of newly assigned personnel.

The primary purpose of the task and knowledge checklists was to generate task and knowledge profiles from data collected during the agency field visits. These checklists constituted a standardized and practical means of collecting substantial occupational information from large samples of law enforcement personnel.

The basic procedure in using the checklists during the Research Staff visits involved giving agency coordinators packages of task and knowledge checklists to be distributed to specific samples of personnel. The checklists were completed and returned to us later through the coordinator. Guidelines were left with the coordinator for doing this.

Following the field visits and analysis of the occupational data collected, a conference was conducted for each key occupation. The conferees included an NMS staff member, an outside occupational

research consultant, and an occupational subject matter expert (namely, an authority in the law enforcement field). The objectives of the conference were to obtain a final review of the task and knowledge profiles for the current status of each occupation, a determination of the tasks which prominently require individual skills and knowledge, and a projection of the profiles for each occupation five years into the future.

Three forms were developed for the specific purpose of collecting occupational information:

(a) Task Checklist. Each task was briefly described, usually by presenting only the first phase (what is done) of the full task statement, with questions asking the incumbent to indicate whether he/she performs the task, and if he/she does, how much time it takes, where it was learned, and how much training had been received.

(b) Task Analysis Form. This form contained the full task statement, with instructions to the incumbent to edit the task statement to make it suit his/her own position, and a set of questions following each task statement. The set of questions, with multiple choice responses, asked the best way to learn the task, how difficult it was to learn, and whether college courses were necessary for learning the task. The latter question was included primarily for the law enforcement agencies because of the current controversy over the advantage of a college education for police work. The question is relevant for all positions, however, since in any job there are tasks for which college training is unnecessary.

(c) Knowledge Checklist. A list of knowledge and skills was developed for each key occupation. The list was compiled from various sources: literature review; catalogs of colleges; training programs and academies; discussions with experts in the area; and judgment of the technical specialist of the project staff. On this form the incumbent was to indicate the level of each knowledge required for competent performance of the job and the level the typical new hire has when he comes to the job.

Closely related tasks were combined into a single abbreviated statement for preparation of the task checklists. Similar procedures were followed to reduce the size of the knowledge checklists and to eliminate knowledge that staff and consultants felt had no relevance to the position.

Summary Findings of NMS.--Keeping in mind the major characteristics of the occupational analysis. Nine key occupations were involved. Three were of relatively recent origin: evidence technician/crime scene analysis; police planner; and police legal advisor. The remaining six were traditional ones in basic operations, line supervision, and management.

The purpose of the NMS occupational analyses was to generate tasks and knowledge/skills profiles and to compare them against education and training programs now existing in the police system.

The overall result of the National Manpower Survey was to clearly demonstrate a variety of ways that job-task analyses can be used to develop manpower pictures of occupations. Certainly not all analyses techniques were exhausted via this study but the NMS did represent one of the largest scale applications. The effort required to perform an accurate task analysis is maximal, however it is the opinion of the NMS research team that careful and comprehensive task analysis is essential to provide an accurate assessment of the

existing state of manpower resources and of current and future requirements that need to be met to achieve various objectives.[28]

United States Air Force Occupational Research Project - a Presentation by Raymond E. Christal

The United States Air Force Occupational Research Project was established in 1958, some 15 years ago, and has been supported continuously since that time. The project objectives call for the development of methodologies in a number of areas, including job analysis (collection, analyses, and reporting of information defining work performed by personnel).

Reasons for Selecting the Job Inventory Approach.--The Air Force chose the job inventory as the only feasible approach for collecting work-task information from large numbers of workers. There were a number of reasons for this decision: First, the technique is economical. Data can be collected from thousands of people throughout the service for less than it would cost to collect data on a few people using professional job analysts. Second, the information obtained using job inventories is quantifiable. That is, you can actually count the number of people performing any particular task, and describe their characteristics. Note that data collected by traditional job analysis are not quantifiable. No two analysts will describe a job in exactly the same terms. Third, the fact that

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[28]Albert S. Glickman, "Job-Task Analysis Applications in the National Manpower Survey." Paper presented at the National Symposium on Job-Task Analysis in Criminal Justice, Dallas, Texas, November 12-14, 1978.

information collected with job inventories is quantifiable means that it can be stored, manipulated, analyzed, and reported by computer. Finally, the fact that information is quantifiable also means that it can be validated and checked for stability using conventional statistical techniques.

A job inventory contains two sections. The first section has questions to be answered by a worker about his job and him/herself questions relating to name, identification, number, previous education, time-on-the-job, tools used, job location, equipment worked on, training schools, pay grade, job attitudes, and so on. Any item can be included in the background information section of an inventory which may help answer questions posed by managers of the personnel system. The second section of a job inventory is simply a list of all the significant tasks that may be performed by workers in the occupational area to be surveyed. That is, it includes tasks being performed by apprentices, journeymen, first-line supervisors, and superintendents in one or more occupations, such as supply specialist or engine mechanic. If the task list is properly constructed, and this point is important to understand, then every worker in the occupation should be able to define his/her job adequately in terms of a subset of tasks in the inventory.

Construction of Job Inventories.--Ordinarily, an initial task list is constructed from available printed materials. In the Air Force program, this list is first reviewed by five to ten senior supervisors in an interview situation; they correct technical wording

and add additional tasks which they know are being performed by workers in their occupational area. This expanded task list is then sent by mail for a field review by supervisors at various locations throughout the Air Force. According to the complexity of the occupational area, these mail reviews may be obtained from as few as 25 to as many as 100 supervisors. At some time during the construction phase, the task list is also reviewed by technical school instructors. The final task list is arrived at through this iterative process.

Air Force experiences have led to two conclusions. First, individuals who are untrained in writing task statements do a poor job of building job inventories for their own occupational area. It is better to keep the pencil in the hands of a trained inventory constructor and let supervisors in the field of interest serve only as technical advisors. Second, if inventories are constructed by technical school instructors, care must be taken to see that they are not biased through inclusion of only those tasks which have relevance for training. For example, a task concerned with sweeping the floor has little relevance for training, but may have a great deal of relevance for managers interested in job satisfaction, job evaluation, or job re-engineering. It is best to have inventories constructed by individuals who have a broad perspective of all future applications of occupational data.

How many workers should be sampled in an occupational area? The more the better. If one were interested only in the occupation as a whole, then perhaps a small sample would suffice. But experience has shown that managers are often interested in definable groups

such as females, individuals at a particular grade or salary level, workers maintaining a particular type of equipment, and so on. Unless one has collected information from a large sample, then there will be insufficient numbers of cases to make reliable inferences about such groups of interest. Large samples are also needed to perform meaningful job-typing analyses--especially if the occupational area is complex.

The Comprehensive Occupational Data Analysis Programs package (which is called CODAP) is designed to handle data on samples of 20,000 workers, except for programs associated with job-typing analyses, which will now accept data on 7,000 workers. In the Air Force we have attempted to obtain 100% samples in occupational areas containing 2,000 or fewer workers. In larger occupational areas, our researchers have attempted to obtain data on not fewer than 2,000 workers. If the occupational area is known to contain a variety of job types, Project Staff may obtain data on 5,000 or more workers.

Administration of Job Inventories.--Now we should turn our attention for a moment to the problem of inventory administration. In the Air Force, inventories are sent in bulk to Consolidated Base Personnel Officers throughout the world. Instructions specify that workers meeting certain specifications will be called into testing rooms to fill out inventory forms under controlled conditions. In the Marine Corps, the task analysis unit sends out teams to administer inventories on site at various locations. They report excellent

results. However, this approach is feasible only if a Service or organization has a limited number of bases or installations.

Instructions for filling out an inventory are relatively simple. The worker completes the background section; reads the task list and checks those tasks which he performs as part of his/her normal job; writes in any significant tasks which he/she performs which were not in the task list; and then rates the tasks he/she has checked using a relative time-spent scale.

The write-in feature serves several useful purposes, but primarily it provides an indication of the quality of the task list. If a large number of significant new tasks are uncovered by the write-in feature, then the administration of a supplementary survey may be required; otherwise the uncovered tasks are used to guide interpretation of results and are saved for inclusion in the next form of the survey instrument.

Results from numerous studies have indicated that matrices reflecting overlapping time among individual job descriptions when analyzed by the CODAP grouping program, can yield a precise definition of the types of jobs existing in an occupational area. Finally, having available the percentage of time spent on tasks makes it possible to compute the time spent by individuals or groups on particular types of work. For example, a manager may wish to know how much time is being spent by a group of mechanics on preventive maintenance. This can be very quickly computed by the CODAP system. It should be noted that none of the above characteristics apply to a scale such as <u>frequency of performance</u>.

The CODAP Analysis System.--The Air Force has been working on CODAP continuously for over 13 years, and the program listings now run about 1,400 pages in length. It represents an investment of hundreds of thousands of dollars, and thousands of in-service man hours. Yet it is without question the most important product of the Air Force Occupational Research Project.

The concept behind CODAP is to provide ways for analyzing, organizing, and reporting occupational information so as to answer as many management questions as possible. CODAP currently contains approximately forty general purpose programs, and several new ones are under development. All of these programs are interactive and highly efficient.

For example, one program produces a consolidated description of the work performed by any specified group of individuals. Such a description can be produced for workers at a particular base; or for those who have been in their jobs for less than one year; or those who claim their talents are not being utilized; or those who work on a particular type of equipment--indeed, for any group of workers which can be defined in terms of information in the background section of the job inventory. A consolidated job description indicates the percent of group members performing each task; the average percent of work time spent on the task by those who perform it; and the percent of group time spent on each task. A CODAP program prints the task statements and associated computed values, arranged in terms of percent members performing or in terms of group time-spent values. A consolidated description of the work performed

by individuals during their first year or two on the job is particularly useful in validating or designing the curricula for entry-level vocational training.

Perhaps the most powerful CODAP program is one which identifies and describes all the types of jobs which exist in an occupational area. Beginning with 2,000 individual job descriptions, this program will compute a 4,000-element input matrix reflecting the similarity of each job with every other job. Then it proceeds to group similar jobs into clusters and prints out a description of work performed by individuals in each cluster. The program is iterative any may evaluate well over a billion alternative solutions in arriving at the best definition of job types and clusters in a particular occupation. Still another CODAP program can be used to determine the characteristics and locations of individuals working in each job type and cluster. The results of job typing analyses are extremely valuable in identifying changes needed in defining occupational categories in an organization or military service.

Results to Date of the Air Force CODAP Job Survey System.--The Air Force did research on various techniques from 1958 until 1967. During this period, we collected experimental data from over 100,000 cases and developed most of the programs in the CODAP system. Although cost savings data were not accumulated during this time period, occupational data led to numerous changes in training programs and occupational structures.

In late 1967, the Air Force established an operational unit with 15 persons who devoted full-time to the construction, administration, and analysis of occupational survey data. Its mission called for the completion of 15 surveys per year. In 1969, the staff of this organization was increased again, to 42 persons, and the mission was moved up to 51 surveys per year. Each of these increases in staff and mission was due to demonstrated pay-offs of occupation information, and to increased demands from managers for more timely data. So far, the operational unit has surveyed over 200,000 enlisted persons in over 150 occupations. At the present time 68 surveys are in various stages of completion.[29]

After careful review and analysis of each of the three major task inventory research projects presented, several vital concepts and methodologies came to the forefront. All three task-inventories were commenced by an exhaustive review of the current literature. Project STAR utilized questionnaires, field observations and expert opinions in the collection of the data. In STAR the survey was administered by personnel employed at each participating agency with coordination and assistance provided by project staff. Research staff in STAR recognized early the need for strength of sample on the one hand and consistency on the other. A detailed survey administration manual was developed by project staff along with 15 one-day

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[29]Raymond E. Christal, "The United States Air Force Occupational Research Project," paper presented at the National Symposium on Job-Task Analysis in Criminal Justice, Dallas, Texas, November 12-14, 1978.

training seminars for the survey administrators. Additionally, each questionnaire returned was audited for accuracy and consistency by project staff.

Within the National Manpower Survey the concept of stratified random sampling by department size (small, medium and large), was utilized. Additionally, the study design called for a field test of the task statements developed by the review of the literature. Following the field test, the remaining task statements were carefully reviewed by content experts and more modifications were made before the survey instrument was finalized for field implementation. Within the NMS Study, agency coordinators were also utilized to orient, dissiminate and collect the survey data.

The Air Force Study pointed out the economy and quantifying aspects of utilizing a job inventory approach on comprehensive job task analysis studies.

The ability to examine in detail each of three major task analysis studies and then compare them for detail has provided the researcher with several commonalities of methodology useful in establishing the task analysis approach in the physical area within Michigan.

Specific Task Analysis Studies on the Physical Requirements of the Police Function

During the overall review of the literature, going from the general (General Task Inventories), to the specific (task inventories dealing with physical performance of police officers), has been the most difficult. After exhaustive review of the literature, several

in-depth interviews with personnel at the Dallas Symposium, and an audit of the National Criminal Justice Reference Center, two current studies of a statewide nature, one in Texas and one in Hawaii, were located. Additionally, several local studies involving single police agencies were discovered. Generally speaking, the local research efforts were not comprehensive in nature and some of the conclusions drawn were done so via the interpretation of limited amounts of data. The methodologies utilized were therefore not generally applicable for our statewide research effort.

Upon examination of the State of Hawaii task analysis research effort, it was discovered that the survey instrument was an exhaustive 3½ hour questionnaire administered to a relatively small sample of police personnel. While the "detail" sought in such in-depth survey effort is applauded, the methodology is totally inappropriate for the purposes of the Michigan study.

The Texas study examined was The Development of a Police Officer Physical Performance Examination, prepared for the Texas Commission on Law Enforcement officer standards and education by Wollack and Associates, 1977. The following excerpts from Wollack clearly demonstrate the need for proper job task research and a very logical approach toward the statewide job task analysis we are concerned with.

> Studies of law enforcement personnel requirements consistently have concluded that physical ability is one of the major personal characteristics important to performance in a patrol officer's job. The job analysis study conducted for the law enforcement agencies in the State of Texas by Wollack and Associates has verified this conclusion. This study included a comprehensive job analysis of police

> officer positions in the participating departments, and resulted in the identification of the most frequent and critical tasks performed by police officers in the line of duty. The previously described general job analysis of a police officer's job indicated the importance of physical ability to the successful performance of several major police functions.
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> Because many of the tasks which were considered to be highly important in the previously described job analysis were of a physical nature, it is clearly appropriate to evaluate relevant physical capabilities of candidates as part of a selection program for hiring police officers. However, the quality of information and data required for test development and validation needs to be more thorough and descriptive with respect to physical activities performed by police officers than that which was determined by the general job analysis. The process and results of collecting this information and developing a test based upon the physical content of a police officer's job is described in this validation report.[30]

Wollack goes on to state:

> Our research review indicated that there are basically two types of tests utilized to measure the physical ability of police candidates. There is the more traditional "athletic" examination consisting of physical events such as push-ups, chin-ups, sit-ups, etc. Generally, the results of this type test are used to <u>infer</u> that an individual has the physical capability necessary to perform police officer tasks. Professional standards such as those published by the American Psychological Association indicate that this type of test would generally require empirical validation, i.e., a criterion-related validation study. These athletic-type events such as chin-ups are not a sample of the content of a police officer's job duties, and therefore, a test of this type may not be appropriately validated using the content methodology.
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> The second type of physical test for police officers is the performance-oriented test. In a performance test, certain job activities (those requiring physical capability) are actually performed by candidates in a structured testing situation. This type of test is generally utilized where

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[30]Wollack & Associates. <u>The Development of a Police Officer Physical Performance Examination</u>, study prepared for the Texas Commission on Law Enforcement Officer Standards and Education, 1977, p. 7.

> departments have undertaken a systematic analysis of the job requirements. The performance-oriented physical ability test directly measures the capability to perform the typical or usual types of physical tasks which are critical in the conduct of a police officer's responsibilities. Such an examination is said to be content-valid to the extent that the tests' content matches the actual job content in terms of physical tasks performed by police officers. To establish the content validity of a physical performance examination, it is necessary to demonstrate that the tasks or events of the test are a representative sample of important physical tasks actually performed by officers on the job. A performance-based physical examination samples existing capability on the part of candidates. This type of examination, based on job content, is a direct measure of existing physical skills and abilities and may be content validated in accordance with applicable federal and professional guidelines.
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> Prior to the development and content validation of a physical performance test, it is critical to determine thoroughly the nature of the actual tasks performed by officers which require these physical capabilities. The most practical way to accomplish this objective was through the development and administration of survey questionnaires. The following section of this report describes that process.[31]

With regard to the development of the job task analysis questionnaire, Wollack states:

> Our review of pertinent research literature revealed that most job analysis questionnaires which have been used to determine the physical duties and responsibilities of a police officer's job are retrospective in nature, in that they require police officers to describe previous physical incidents. While this survey technique is quite commonplace, the procedure gives rise to speculation regarding the reliability of data so generated. One may rightly question whether police officers can remember the specific details of each and every physical incident in which they were involved over a period of several months. Any determination of the frequency of reported physical incidents, as well as the circumstances surrounding those incidents, may be subject to errors of recollection. Nevertheless, this type of retrospective survey to determine the physical requirements of a police officer's job is most typical.

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[31] Ibid., pp. 8, 9.

> To avoid criticisms of this nature, the firm of Wollack & Associates sought to develop a questionnaire which could be administered on a watch-by-watch basis. Naturally, if police officers are to complete questionnaires each and every time a physical incident occurs, such questionnaires must be relatively brief in order to be inobtrusive. At the same time, the information provided by any such questionnaire must be comprehensive. In order to deal with these somewhat competing concerns and objectives, we developed a Police Physical Task Questionnaire. This questionnaire is one page in length and calls for a detailed description of the physical incidents, the circumstances surrounding the incidents, the persons or objects involved, and the precise nature of the physical activities. In addition, the officers completing this questionnaire are asked to ascertain the consequences of a failure to perform the various physical activities involved. We believe that this watch-by-watch job analysis of physical requirements, though much more demanding than the retrospective method with regard to administrative considerations, justifies a high level of confidence in the fingings of the job analysis.[32]

Table 2.4 identifies the 22 Texas departments participating in the task analysis.

The Wollack study required that for a seven day period (inclusive) all departmental personnel with patrol responsibilities were asked to participate in the survey. Officers not working directly in the field were not to be included in this study. Explicit instructions were sent to all participating departments in this phase of the study. Officers were asked to complete a questionnaire for each incident in which they were personally involved which resulted in some degree of physical activity on the part of the officer (e.g., climbing, running, lifting, carrying, jumping, pushing, restraining, moving suspects, etc.). Such incidents were not

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[32]Ibid., pp. 10, 11.

TABLE 2.4.--Texas Police Departments Completing the Police Physical Task Questionnaires.

Department	Total Questionnaires	Total Officer Watches
Amarillo	112	450
Beaumont	58	320
Benbrook	7	57
Brownsville	83	120
Bryan	73	107
Deer Park	23	102
Denison	11	113
Denton	10	163
Eagle Pass	6	75
Garland	55	267
Killeen	42	183
McAllen	35	155
Midland	39	193
Odessa	72	169
Pampa	11	88
Paris	7	78
Plano	69	142
Sherman	6	73
Temple	73	184
Texarkana	20	166
Victoria	79	301
Weatherford	14	70
TOTAL	910	3,674

limited to circumstances involving contact with another person. Any physical activity, even if it was considered to be minor, was reported.

Officers were instructed to complete a separate questionnaire for each distinct incident involving a physical activity. So, it was possible that on a given watch an officer might complete several questionnaires, or he might complete none. All completed questionnaires were to be returned to the Station Supervisor or Watch Commander or whoever in the department had responsibility for monitoring this survey. The individual in each department with this responsibility also completed the Physical Task Survey Log on a watch-by-watch basis. The purpose of this log was to provide an accurate count of the number of officers per watch. This number is equal to the total number of patrol officers for whom the overseeing officer has direct supervisory responsibility (minus those who are absent on a particular watch). In this manner, we were able to relate the total number of completed questionnaires (i.e., number of incidents) to the overall number of officer/watches. At the end of the seven day period, all questionnaires and logs were forwarded to the Texas Commission.[33]

Table 2.5 provides an accurate breakdown on the type of police physical tasks measured and the frequency with which they occurred in Texas.

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[33]Ibid., pp. 13, 14.

TABLE 2.5.--Types of Physical Activities Reported by Police Survey Group and Expected Annual Frequency.

Activity (N = 847)	Number	Percent	Expected Annual Frequency Per Officer
Control Suspect	547	67.8	38
Climbing	83	9.3	6
Jumping (down)	56	6.6	4
Jumping (across/over)	29	3.4	2
Running	87	10.3	6
Balancing	20	2.4	1
Crawling	17	2.0	1
Lift/Carry	135	15.9	9
Drag/Pull	56	6.6	4
Pushing	132	15.6	9

Besides the methodology utilized in the Texas study, two concepts of measurement proved to be very useful. These were the frequency of the occurrence and the criticality of the occurrence. These two items, according to Wollack, are the cornerstones upon which valid job selection standards are constructed.

The Wollack Study strongly supports the development of a concise but comprehensive survey questionnaire (probably no more than one page, both sides) which the patrol officer can complete at the end of each tour of duty and/or after each physical task is

completed. Additionally, Wollack felt that it was important to measure the consequences of failure to perform a physical task.

The Wollack Study utilized 22 separate departments, a seven day measurement period and resulted in 3,674 total officer watches completed. The officer was requested to complete a questionnaire for each shift worked whether or not he/she engaged in physical tasks. Additionally, each physical task performed required a separate survey form to be completed. One of the major measurements Wollack was interested in was the ratio of completed questionnaires to officer watches and finally the expected annual frequency/officer for each of the regular types of physical tasks performed by the police officer.

Summary

The focus of this study dealt with three specific research questions which involved measurement of the physical tasks performed by Michigan police officers in their regular duties. To effectively deal with these questions the researcher had to clearly understand: (1) the current need for job validation studies which has been brought about by Federal legislation and administrative policies along with court decisions dealing with employment practices; (2) "The state of the art" of general task inventory studies as they relate to law enforcement positions; and (3) the methodology of task analysis studies being conducted on the physical requirements of the police function.

A comprehensive review of existing literature involving federal regulations and court decisions impacting the area of police hiring was completed with the existing guidelines (including the demonstrated need for valid task analysis studies) stated in this chapter. Next, a careful review of three comprehensive task analysis study methodologies was provided, including Project STAR, The National Manpower Survey, and The Air Force CODAP System. Finally, a review of the existing literature on task analysis studies of the physical requirements of the police position was completed. Information in this rather narrow area was extremely limited, however, a comprehensive study completed for the State of Texas by Wollack & Associates provided a great deal of insight toward the development and implementation of a statewide job task analysis study of the physical requirements of the police position within the State of Michigan.

A good portion of the methodologies discussed in the four major studies examined can be replicated during the development of the Michigan Job Task Analysis Study.

CHAPTER III

RESEARCH METHODOLOGY

The primary research question in this study dealt with identifying the physical requirements of the job of police officer within the State of Michigan. The patrol officer's position is defined as sworn full-time uniformed police personnel who are responsible for all basic police functions which may include enforcement of laws, maintenance of order, prevention of crime and protection of property. This definition includes officers who respond to calls for assistance and who are responsible for observed violations of law. The definition clearly does not include officers assigned to special functions within an organization such as controlled substances, detective division, juvenile division, jail security, etc.

The functions and roles performed by the law enforcement agencies have become as complex as the society in which police officers served. Consequently, it is no longer acceptable to say that everyone knows what a police officer does, for there is such a broad range of activities performed by police officers that were not their responsibility a few years ago. In addition, the law enforcement task has become so complex that different police agencies may in fact be performing different kinds of work activities.

In order to determine the physical requirements of the police job the researcher must measure a representative portion of the patrol officers in Michigan for several day intervals during normal shift assignment.

Population and Sample

During the summer and early fall of 1978 the Michigan Law Enforcement Officers Training Council initiated a survey of every local unit of government (over 1900 villages, townships, municipalities, counties, etc.) within the state. This research was to assist the Council in developing an accurate picture of the police system within Michigan. Through a great deal of persistence Council staff succeeded in receiving replies from 100% of every known governmental unit listed within our state.

Based upon the 1978 survey the Michigan police system is comprised of 608 individual law enforcement agencies representing state, county, township, municipal and other type departments. These agencies range in size from one full-time officer to over 5700 officers sworn in the City of Detroit. In all, there are 22,464 sworn officers within Michigan. In order that adequate representation of all department types be achieved in the sampling process the police system has been stratified into seven department types.

The stratified department types are identified with regard to total officers, approximate percentage of the Michigan police population and sample size to be selected in Table 3.1.

TABLE 3.1.--Stratification of Michigan Police Agencies into Seven Basic Department Types.

Department Type	Total Officers	Approximate % of State Population	Sample Size
I: Michigan State Police	2356	10	200*
II: Detroit Police Dept.	5700	25	260
III: Metropolitan Police Depts. 100-500	3288	15	150
IV. Metropolitan Police Depts. 30-99	3160	14	140
V. Metropolitan Police Depts. 1-29	2957	13	130
VI. Sheriff Departments and Contract Townships	4396	20	200
VII. Non-Traditional Police Agencies	607	3	607*
TOTAL	22,464	100	1580

*Both the Type I and Type VII Departments were purposely over-sampled.

Type I, Michigan State Police, requested a sample of 200 to be taken such that the data generated by the study could be utilized for policy decisions relative to their individual physical training and selection standards.

Type VII, tne non-traditional departments, were surveyed at 100% because the total number of officers represents only 3% of the

total population. Data received upon a 3% survey would not be statistically significant.

Once the seven major department stratifications were developed, departments and personnel were randomly selected from III, IV, V and VI to fill the needed sample size of each department type.

As both Type I and Type II department sizes far exceed the needed sample, a random sample of their total patrol population was selected in the necessary numbers.

The entire 607 patrol officers were surveyed from department Type VII because of the insiginficance of data obtained from a sample of 35 patrol officers.

The final sample consists of the following police departments and numbers of patrol officers (see Table 3.2).

Development of Survey Instrument

Review of available research literature revealed that most job analysis questionnaires which have been used to determine the physical duties and responsibilities of a police officer's job are retrospective in nature, in that they require police officers to describe previous physical incidents. While this survey technique is quite commonplace the procedure gives rise to speculation regarding the reliability of data so generated. One might question whether police officers can remember the specific details of each and every physical incident in which they were involved over a period of several months. Any determination of the frequency of reported physical

TABLE 3.2.--Random Sample Derived from Type I-VII Stratification.

Type	Agency		Desired Officer Sample
I:	Michigan State Police		200
II:	Detroit Police Department		260
III:	Grand Rapids Police Department	Flint Police Department	
	Livonia Police Department	Saginaw Police Department	
	Ann Arbor Police Department	Royal Oak Police Department	
	Dearborn Police Department	Pontiac Police Department	
	Sterling Heights Police Department	Total	150
IV:	Westland Police Department	Sault Ste. Marie Police Department	
	Roseville Police Department	Adrian Police Department	
	Jackson Police Department	Kalamazoo Township	
	Midland Police Department	Wayne State University D.P.S.	
	Marquette Police Department	Total	140
V:	Owosso Police Department	Charlotte Police Department	
	Cadillac Police Department	Buchanan Police Department	
	Woodhaven Police Department	Gaylord Police Department	
	Fenton Police Department	Central Michigan University D.P.S.	
	Ludington Police Department	Buena Vista Township	
	Cheboygan Police Department	Clay Township	
	Ironwood Police Department	Total	130
VI:	Wayne County Sheriff Department	Lapeer County Sheriff Department	
	Macomb County Sheriff Department	Isabella County Sheriff Department	
	Ingham County Sheriff Department	Barry County Sheriff Department	
	Muskegon County Sheriff Department	Alpena County Sheriff Department	
	Calhoun County Sheriff Department	Marquette County Sheriff Department	
	Lenawee County Sheriff Department	Crawford County Sheriff Department	
	Allegan County Sheriff Department	Delta County Sheriff Department	
		Total	200
VII.	Department of Natural Resources		
	Genesee County Park Security		
	Huron Clinton Metropolitan Authority		
	Kalamazoo County Parks & Recreation		
	Camp Dearborn Police Department		
	Lansing Park Security		
	Lansing Capitol City Airport Police		
	Delta County Airport Police		
	Detroit City Airport Police		
	Detroit Metro Airport Police		
	Houghton County Memorial Airport Police		
	Kalamazoo Municipal Airport		
	Kent County Airport		
	Muskegon County Airport		
	Twin Cities Airport		
	Tri County Airport		
	Detroit Toledo Shoreline Railroad		
	Conrail		
	Grand Trunk and Western Railroad		
	Chessie System Railroad		
	Detroit Terminal Railroad		
	Detroit Toledo and Trenton Railroad		
		Total	607

incidents, as well as the circumstances surrounding those incidents, may be subject to errors of recollection. To avoid criticisms of this nature a decision was made to develop a questionnaire which could be administered on a watch-by-watch basis. Naturally, if police officers are to complete questionnaires each and every time a physical incident occurs, such questionnaire must be relatively brief in order to be inobtrusive.[1]

Instrument Validation - Field Test I

During the first three weeks of October, three separate orientation seminars were held by the research team in Lansing, wherein a representative from each of the 67 agencies in the sample attended (see Appendix B). A slide/tape presentation was developed describing the MLEOTC organization, the need for the physical analysis survey, the survey methodology and intended job related selection and training standards.

After the comprehensive orientation process, each of the three groups of police personnel was exposed to a series of 16mm and videotape projected role playing situations involving police officers and the public and some physical activity. After each role playing situation, attending police personnel completed a copy of the survey instrument.

Following the role playing and response situations extensive discussion was held between respondents and the research team

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[1]Wollack & Associates, Development of a Police Officer Physical Performance Examination. Prepared for the Texas Commission on Law Enforcement Officers Standards & Education, 1977, pp. 9-10.

regarding problem areas in the questionnaire. Based upon the results of the workshop the instrument was modified slightly to incorporate suggested changes generated by participating police personnel. One significant problem identified during the workshop sessions was that all judgments regarding physical measurement (height, distance, weight, etc.) was somewhat obscure because respondents viewed them on a screen.

Instrument Validation - Field Test II

In order that the reliability and internal consistency of the survey instrument be measured accurately, an additional role playing experiment was held at Ferris State College on October 24, 1978.

In the second field test, four live role playing scenes involving police officers and typical encounters with various persons "in the street" were acted out under the observation of 77 junior criminal justice students at Ferris State College.

Prior to observing the scenes the experiment director, this author, simulated a police role call briefing where he played the shift commander and the students were line patrol officers. A fifteen minute briefing on the purpose of the form and proper methods of completing them was held. Students were then advised they were to assume the role of a designated officer in each scene and to complete the physical activity form as if they had performed all tasks performed by that officer.

The scenes were then held; two in the classroom simulating indoor events and two outside. At the conclusion of each scene the

students each completed the physical activity form without any discussion with other students. All forms were immediately collected and the next scene commenced. At the end of the evening a general critique of the experiment, the physical activity form and the printed instructions for the form was held. A complete description of all four scenes may be viewed in Appendix C.

Prior to the evening of the experiment several rehearsals of each scene were held in the presence of the experiment director. When the scenes were perfected to the satisfaction of the group participants and the director a master physical activity sheet was completed for each scene. The master sheet was developed with the full cooperation and agreement of all scene participants and the experiment director. This master form then became the correct answer for the computer item analysis process to be run at the completion of the experiment.

An overview matrix was then completed inclusive of all four scenes and the type of physical activities to be covered. Except for crawling, jumping and climbing, all items were covered on the form.

At the completion of the experiment the student response sheets were key punched and processed by an item analysis computer program. The testing office at Ferris State College handled the key punching and computer reports for each of the four scenes.

The results of the experiment and item analysis are exhibited in Table 3.3.

TABLE 3.3.--Descriptive Data from October 24, 1978 Ferris Role Playing Experiment.

SCENE #1:	Reliability Coefficient Corrected odd-even	.81
69 Items --	Success Parameters:	50% were 80% accurate or better 92% were 70% accurate or better
N = 76	Mean = 54/69 = 78%	
SCENE #2:	Reliability Coefficient Corrected odd-even	.82
73 Items --	Success Parameters:	63% were 70% accurate or better 83% were 65% accurate or better
N = 76	Mean = 52/73 = 71%	
SCENE #3:	Reliability Coefficient Corrected odd-even	.72
69 Items --	Success Parameters:	58% were 70% accurate or better 94% were 60% accurate or better
N = 77	Mean = 48/69 = 70%	
SCENE #4:	Reliability Coefficient Corrected odd-even	.70
69 Items --	Success Parameters:	74% were 80% accurate or better 99% were 70% accurate or better
N = 77	Mean = 56/69 = 81%	

*The Spearman Brown Formula was used to obtain the corrected odd-even correlation scores.

**Because of time and budgetary constraints, test-retest and/or additional evaluation techniques were not used in this experiment.

The primary purpose of the Ferris experiment was to test the reliability of the physical activities survey form, i.e., can it be used to accurately measure what we want it to measure? None of the odd-even correlations was lower than .70 which attests to a strong internal consistency of the form.

There was a slight drop in the reliability coefficients between Scenes #1 and #2 and Scenes #3 and #4. In retrospect, we are of the belief that the differences in setting; Scenes #1 and #2 indoors, controlled environment, well lighted and Scenes #3 and #4 outdoors, nighttime, not well lighted and somewhat limited visibility, were directly attributable to this difference.

Also established by the experiment is some evidence that pre-service students are not trained observers. Therefore, things often occurred that were either not recorded or sometimes erroneously recorded on the activity form. It might therefore be inferred that the accuracy would be considerably stronger for practiced observers. In addition, police officers would be reporting on their own behavior rather than on the behavior of others.

Based upon these results and existing revisions scheduled for the survey instrument it was recommended that the instrument was now ready to be used in the field.

Administration of Questionnaire

Based upon the two field tests involving the validity and reliability of the physical activity questionnaire prototype; the

final draft of the Law Enforcement Physical Activities Questionnaire was developed (see Appendix D).

Every effort was made by the research team to provide administrative guidance in the field implementation of the Law Enforcement Physical Activity Questionnaire.

Departmental coordinators (previously discussed) received extensive training in the administration of the survey. Informal materials were distributed to all project coordinators and included in the questionnaire materials. Supplemental instructions and answers to anticipated problems were also handed out. An eight minute slide/tape presentation of the job analysis project was made available to all project coordinators who decided to provide these additional instructions to the police personnel in their departments.

For the purposes of this study two survey periods were selected, one in November-December 1978 and one in April-May 1979.

Within these date ranges, each department participated for a one-week (seven day) time period. These two distinct time periods were selected purposely to take into account any variations of police job tasks because of change of weather, vacation travel, etc. The survey results are, therefore, deemed to be highly representative of the job responsibilities of law enforcement personnel in Michigan.

As indicated earlier, the researcher's purpose in this study was to accurately identify the required physical tasks to be performed by Michigan police officers. To additionally clarify this matter, police officers are defined as sworn, full-time uniformed personnel who are responsible for all basic police functions which may include

enforcement of laws, maintenance of order, prevention of crime and the protection of property. This definition includes officers who respond to calls for assistance and who are responsible for observed violation of the law. This definition clearly does not include officers assigned to special functions within an organization such as controlled substances, detective division, juvenile division, jail security and/or intelligence.

A department roster including each police officer fitting the above description was requested and obtained by the research team. Therefore, when each packet of departmental returns came in an accurate percent figure of actual number of returns vs. expected number of returns could be calculated. This return ratio was deemed important in terms of assessing the level of participation in each department.

Probably the major difficulty with any survey research is to get an accurate and high response rate. This study possesses all of the traditional hazards of survey research plus additional hazards including: voluntary participation, large geographical area, suspicious attitude of many police officers, suspicious police management and labor organizations. Because of the size of the survey population, local department coordinators were chosen to actually administer all of the survey instruments. This decision meant that these coordinators must be both technically competent in the use of the survey instruments and act as adjunct members of the research team in selling the project to <u>all</u> participating incumbents, supervisors and agency heads.

To insure a high and accurate response rate, a selling effort was undertaken and aimed at police management groups, employee labor organizations, local coordinators and incumbents. A slide/tape presentation was developed describing the MLEOTC organization, the need for a job analysis survey, the survey methodology and the intended job related selection and training standards. This slide/tape presentation was used in selling the project to management, labor and local coordinators. Representatives from the research team met with the Michigan Police Chiefs' Association and the Michigan Sheriff's Association. Meetings were also held with each of the numerous labor organizations representing police in the State of Michigan. These meetings were considered particularly critical because police in Michigan are highly organized.

In an effort to gain the cooperation of police incumbents, a small foldout brochure was printed. The brochure was titled, "Select Your Future Parner" (see Appendix E). Special emphasis was placed on eye appeal and package of the brochure to gain the attention of the incumbents.[2]

As indicated earlier, the first survey period was held from November 27-December 3, 1978. In an effort to further clarify the incumbent response in the project, an additional five minute slide/tape presentation was developed which gave step-by-step instructions on how to complete the physical activity questionnaire. Special

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[2]Wollack & Associates, A Job Analysis of Police Physical Skill Requirements, report prepared for the Michigan Law Enforcement Officers Training Council, September 1979, pp. 2-3.

emphasis was made to clarify areas in the questionnaire and instructions which may have been overlooked by some respondents during the first survey period. During this recontact with sample departments every effort was made to define and improve upon the precision and accuracy of the data which the team sought to gather.

On April 6, 1979, prior to the second survey period, another special workshop was conducted for law enforcement agencies in which the response rate was deemed to be below average for the first survey period. Agency project coordinators and the research team discussed the various problems of administration of the survey instrument and emphasized the need for following proper procedures. Several suggestions were made on how agencies could improve upon the quality of the questionnaire data which their officers had prepared. At the conclusion of this meeting, each agency developed proposed solutions on how to increase the number of respondents and quality of returns.

Distribution of Survey Forms

Two weeks prior to each of the two survey periods a package of survey instruments was mailed out to each of the (67) departmental coordinators along with last minute instructions. Wherever practical each department coordinator observed the established seven day period for the survey. Occasionally, because of unique manpower problems within a single department, the survey of that department was taken one or two weeks off schedule.

Prior to the initiation of the seven day period all the patrol officers in each agency to be involved were briefed as to the purpose

of the survey, importance of the data to be collected and the proper method of completing the survey forms. The seven day measurement period was then commenced and forms were collected from personnel working all three shifts, i.e., 8:00 a.m. - 4:00 p.m., 4:00 p.m. - 12:00, 12:00 - 8:00 a.m., and variations of same. At the end of the measurement period all completed forms, along with a departmental roster identifying each patrol officer participating in the study, were forwarded to research team headquarters at MLEOTC in Lansing.

Cumulative data from all responding departments for both survey period #1 and survey period #2 were then keypunched for item analysis by the computer.

Analysis

This research effort dealt with two basic questions relative to police work within Michigan:

1. What are the physical requirements for the position of police officer within the State of Michigan?
2. What, if any, differences exist in these physical requirements among the seven stratifications of department types within this study?

Research questions in this study deal with identifying the physical tasks police officers perform, how often they perform them and if there are differences in types of tasks performed by officers from various types of police departments. All data generated from this research will be analyzed in relation to the number of man-shifts measured, the frequency and percentage of occurrence of each athletic and/or defensive activity and the Expected Annual Frequency (EAF) of each activity. The EAF quotient was chosen after lengthy

discussion with Dr. Stephen Wollack of Wollack & Associates, California, who advised that using EAF quotients, frequency tables and percentage tables will provide the most meaningful description of the data generated in this research.

The EAF quotient has been computed and applied in accordance with the procedures developed by Wollack and Associates and has been used successfully in physical task analysis studies in the states of Texas, Washington and Kentucky.

The concept of criticality of job tasks is vital to the establishment of statewide standards. For the purposes of this study criticality has been defined and measured only as a ratio of the number of physical activities performed which were deemed critical to the total number of physical activities performed during the study. This dissertation is a part of a multi-year comprehensive job-task analysis study being performed by the State of Michigan. A thorough analysis of the criticality of each of the athletic skills and defensive skills reported will be completed in the next phase of the statewide study.

Summary Data Requested (Both Phases I & II Measurements -- Side I of Questionnaire)

- Total number of usable responses
- Total number of activities reported
- Ratio of activities to responses
- Total activities reported as critical
- Average of physical incidents per work shift
- Average activities/person/year worked (based upon a 223 day work year).

Outcome:

- Number of physical activities checked successful
- Number of physical activities with arrest as the outcome
- Number of physical activities resulting in escape of the subject(s)
- Number of physical activities resulting in injury to self/others
- Number of physical activities resulting in loss/damage to property
- Number of physical activities resulting in loss of life

Criticality:

- Number of physical activities identified as being critical
- Number of physical activities that might have resulted in injury to self and others
- Number of physical activities that might have resulted in escape of subject(s)
- Number of physical activities that might have resulted in loss/damage to property

Physical Tasks:

- Running - total times running occurred

Distance as follows:
1 - 24 yards
25 - 49 yards
50 - 74 yards
75 - 99 yards
100+ yards

Obstacles Encountered:

- Number of times in running a fence/wall was encountered
- Number of times in running shrubs encountered
- Number of times in running vehicle encountered
- Number of times in running stairs encountered
- Number of times in running ditch encountered
- Number of times in running other obstacles were encountered

Crawling - total number of times crawling occurred - various distances

Jumping - total number of times jumping occurred - various distances and obstacles encountered. Also if speed was required.

Climbing - total number of times climbing occurred. Also distances, obstacles and if speed was required.

Pushing - total number of times pushing was required. Also distances, weights involved, number of times an officer was assisted and whether speed was required.

Dragging/Pulling - total number of times dragging/pulling occurred. Also distance, weights involved, assistance provided and whether speed was required.

Lifting/Carrying - total number of times lifting/carrying occurred. Also height of the lift, distance of carry, weights involved, number of times the officer was assisted and whether speed was required.

Summary Data Requested from Size #2 of Questionnaire (Incidents Involving Resisting)

- Total number of physical incidents involving arrest
- Total number of males resisting
- Total number of females resisting
- Average height of resisting persons
- Average weight of resisting persons

Type of Resistance

- Number of responses indicating passive resistance
- Number of responses indicating a barricade
- Number of responses indicating pulling away from officer
- Number of responses indicating running away
- Number of responses indicating throwing object(s) at officer
- Number of responses indicating hit/kicked
- Number of responses indicating special tactics used against officer
- Number of responses indicating weapon used against an officer

The second research question dealt with the possibility of differing physical tasks being performed among the stated department stratifications within this study. To accurately answer this question the data were analyzed such that a composite model of "the" police officer's physical requirement was developed. Additionally, a model was developed for each department type within the seven stratifications such that each type of department examined within this study could be compared against the state model.

From the data analyzed the researcher developed a statewide profile of the Michigan police officer.

Statewide profile of Police Officer:

- Average number of physical activities/work shift
- Average number of physical activities/officer/year
- Average number of physical activities/officer identified as critical each year.
- Average number of times officer will run each year
- Average number of times officer will crawl each year
- Average number of times officer will jump each year
- Average number of times officer will climb each year
- Average number of times officer will push each year
- Average number of times officer will drag/pull each year
- Average number of times officer will lift/carry each year
- Average number of times resistance is encountered by officer each year.

In addition to the above statewide profile data, the same profile was identified for each department Type I-VII. Final examination of these data will allow a great deal of comparative analysis among departmental types to be accomplished.

Summary

The researcher's purpose in this study was to determine the physical requirements of the patrol officer position within Michigan. For this study patrol officer is defined as sworn full-time uniformed police personnel who are responsible for all basic police functions which may include enforcement of laws, maintenance of order, prevention of crime and protection of property. This definition includes officers who respond to calls for assistance and who are responsible for observed violations of the law. This definition clearly does not include officers assigned to special functions within an organization such as controlled substances, detective division, juvenile division, jail security, intelligence and/or administration.

In order to obtain a stratified random sample, the Michigan population (608 individual departments with 22,464 personnel), was stratified into seven distinct department types and a proportionate random sample was drawn from each department type. Police personnel participating in the sample completed a survey instrument at the end of each shift worked for two separate 7-day periods. All data from both survey periods was analyzed and a statewide composite of the physical requirements of a Michigan police officer was developed via an item analysis computer program. Additionally, a composite model or profile was developed for each of the seven department types.

The study design is basically descriptive in nature and directly addresses the two research questions stated earlier in this chapter.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The data pertinent to the two research questions enumerated in Chapter III are presented in Chapter IV.

The presentation of the data in Chapter IV follows a format of: (1) brief review of the data collection procedures; (2) statement of each research question, (3) following the statement of each research question, presentation and interpretation of the applicable data, (4) following the presentation of all applicable data, a summary section with commentary regarding an overview of data presented.

Highlights of Data Collection Procedures

The complexity of the two research questions and the magnitude of this project literally demanded an extraordinary effort in the administration of the Law Enforcement Physical Activity Questionnaire and in the collection and analysis of the final data.

Every effort was made to provide administrative guidance in the field implementation of the Law Enforcement Physical Activity Questionnaires. Each departmental project coordinator received extensive training in the administrative aspects of the survey, as previously indicated. Informational materials were distributed to all project coordinators and included the questionnaire materials,

supplemental instructions and answers to anticipated problems. An eight minute slide/tape presentation of the job analysis project was made available to all project coordinators who desired to provide the project background to the police personnel in their departments. The survey was initiated during the last week in November, 1978. Following this, in January, 1979, an additional five minute slide/tape presentation was developed which gave step-by-step instructions on how to complete the physical activity questionnaire. Special emphasis was made to clarify areas in the questionnaire and instructions which may have been overlooked by some respondents during the first survey period.

The research team took many steps to promote a high rate of participation by police departments in this job analysis study. As previously indicated, the questionnaire format, i.e., diary method, places a substantial burden upon the manpower requirements of a police department. Resources in police departments are increasingly diminishing, so the cooperation and support of the departments working with us in this survey was by no means assured. Because participation was voluntary, and further, because of traditional suspicions among police management and labor organizations, an extraordinary promotional effort was necessary. A promotional effort was undertaken and directed at police management groups, employee labor organizations, and local project coordinators and incumbent officers. A slide/tape presentation was developed describing the MLEOTC organization, the need for a job analysis survey, the survey methodology, and the intended job-related selection and training objectives.

This slide/tape presentation assisted greatly in promoting the project to management, labor, and local coordinators. Representatives from the MLEOTC met with the Michigan Association of Chiefs of Police and the Michigan Sheriffs Association. Meetings were also held with each of the eleven major employee organizations representing police in the State. These meetings were considered particularly critical because police in Michigan are highly organized. Also, in an effort to gain the cooperation of the incumbent officers, a small fold-out brochure was printed. The brochure was titled "Select Your Future Partner." On the inside, the need for the project was explained and participation and support by incumbent officers was promoted.

The two 7-day survey periods were conducted within each department. The dates below describe these survey periods:

November-December, 1978

April-May, 1979

Within these date ranges, each department participated for a one-week (7 days) time period. The two survey periods were distributed during winter and non-winter months to provide ample opportunity to take account of possible variations in a police officer's job responsibilities attributable to such factors as weather, the school year, vacation travel, etc. Accordingly, the survey periods encompass various time and weather conditions which span a broad range of circumstances. The survey results are, therefore, deemed to be highly representative of the job responsibilities of law enforcement personnel.

Two important indices of survey effectiveness are that of response rate and participation rate. The term "response rate" is defined as the ratio of the number of questionnaires completed by a department to the number of expected questionnaires for that department. The term "participation rate" refers to the number of patrol officers and other non-traditional law enforcement officers who participated in the survey as compared with the total number of patrol officers within each department. Simply put, participation rate refers to the number of officers who participated in a particular survey period for a given department in relation to the total number which might have participated. Table 4.1 summarizes both measures of survey effectiveness.

TABLE 4.1.--Analysis of Survey Effectiveness

Survey Period	Number of Departments	Number of Officers	Participation Rate	Response Rate
First	64	1,952	.90	.97
Second	56	1,971	.84	.92

During the first survey period, 64 departments participated for a total of 1,952 officers. The participation rate for the first survey period was 90%, while the response rate for that period was 97%. During the second survey period, 56 departments participated for a total of 1,971 officers. The participation rate was 84% and

and the response rate was 92% for that period. These data speak for themselves. There can be little question but that the survey results reveal a high level of effectiveness, a finding which is quite extraordinary in view of the very large number of officers participating.

Data Refinements

Two significant data manipulation refinements were made in the research methodology. First, the sample as described in Chapter III was a stratified random sample consisting of seven major department types. As noted earlier, department Type VII (non-traditional police agencies) represented only 3% of the total police population in Michigan. A decision was therefore made to sample 100% of department Type VII police agencies in order to insure an accurate description of physical activities performed within them. Additionally, it was decided not to include this 100% sample data in the statewide composite to be developed because it could easily distort the final data. (This decision was made because of preliminary information existing which showed a significant difference in job tasks between members of department Types I through VI and department Type VII agencies.) For comparison purposes a summary of the physical activities performed by department Type VII agencies is compared with the statewide composite and with all other agency types.

The second methodology refinement was made in the data collection process. Originally, the sample called for a specified number of officers to be randomly sampled from each agency selected

for the sample. However, operational constraints within the departments chosen and the strong opposition of some labor unions precluded this approach. The necessitated compromise in this situation was to attempt to sample 100% of all police officers working in each department in the sample during the two 7-day survey periods. The total data collected, therefore, might not be mathematically proportionate as originally desired, however, the magnitude of the data received, along with the stratification by department types, and random selection of departments selected assure the representativeness of the final data.

Research Question I

Research Question I is: What are the identifiable physical requirements of the job of police officers in Michigan?

Table 4.2 provides summary data pertaining to the frequency of the physical incidents reported.

TABLE 4.2.--Summary Data: Frequency of Physical Incidents.

	Department Type I-VI	Department Type I-VII
Total number of usable responses	10,212	14,682
Total number of incidents reported	1,872	2,942
Ratio of incidents to responses	0.1833	0.2003
Ratio of incidents to workshifts	1:5.46	1:4.99
Average incidents/officer/year	40.99	44.8

A total of 14,682 usable questionnaires were derived from the two survey periods combined. Of this number, 2,942 incidents were recorded in which physical skills by the police officer were required. The remaining questionnaires were marked as "no activity" in section 1 of the survey instrument to indicate that no significant activity had occurred for a particular officer during a particular shift. In some cases, the responding officer indicated that a physical activity had occurred, but failed to provide details of that activity. A conservative measure was taken to protect the integrity of the data. In such cases, the questionnaires were re-coded as "no activity." This measure was taken to safeguard against obtaining an inflated estimate of the number of incidents requiring physical skills on the part of the officer. To be counted as a physical incident, the questionnaire must have contained documentary evidence of the nature of the physical activity undertaken. The number of physical incidents thus recorded is considered to be a conservative and believable estimate for the above-stated reason.

For comparison purposes, Table 4.2 shows the difference in physical activities portrayed when Type VII departments are included in composite data. Of particular significance is the change of ratio of physical incidents to work shifts (1:4.99 in department Types I-VII as compared to 1:5.46 in department Types I-VI) and the change in average incidents per officer per year (44.8 in department Types I-VII as compared to 40.99 in department Types I-VI). Based upon this information and the significant distortional impact of

department Type VII data, the following composite data will be derived from department Types I-VI only unless otherwise stated.

Table 4.2 shows that the ratio of physical incidents to total responses is 0.1833. This figure translates into a ratio of one physical incident per 5.46 workshifts per officer. In other words, an officer can expect to participate in an incident requiring a significant level of physical skills once every 5.46 shifts.

The number of physical incidents was related to the total number of officer/watches 10,212 for the purpose of computing the frequency rate. There were 1,872 physical incidents recorded, as indicated, which is 18.33% of the total number of officer/watches (10,212). Therefore, the rate of occurrence is 18.33% or, more precisely, .1833 per officer/watch. By multiplying this rate times the number of officer/watches per year, one may compute an expected annual frequency per officer for incidents requiring physical skills. The MLEOTC staff provided data based upon their own analysis which indicate that an officer works an average of 223.6 days per year. By multiplying the ratio of physical incidents to total responses .1833 times the total number of days worked per year (223.6), one can determine the expected number of times an officer should be involved in incidents requiring physical skills on an annual basis. The expected annual frequency (EAF) for physical incidents is 40.99 incidents per officer per year. The survey data reveal that a patrol officer can expect to encounter an incident involving physical skills once approximately every fifth shift, for a total of approximately 41 times annually.

After measuring the frequency of occurrence of physical activities it was felt necessary to measure the outcome or results of these incidents and concurrently the number of times the officers considered the performance of a physical task critical.

A physical activity was considered critical in this study if one of the following three criteria were present:

1. failure to successfully complete the activity might have resulted in the death/injury of the officer and/or other persons;
2. failure to successfully complete the activity might have resulted in the escape of a subject; or
3. failure to successfully complete the activity might have resulted in loss/damage to property.

Table 4.3 summarizes the final outcome of the physical incidents measured.

TABLE 4.3.--Outcome of Physical Incidents.

Outcome	Number	Percent	EAF Expected Annual Frequency
Successful Outcome	1,302	70	28.69
Arrest Made	525	28	11.48
Someone Injured	69	4	1.64
Property Lost/Damaged	56	3	1.23
Escape of Subject	42	2	.82
Loss of Life	20	1	.41

During the survey period a total of 1,302 physical activities out of 1,872 reported were recorded as successful outcome. This figure indicates that 70% of the physical activities engaged in by a police officer were completed successfully. A total of 525, or 28% of the physical activities resulted in an arrest of a subject. The escape of a subject was noted to have occurred 42 times of 2% of the time a physical activity occurred. The number of physical activities resulting in injury to an officer or other persons was 69 or 4% of the time a physical activity occurred. The number of physical activities which resulted in loss or damage to property was 56 or 3% of the time physical activity occurred. The number of physical activities resulting in loss of life (officers or others) was 20 or 1% of the time physical activities occurred. In each of the above cases the expected annual frequency per officer for each of the possible outcomes is also given.

Federal guideline requirements in the area of employment testing, as well as common sense, dictate that special attention be paid to those job activities which are of a high criticality level. This survey sought to distinguish the physical incidents reported on the basis of their criticality. Those activities of a physical nature which are characteristically deemed to be most critical would certainly have important implications for both employment testing as well as training curriculum development. While the frequency of a job activity is certainly an important bit of information, the criticality of that activity would seem to be of yet greater significance. For example, if analyses were predicated primarily on the

basis of task frequency, it could be argued that police officers need not be proficient in the use of their weapons, because such weapons are used infrequently. However, hardly anyone would agree with this conclusion, as it is commonly recognized that the use of a weapon would be confined to important life-death situations. This illustration shows that the criticality of a job task is of greater logical significance than its frequency. On the other hand, what is the importance of a job duty which is frequent but inconsequential? For the purpose of this research study, an incident was regarded as critical based upon the probable consequences of a failure to perform the task in a competent manner. Responding officers were asked to evaluate the probable consequences if a patrol officer was unable to perform the activity. Three categories of criticality were identified in the questionnaire: (1) injury to self/others; (2) escape of subject(s); and (3) loss/damage to property. Table 4.4 indicates the percentage of physical incidents which were described as potentially critical in one or more of the three areas of risk identified.

Approximately two-thirds or 65% of the responses indicated that the outcome of the physical activity was potentially critical. A Michigan police officer will engage in a potentially critical physical activity 26.64 times/year. The highest occurrence of critical type incidents involved physical activities which involve potential injury to the police officer. The survey showed that this situation will occur 40% of the time physical activities are engaged in or 16.4 times per year.

TABLE 4.4.--Criticality of Physical Incidents.

Potential Consequences	Number	Percent	EAF
Total Incidents Indicated Critical	1,222	65	26.64
Injury Risk	754	40	16.40
Loss/Damage to Property	591	32	13.12
Escape of Subject	519	28	11.48

Incidents Involving Athletic Skills

For the purpose of analysis, the questionnaire was divided roughly into two broad categories measuring physical activities, that is those activities involving athletic skills and those activities involving defensive skills. First, the physical activities which involve athletic skills are examined. Table 4.5 summarizes those activities.

Table 4.5 describes the various types of physical activities which were identified in the survey and their associated frequency. The term "activity" should be distinguished from the term "incidents." The latter term refers to a more comprehensive situation or occurrence. For example, the pursuit and apprehension of a subject would constitute an incident. A questionnaire form was to be completed for each such incident. However, a physical activity might consist of such diverse events as running, climbing, pushing, jumping, etc. In other words, a physical incident would be comprised of one, or more, types

TABLE 4.5.--Description of Athletic Skills Performed.

Type of Activity	Number	Percent	EAF
Lifting/Carrying	632	34	13.94
Pushing	616	33	13.53
Dragging/Pulling	444	24	9.84
Running	420	22	9.02
Climbing	314	17	6.97
Jumping	187	10	4.10
Crawling	75	4	1.64

of activities. Table 4.5 lists all of the physical activities which were identified in order of their frequency. An inspection of this table will show that the activity of lifting/carrying was recorded 632 times and was associated with 34% of the physical incidents which occurred. The expected annual frequency of this lifting/carrying activity was 13.94 times per officer. The physical activities in descending order of frequency are interpretable directly from Table 4.5. In order to understand better the specific nature of these physical demands, the reminder of this portion of the job analysis research will be devoted to a detailed description of these required athletic skills.

Activities Involving Lifting/Carrying

Table 4.6 describes the various aspects of lifting/carrying physical activities performed by officers.

TABLE 4.6.--Lifting/Carrying Objects (N = 632 Activities).

Dimensions	Number	Percent	EAF
I. Height of Lift:			
1 foot	72	11	1.53
2 feet	107	17	2.37
3 feet	276	44	6.13
4 feet	99	16	2.23
5 feet	39	6	.84
Unspecified	39	6	.84
	632	100	13.94
II. Distance of Carry			
1-19 feet	310	49	6.83
20-39 feet	74	12	1.67
40-59 feet	62	10	1.39
60-79 feet	21	3	0.42
80+ feet	79	13	1.81
Unspecified	86	14	1.95
	632	101*	14.07*
III. Weight in Pounds			
25-49 lbs.	148	23	3.21
50-99 lbs.	73	12	1.67
100-149 lbs.	103	16	2.23
150-199 lbs.	193	31	4.32
200+ lbs.	100	16	2.23
Unspecified	15	2	0.28
	632	100	13.94
IV. Circumstances			
Number of times person lifted/carried	344	54	7.53
Number of times officer was assisted	381	60	8.36
Number of times speed was required	143	23	3.20

*Rounding error

Table 4.6 describes the physical activity of lifting/carrying in three basic dimensions, i.e., the height of lift, distance of carry and weight in pounds. Part I of 4.6, for instance, shows that 276 instances out of 632 an object was lifted by police officer(s) a distance of 3 feet. This number amounted to 44 percent of the times an object was lifted/carried and an officer can expect to lift an object 3 feet 6.13 times a year. Part II of Table 4.6 describes the parameters of the distances of carrying an object. In 310 instances out of 632 an officer carried an object a distance of between 1 and 19 feet. This represents 49% of the time an officer will physically carry an object and the EAF is 6.83 times a year for the average police officer. Part III of Table 4.6 describes the weight in pounds lifted by police officers. In 193 activities a police officer lifted and/or carried an object weighing between 150 and 199 pounds. This represents 31% of the objects lifted and the EAF expected annual frequency is 4.32 times a year for the average police officer.

Part IV of Table 4.6 identifies that in 344 times out of 632 (54% of the time) the object carried by police officers is a person. A police officer can expect to lift and/or carry a person 7.53 times a year. Additionally, the officer will be assisted in lifting/carrying 381 times out of 632 or 60% of the time.

Activities Involving Pushing

A total of 616 activities were recorded in which the officer was required to push an object. Table 4.7 provides a breakdown of

TABLE 4.7.--Pushing (N = 616 Activities).

Dimensions	Number	Percent	EAF
I. Distance Moved			
1-19 feet	365	59	7.98
20-39 feet	115	19	2.57
40-59 feet	47	8	1.08
60-79 feet	18	3	0.41
80+ feet	42	7	0.95
Unspecified	29	5	0.68
	616	101*	13.67*
II. Weight of Object Moved			
25- 49 lbs.	16	3	0.41
50- 99 lbs.	12	2	0.27
100-149 lbs.	67	11	1.49
150-199 lbs.	107	17	2.30
200- lbs.	388	63	8.52
Unspecified	26	4	0.54
	616	100	13.53
III. Type of Object			
Vehicle	375	61	8.25
Other	341	39	5.28
	616	100	13.53
IV. Circumstances			
Officer Assisted	453	74	10.01
Speed Required	141	23	3.11

*Rounding Error

the distance the object was moved, the type of object, the weight of the object and the circumstances surrounding the associated activities.

In 365 out of 616 activities (59%) an object was pushed between 1-19 feet. The expected annual frequency for pushing an object between 1-19 feet is 7.98. In 388 out of 616 activities (63%)

the object pushed was 200+ lbs. in weight. The expected annual frequency of pushing a vehicle is 8.25. In 453 pushing activities (74%) an officer was assisted in pushing an object. Finally, in 141 pushing activities (23% the police officer was required to use speed.

Activities Involving Dragging/Pulling

Table 4.8 describes the activities involving dragging and/or pulling by a police officer in the two basic dimensions of distance moved and weight of the object moved.

There were 444 activities in which the officer was required to drag and/or pull an object or a person. Part I of Table 4.8 shows that an officer dragged and/or pulled an object 1-19 feet a total of 289 times of 65% of the time objects were dragged/pulled. The EAF is 6.4. In Part II we see that an officer dragged/pulled an object between 150-199 pounds a total of 190 times or 43% of the time this activity occurred. The EAF in this instance would be 4.23.

Part III of Table 4.8 identifies that in 315 times out of 444 (71% of the time) the object dragged and/or pulled by the police officer was a person. A police officer can expect to drag and/or pull a person on the average of about 6.99 times per year. Additionally, the officer was assisted in the dragging/pulling activities 293 out of 444 or 66% of the time. Speed was a requirement in 29% of the times an object was dragged/pulled.

TABLE 4.8.--Dragging/Pulling Objects (N = 444 Activities)

Dimensions	Number	Percent	EAF
I. Distance Moved			
1-19 feet	289	65	6.40
20-39 feet	53	12	1.18
40-59 feet	29	7	0.69
60-79 feet	14	3	0.30
80+ feet	44	10	0.98
Unspecified	15	3	0.30
	444	100	9.85*
II. Weight in Pounds			
25- 49 lbs.	34	8	0.79
50- 99 lbs.	23	5	0.49
100-149 lbs.	113	25	2.46
150-199 lbs	190	43	4.23
200+ lbs.	60	14	1.38
Specified	24	5	0.49
	444	100	9.84
III. Circumstances			
Number of times person was dragged/pulled	315	71	6.99
Number of times officer was assisted	293	66	6.49
Number of times speed was required	127	29	2.85

*Rounding error.

Activities Involving Running

The 420 activities in which the officer was required to run are summarized in Table 4.9.

Part I of Table 4.9 shows that a police officer ran a distance of between 1-24 yards a total of 182 or 43% of the times the activity of running occurred. The EAF for an officer to run a

TABLE 4.9.--Running (N = 420 Activities).

Dimensions	Number	Percent	EAF
I. Distances			
1-24 yards	182	43	3.88
25-49 yards	73	17	1.53
50-74 yards	39	9	0.81
75-99 yards	24	6	0.54
100+ yards	80	19	1.71
Unspecified	22	5	0.45
	420	99	8.92*
II. Obstacles Encountered			
Fence/wall encountered	87	18	1.62
Shrubs	90	19	1.71
Vehicle	69	14	1.26
Stairs	60	13	1.17
Ditch	73	15	1.35
Other Obstacles	97	20	1.80
	476	99*	8.91*

*Rounding error

distance of between 1-24 yards is 3.88. Part II of the table identified the type of obstacles encountered while running. In 87 or 18% of the running activities a fence and/or a wall was encountered. A police officer can expect to encounter a fence/wall while running an average of 1.62 times per year.

Activities Involving Climbing

Another relatively frequent activity performed by police officers in the performance of their cuty is that of climbing. There were 314 activities of this nature recorded. Table 4.10 provides a description of the types of objects which are most often climbed by officers.

TABLE 4.10.--Climbing (N = 314 Activities).

Dimensions	Number	Percent	EAF
I. Object Climbed			
Fence/wall	113	34	2.37
Stairs	97	29	2.02
Embankments	55	17	1.18
Ditches	38	12	0.84
Ladders	27	8	0.56
	330	100	6.97
II. Barrier Size (mean			
Fence/wall	7.12 feet		
Stairs	2.10 flights		
Embankments	25.82 feet		
Ditches	5.68 feet		
Ladders	14.48 feet		
III. Circumstances			
Speed Required	103	33	2.30

Part I of Table 4.10 identifies that fences and/or walls are the objects most frequently climbed with 113 activities out of 314 or 34% of the total. A police officer can expect to climb a fence and/or a wall an average of 2.37 times a year in the normal performance of his duties. When the activity of climbing a fence/wall is combined with stairs, it accounts for 63% of the objects climbed a year. Part II of this table identifies the mean size of each barrier regularly encountered. For instance, it is noted that the average flights of stairs an officer will climb is 2.10. Speed was required 33% of the time climbing occurred.

Activities Involving Jumping

There were 187 activities in which the officer was required to jump over, across, or down some object. Table 4.11 provides an accurate picture of the distances jumped and types of obstacles encountered.

TABLE 4.11.--Jumping (N = 187 Activities).

Dimensions	Number	Percent	EAF
I. Distance			
1- 3 feet	71	38	1.56
4- 6 feet	81	43	1.76
7- 9 feet	11	6	0.25
10-12 feet	9	5	0.21
13+ feet	1	0.5	**
Unspecified	14	7	0.29
	187	99.5*	4.07*
II. Obstacles Encountered			
Fence/Wall	73	35	1.44
Ditch	65	31	1.27
Shrubs	30	14	0.57
Other	42	20	0.82
	210	100	4.10
III. Circumstances			
Speed Required	107	57	2.34

*Rounding Error

**Data Base too small for analysis

During the course of jumping, the obstacles typically encountered involved ditches, fences, walls, and shrubs. By combining the 1-3 feet and 4 to 6 feet distances jumped we account for 81% of

the incidents where an officer would jump each year. The EAF of a police officer jumping a distance between 1 to 6 feet is 3.32. Speed was required in 57% of the incidents involving jumping by a police officer.

Activities Involving Crawling

Of the activities requiring athletic skills, the activity of crawling was shown by the survey to be the least frequent. A total of 75 activities of this nature were identified. Table 4.12 provides an accurate picture of the distances crawled.

TABLE 4.12.--Crawling (N = 75 Activities).

Dimensions	Number	Percent	EAF
I. Distance Traveled			
1- 3 feet	37	49	0.80
4- 6 feet	9	12	0.15
7- 9 feet	1	1	**
10-12 feet	10	13	0.21
13* Feet	6	8	0.13
Unspecified	12	16	0.26
	75	99*	1.55*
II. Circumstances			
Speed Required	21	28	0.46

*Rounding error.

**Data base too small for analysis.

By combining the 1 to 3 feet and 4 to 6 feet distances we account for 61% of the times an officer would be expected to crawl in a year. This combined total has an EAF of 0.95 and speed was required in 28% of the activities involving crawling.

Incidents Involving Defensive Skills

For the purpose of analysis in this research effort, physical incidents were divided into two major categories; those involving purely athletic skills and those incidents requiring the application of defensive skills. Table 4.13 provides a clear description of subjects offering resistance who were encountered by the average police officer.

TABLE 4.13.--Description of Subjects Who Resisted (N = 425 Incidents).

Characteristics	Number	Percent	EAF
I. Sex of Subjects			
Males	499	85	9.76
Females	85	15	1.72
	584	100	11.48
II. Subject's Height			
Mean =	5'9"		
S.D. =	3'6"		
III. Subject's Weight			
Mean =	165.66 lbs.		
S.D. =	31.9 lbs.		

Of the physical incidents recorded, 425 (28%) involved subjects who offered some form of resistance. In 85% of the situations, the subject offering resistance was a male. The EAF of a police officer encountering a resisting male subject is 9.76 times per year. Female subjects who offered resistance accounted for only 15% of the situations measured. The average height of the individual offering any form of resistance was 5'9" with a standard deviation of 3'6". The average weight of the resisting subject was 165.66 pounds with a standard deviation of 31.9 pounds.

Another factor important in the analysis of incidents involving resistance is the type of resistance encountered. Table 4.14 provides an accurate description of the types of resistance encountered during this study.

TABLE 4.14.--Type of Resistance Encountered (N = 524 Incidents).

Types of Resistance	Number	Percent	EAF
Pulled away	282	30	3.44
Wrestled	265	28	3.21
Passive resistance	137	14	1.61
Hit/Kicked	135	14	1.61
Ran away	92	10	1.15
Weapon	27	3	0.34
Threw Object	9	1	0.11
Barricade	5	1	0.11
Special tactics	3	**	**
	955	101	11.58*

*Rounding error.

**Data base too small for analysis.

The majority of the time resistance was encountered by a police officer, the subject either pulled away or wrestled. This occurred in 58% of the incidents and the expected annual frequency of these types of resistance for the average police officer is 6.65. Twenty-seven incidents were recorded in which the officer confronted a subject with a weapon. The expected annual frequency of this encounter is 0.34 times per officer per year. In other words, an officer, on the average, can expect to face an armed subject once every three years in the line of duty.

Research Question II

Research Question II is: Does the difference in type of agency, i.e., Michigan State Police vs. Oakland County Sheriff's Department, affect the type of physical tasks performed by police officers? Table 4.15 provides an overview of the similarities and differences among the seven department types in expected annual frequency of physical activities. Type VII departments are shown for comparative analysis.

The purpose of Table 4.15 (comparison by department type EAF) is to determine whether meaningful differences exist among the seven department types with respect to required physical activities. The interpretation of this table is fairly straightforward.

Figures 4.1 through 4.7 highlight major differences in physical activities by department type.

TABLE 4.15.--Comparisons by Department Type (EAF)

Department Type	Question-naires	P.A.'s Measured	P.A.'s Workshift	P.A.'s Officer/ Year	Critical Incidents/ Year	Running (EAF)	Crawling (EAF)	Jumping (EAF)	Climbing (EAF)	Pushing (EAF)	Dragging/ Pulling (EAF)	Lifting/ Carrying (EAF)	Resistance Encountered
I. State Police	1,482	246	.166	37.12	20.67	6.06	1.06	3.02	4.98	15.99	8.45	14.18	5.13
II. Detroit	2,108	255	.121	27.05	19.84	8.23	1.49	3.39	4.24	7.11	7.74	5.41	13.37
III. Metropolitan Departments (100-500)	2,006	512	.255	57.07	41.91	14.38	1.89	5.91	10.91	15.49	13.93	21.62	19.51
IV. Metropolitan Departments (30-99)	1,488	268	.180	40.27	28.10	8.42	3.16	3.16	6.31	12.62	10.67	13.07	12.77
V. Metropolitan Departments (1-29)	1,085	231	.214	47.61	30.09	7.21	1.24	2.68	5.77	16.28	10.51	17.72	10.30
VI. Sheriff & Contract Departments	2,043	360	.176	39.40	20.69	8.97	1.09	5.25	7.99	15.43	7.44	13.13	5.91
VII. Non-traditional Departments	2,913	847	.290	65.02	36.69	12.51	3.91	12.43	25.18	8.75	17.50	24.26	2.69
Statewide Composite (Departments I-VI)	10,212	1,872	.1833	40.99	26.76	9.20	1.64	4.09	6.88	13.49	9.72	13.34	11.47

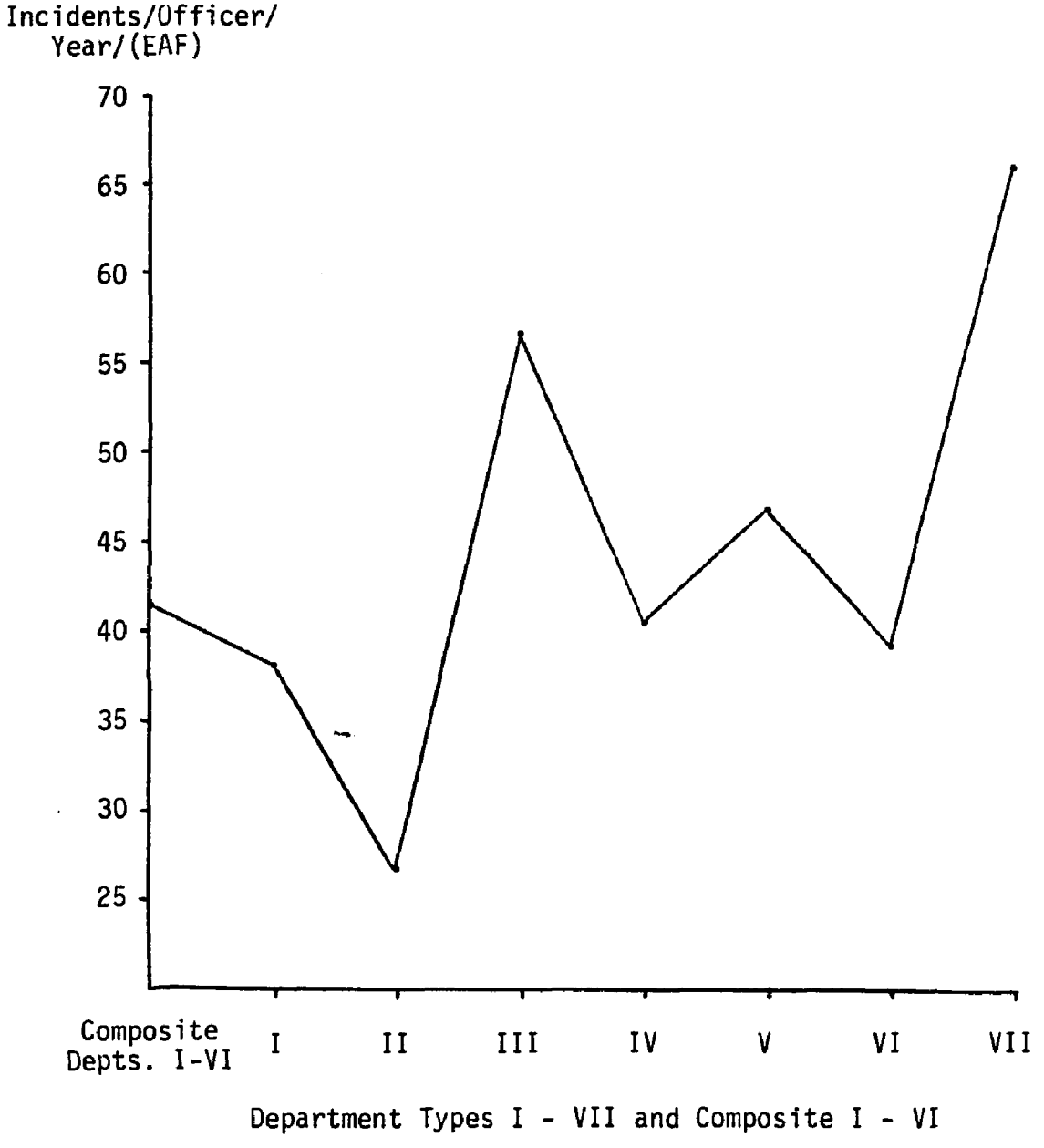

Figure 4.1.--Physical Activities Encountered/Officer/Year. (EAF) by department type

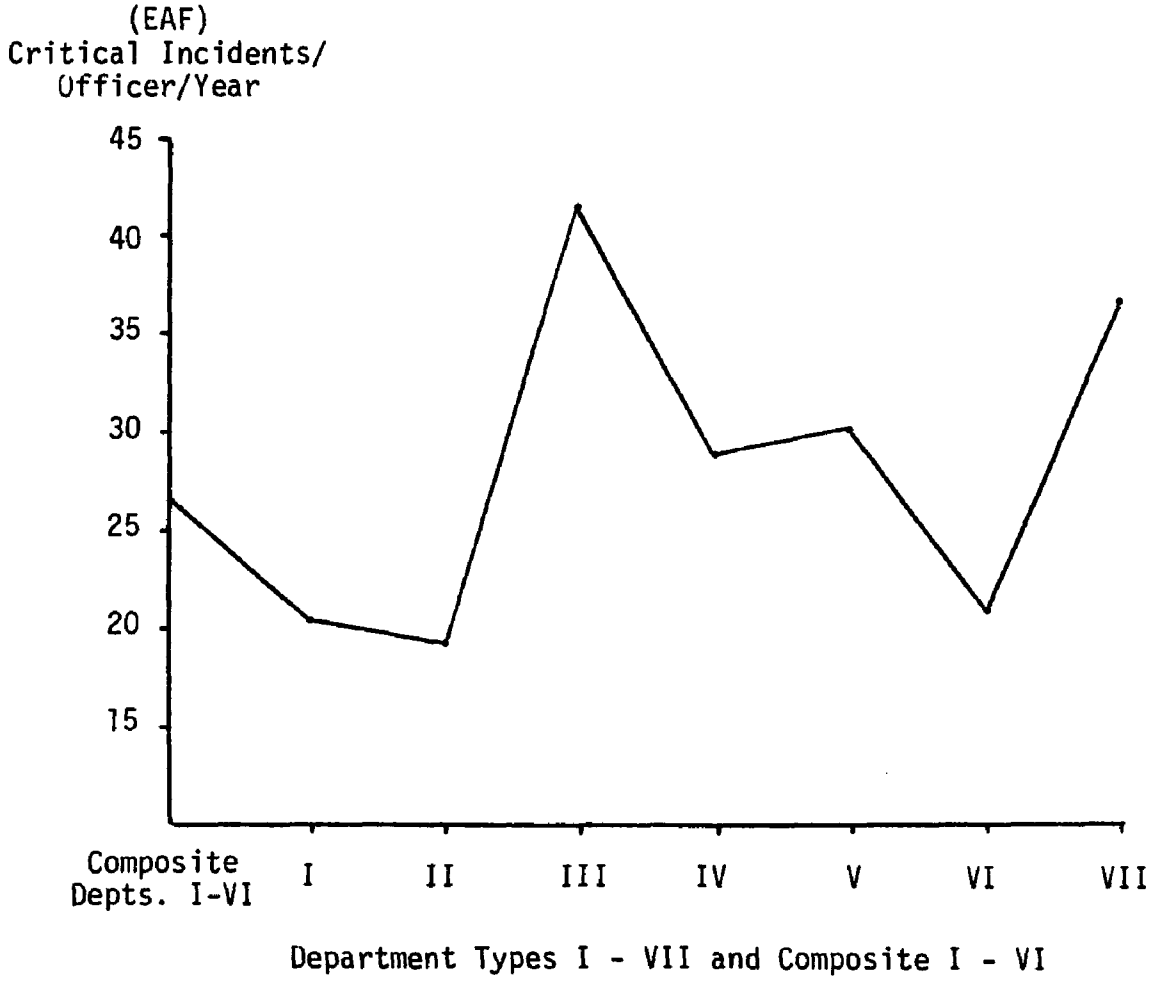

Figure 4.2.--Critical Physical Incidents Encountered/Officer/Year. (EAF) by department type

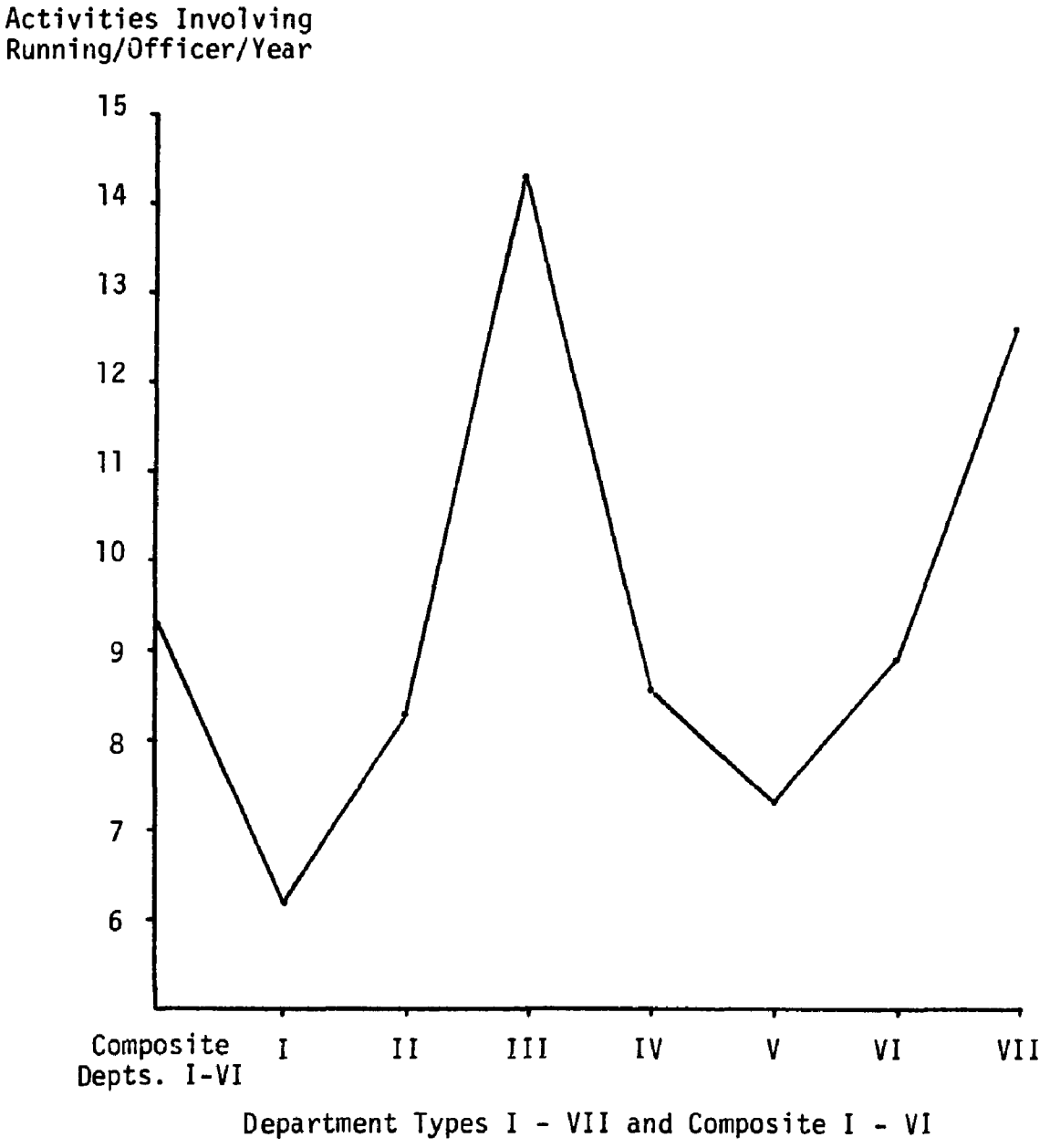

Figure 4.3.--Physical Activities Involving Running Encountered/Officer/Year. (EAF) by department type

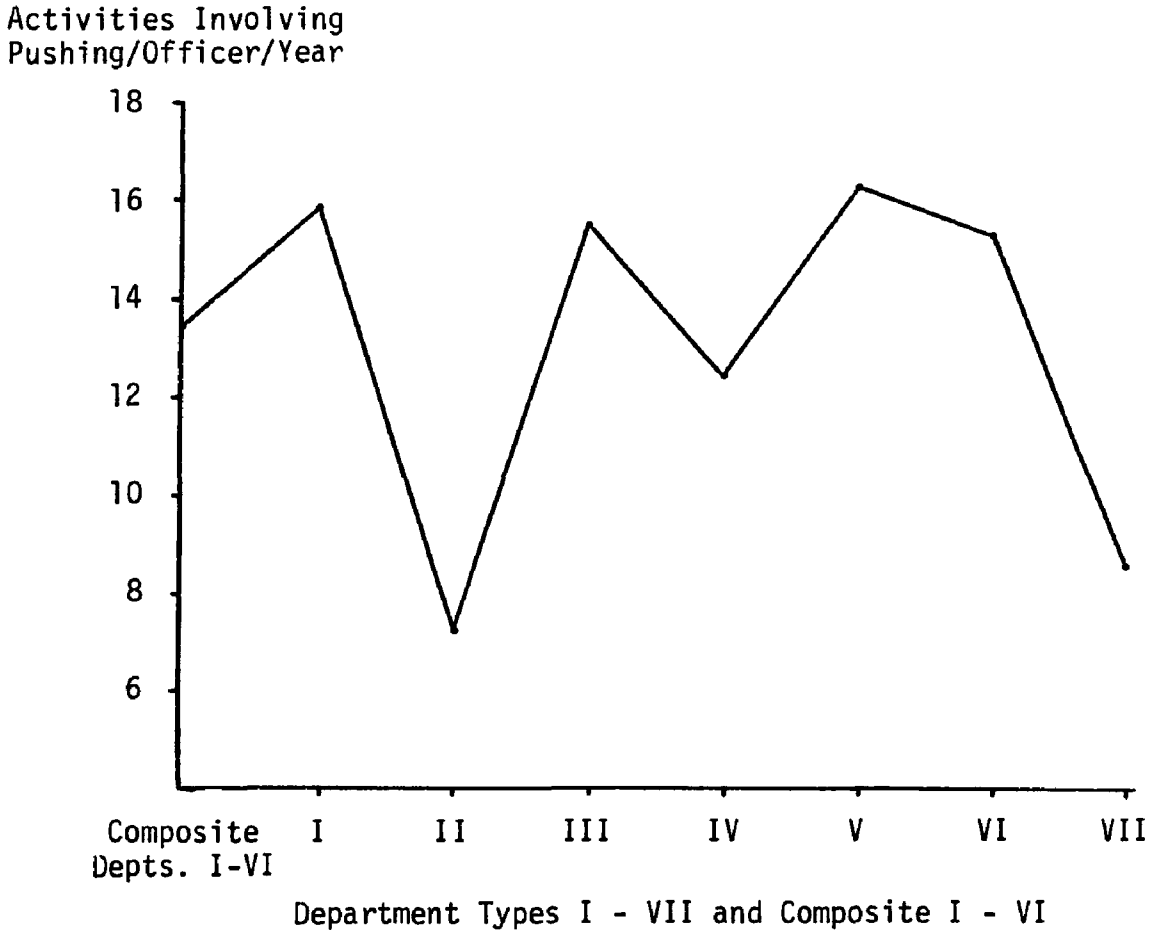

Figure 4.4.--Physical Activities Involving Pushing Encountered/Officer/Year. (EAF) by department type

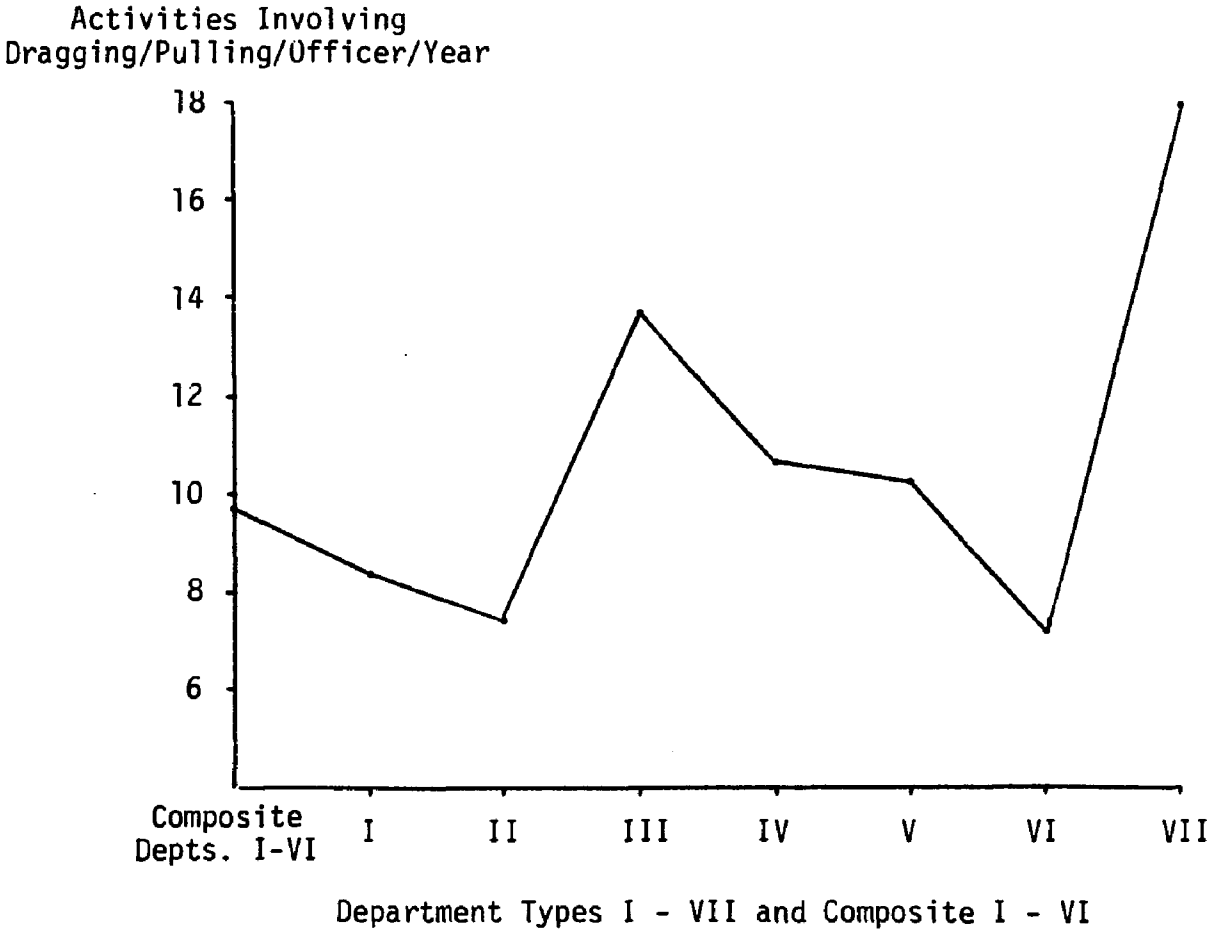

Figure 4.5.--Physical Activities Involving Dragging/Pulling Encountered/ Officer/Year. (EAF) by department type

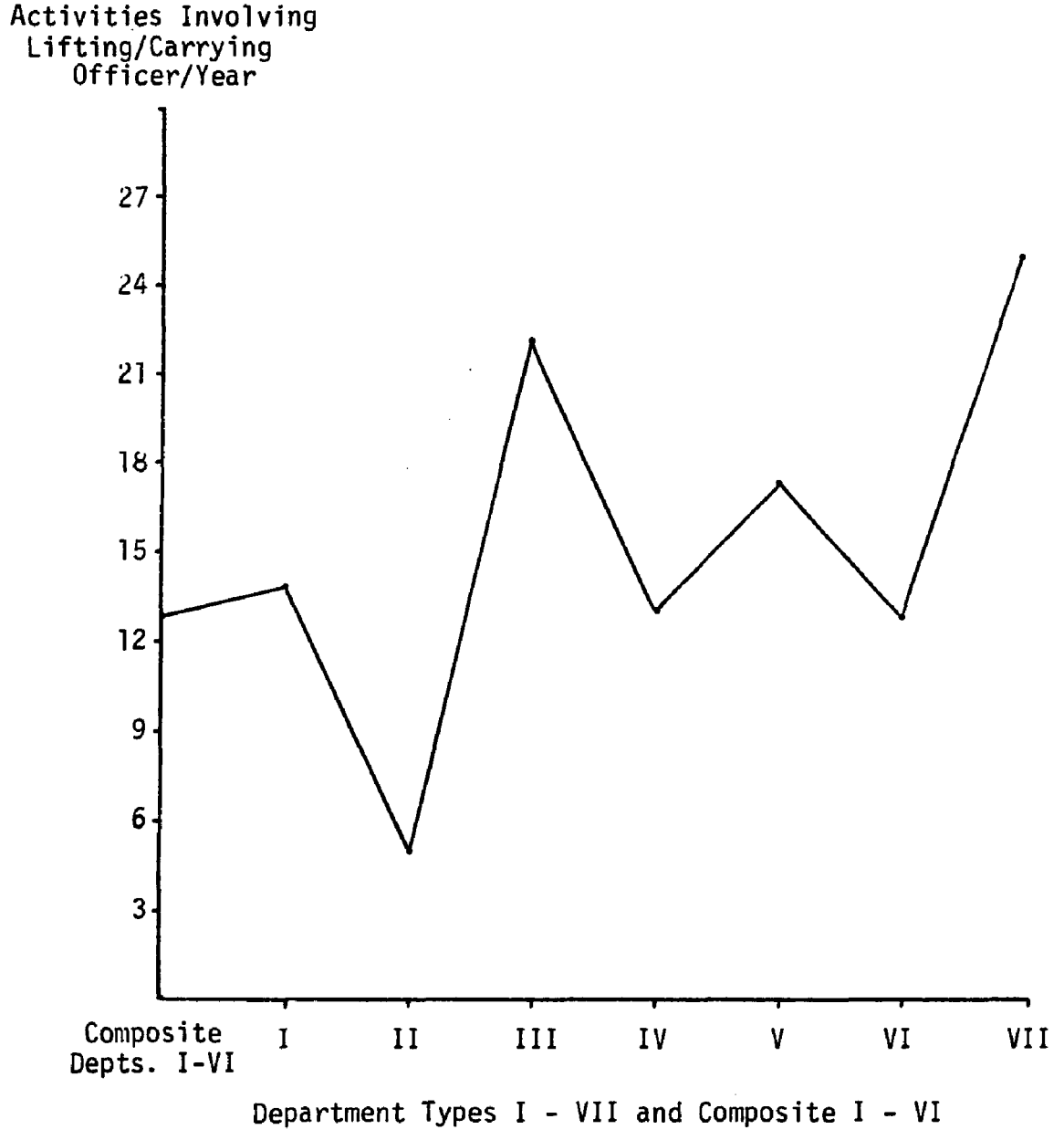

Figure 4.6.--Physical Activities Involving Lifting/Carrying Encountered/ Officer/Year. (EAF) by department type

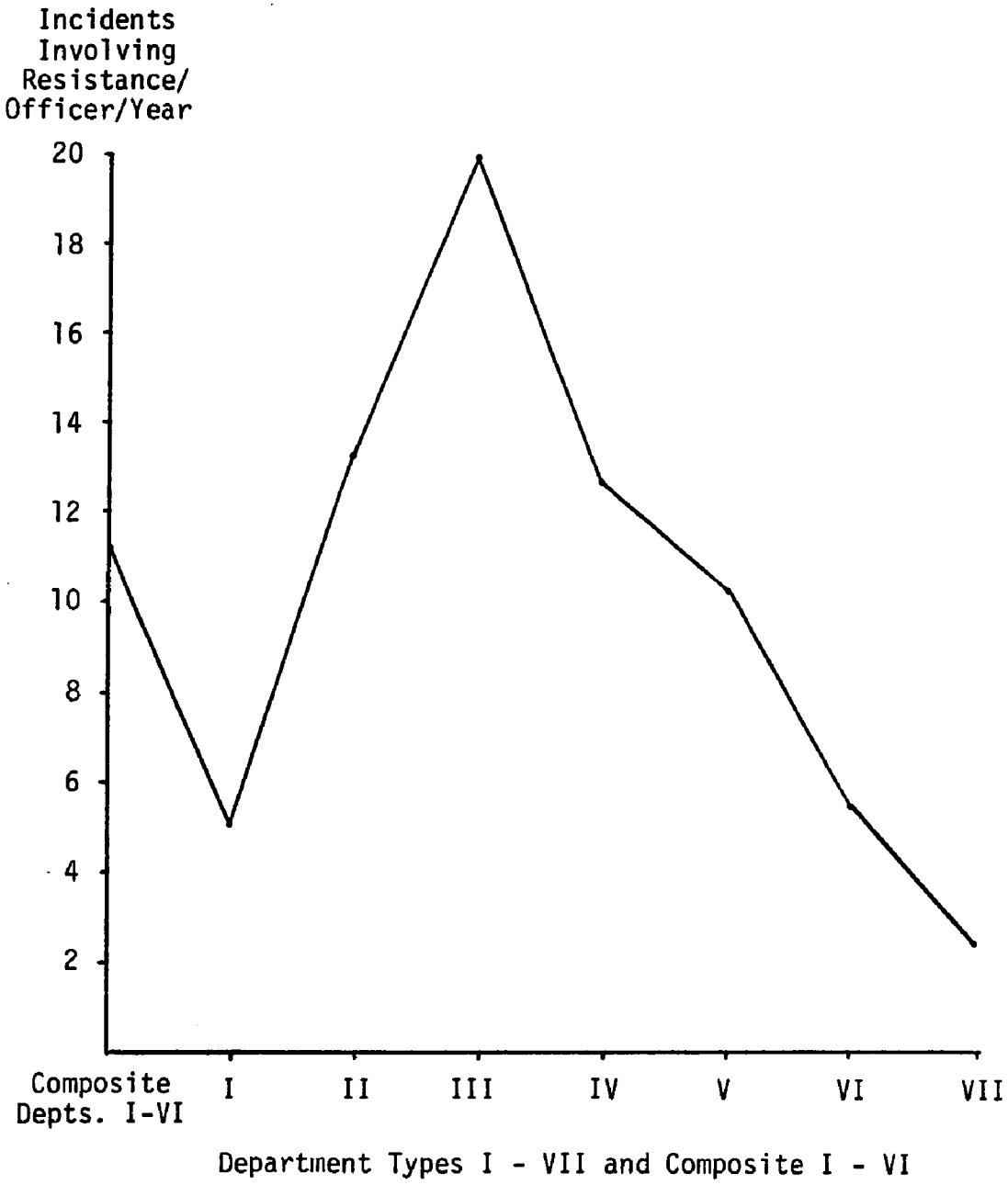

Figure 4.7.--Physical Incidents Involving Resistance Encountered/ Officer/Year. (EAF) by department type

Physical Activities Encountered/ Officer/Year

Figure 4.1 indicates that the average or mean physical activities expected to be encountered by a Michigan police officer, department types I-VI is 40.99. Type VII (non-traditional) departments are the most physically active with an expected annual frequency (EAF) of 65.02 per officer. Also very high in physical activities was Type III (metro 100-500) departments with an EAF of 57.07. Detroit police officers were shown to be the least active with an EAF of 27.05 per officer.

Critical Physical Incidents Encountered/Officer/Year

Figure 4.2 indicates that the average number of critical physical incidents expected to be encountered by a Michigan police officer, department types I-VI is 26.76. Type III (metro 100-500) departments were involved in the highest number of critical physical incidents per officer with an EAF of 41.91. Type VII (non-traditional) departments were also very high with an EAF of 36.69 incidents per officer. Type II (Detroit) department had the lowest EAF (19.84) per officer.

Physical Activities Involving Running

Figure 4.3 indicates that the average number of physical activities involving running expected to be encountered by a Michigan police officer, department types I-VI, is 9.20. Type III (metro 100-500) departments were shown to have the highest EAF per officer with

14.38. Type I (Michigan State Police) department had the lowest EAF (6.06) per officer.

Physical Activities Involving Pushing

Figure 4.4 indicates that the average number of physical activities involving pushing expected to be encountered by a Michigan police officer, department types I-VI is 13.49. Type V (metro 1-29) departments were shown to have the highest EAF of pushing with 16.28 per officer. Type II (Detroit) department had the lowest EAF (7.11) per officer.

Physical Activities Involving Dragging/Pulling

Figure 4.5 indicates that the average number of physical activities involving dragging/pulling expected to be encountered by a Michigan police officer, department types I-VI, is 9.72 times per year. Type VII (non-traditional) departments were shown to have the highest EAF per officer with 17.50. Type II (Detroit) department had the lowest EAF of (7.11) per officer.

Physical Activities Involving Lifting/Carrying

Figure 4.6 indicates that the average number of physical activities involving lifting/carrying expected to be encountered by a Michigan police officer, departments I-VI, is 13.34 times per year. Type VII (non-traditional) departments were shown to have the highest EAF per officer with 24.26. Type II (Detroit) department had the lowest EAF of (5.41) per officer.

Physical Incidents Involving Resistance

Figure 4.7 indicates that the average number of incidents where resistance was expected to be encountered by a Michigan police officer, department type I-VI, is 11.47. Type III (metro 100-500) departments were shown to have the highest EAF per officer with 19.51. Type VII (non-traditional) departments had the lowest EAF (2.69) per officer.

Summary of Analysis

The presentation of the data in Chapter IV follows a format of (1) brief review of data collection procedures, (2) statement of both research questions, (3) following the statement of each research question, presentation and interpretation of the applicable data and a summary section.

Research Question I

What are the identifiable physical requirements of the job of police officers in Michigan? The average police officer in Michigan will be involved in a physical incident once in every 5.46 8-hour work shifts or 40.99 times a year. The officer will have a successful outcome in 70% or approximately 28.69 times out of 40.99 physical incidents. Approximately 65% of the physical activities were deemed potentially critical. For the purpose of analysis the physical activities were divided into two broad categories, that is, those activities involving athletic skills, and those activities involving defensive skills.

Athletic skills were defined as lifting/carrying, pushing, dragging/carrying, running, climbing, jumping and crawling. The activities of lifting/carrying and pushing were the two most frequent activities in occurrence and crawling occurred the least often. The object most often lifted/carried and dragged/pulled was a person.

Defensive skills were measured when an officer encountered physical resistance during the performance of their job. A Michigan police officer can expect to encounter physical resistance approximately 11.47 times per year. Eighty-five (85) percent of the persons resisting were found to be males. The average height of a subject offering resistance was 5'9" and the average weight was 165.66 pounds. The majority of times resistance was encountered by a police officer (58%) it involved the subject pulling away or wrestling. Also very interesting was data which indicated that the police officer can expect to encounter a subject armed with a weapon on the average of 0.34 times per year. In other words, an officer, on the average, can expect to face an armed subject once every three years in the line of duty.

Research Question II

Does the difference in type of agency, i.e., the Michigan State Police vs. Oakland County Sheriff's Department, affect the type of physical tasks performed by police officers? The resounding answer to this question is Yes; to a variable extent various types of departments have significant differences of physical tasks performed. Almost unilaterally, Type VII (non-traditional) departments were the

most physically active in activities involving lifting/carrying and dragging/pulling. Type III (metro 100-500) departments proved to be the most highly active departments physically and in encountering resistance, across the board. Type II (Detroit) department was shown to be least involved in all physical activities.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

In Chapter I the need for this study was explored as it related to the validity of the current mandated basic police training program in the State of Michigan.

Prior to 1965 the police training that was conducted in Michigan varied greatly in quality and quantity. The larger metropolitan departments provided their recruits with structured schools prior to placing in the field. Generally, medium sized departments had only limited class time. The emphasis here was on field training with a more experienced officer. With few exceptions the small police departments relied solely on training through field experience. During the two decades preceding 1965, the Michigan State Police and the Federal Bureau of Investigation can be credited with providing the bulk of standardized police training activities within Michigan.

Statewide standards for the training of Michigan police officers began with the passage of Public Act 203, on July 16, 1965. This legislation created the Michigan Law Enforcement Officers Training Council. The Council was a policy making board consisting of eleven members; three from the Michigan Sheriffs' Association, three from the Michigan Association of Chiefs of Police, and one member each from the Detroit Police Officers' Association, The Fraternal Order of

Police, and the Metropolitan Club. The other two members are the Director of the Michigan State Police and the Attorney General of Michigan.

The legislation of P.A. 203 empowered the Council to establish and publish recommended minimum standards with regard to the recruitment, selection and training of all police officers employed in Michigan. The initial basic police training program was developed in 1966 by the Council and was 120 hours in length. This curriculum was only recommendatory to all police agencies until the passage of mandatory police training legislation which became law January 1, 1971. Effective January 1, 1971, P.A. 203 was amended and the Council was given the power to establish mandatory standards in the above cited areas of recruitment, selection and training.

Based upon the 1971 revision of P.A. 203 the Council established a 256 hour basic police training program (see Appendix A). Currently a 296 hour program is in existence and is practically unchanged from the original 256 hour curriculum. The design of the mandatory basic police training program was at that time the "best shot," so to speak, of the members of the Council and staff during the period of 1970-1971.

Little or no emperical examination was conducted of the police job within Michigan in the design of the 296 hour curriculum. A task analysis of the job of policeman within this state had not been conducted as of the writing of this proposal. In reality no positive correlation can be established between the completion of the existing

basic police training curriculum and job performance in one of Michigan's 608 police agencies.

The problem addressed in this study was that at present, MLEOTC selection and training standards for the physical requirements of the police job are the results of collecting judgments by professionals based upon their subjective estimates of what skills and attributes an officer should possess. Consequently, the validity and relevance of the standards is difficult if not impossible to substantiate by acceptable statistical methods.

The researcher's purpose in this study was to (1) identify the physical tasks required to be performed by Michigan police officers in the regular completion of their duties, and (2) to determine if different types of police agencies have significant differences in physical performance requirements.

In order to obtain a representative sample the Michigan police population (22,464 sworn police officers employed in 608 individual law enforcement agencies) was stratified into seven distinct department types as follows: Type I - Michigan State Police; Type II - Detroit Police Department; Type III - metropolitan agencies 100-500; Type IV - metropolitan agencies 30-99; Type V - metropolitan agencies 1-29; Type VI - sheriff departments; and Type VII - non-traditional agencies, i.e., DNR, park police. A proportionate random sample was then obtained from each of these agency types. The final sample consisted of 67 different agencies and approximately 1950 police officers.

The research questionnaire was two pages in length and was developed specifically for the study utilizing the diary approach.

The instrument was field tested on four separate occasions with regard to reliability and internal consistency.

Two 7-day survey periods were used; the first was November 27-December 3 and the second was April 10-22, 1979.

Within these date ranges, each department participated for a one-week (7-day) time period. The two survey periods were distributed during winter and non-winter months to provide ample opportunity to take account of possible variations in a police officer's job responsibilities attributable to such factors as weather, the school year, vacation travel, etc. Accordingly, the survey periods encompass various time and weather conditions which span a broad range of circumstances. The survey results are, therefore, deemed to be highly representative of the job responsibilities of law enforcement personnel.

Two important indices of survey effectiveness are that of response rate and participation rate. The term "response rate" is defined as the ratio of the number of questionnaires completed by a department to the number of expected questionnaires for that department. The term "participation rate" refers to the number of patrol officers and other non-traditional law enforcement officers who participated in the survey as compared with the total number of patrol officers within each department. Simply put, participation rate refers to the number of officers who participated in a particular survey period for a given department in relation to the total number which might have participated. Table 4.1 summarizes both measures of survey effectiveness.

During the first survey period. 64 departments participated for a total of 1,952 officers. The participation rate for the first survey period was 90%, while the response rate for that period was 97%. During the second survey period, 56 departments participated for a total of 1,971 officers. The participation rate was 84% and the response rate was 92% for that period. These data speak for themselves. There can be little question but that the survey results reveal a high level of effectiveness, a finding which is quite extraordinary in view of the very large number of officers participating.

The study design is descriptive in nature, employing two research questions.

Research Question I

What are the identifiable physical requirements of the job of police officers in Michigan? The average police officer in Michigan will be involved in a physical incident once in every 5.46 8-hour work shifts or 40.99 times a year. The officer will have a successful outcome in 70% or approximately 28.69 times out of 40.99 physical incidents. Approximately 65% of the physical activities were deemed potentially critical. For the purpose of analysis the physical activities were divided into two broad categories, that is those activities involving athletic skills, and those activities involving defensive skills.

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Does the difference in type of agency, i.e., the Michigan State Police vs. Oakland County Sheriff's Department, affect the type of physical tasks performed by police officers? The resounding answer to this question is Yes; to a variable extent various types of departments have significant differences of physical tasks performed. Almost unilaterally, Type VII (non-traditional) departments were the most physically active in activities involving lifting/carrying and dragging/pulling. Type II (Detroit) department was shown to be least involved in all physical activities. Type III (metro 100-500) departments

proved to be the most highly active departments physically and in encountering resistance, across the board.

Conclusions

At the present time the existing MLEOTC minimum employment standards with regard to physical conditioning are as follows:

> The candidate must possess normal hearing, normal color vision and normal visual functions and acuity in each eye correctable to 20/20. Be free from any other impediment of the senses, physically sound, in possession of his extremities and well developed physically, with height and weight in relation to each other as indicated by accepted medical standards. Be free from any physical defects, chronic diseases, organic diseases, organic or functional conditions, or mental and emotional instabilities which may tend to impair the efficient performance of his duty or which may endanger the lives of others or himself.

These standards are generalized and certainly not job specific. Validity with regard to job relatedness was impossible to prove. The researcher's purpose in this study was to generate a data bank sufficient to establish job realted physical performance standards. As a result of the study the following conclusions can be drawn:

1. There is an identifiable group of physical activities which the majority of Michigan police officers are required to perform with regularity each year. These physical tasks can be broken down into two basic categories, which are (1) athletic skills, and (2) defensive skills. Approximately 65% of the physical activities were considered critical by the officers surveyed indicating that serious consequences might result had the officer been unable to complete the task.

2. While significant frequency level differences in physical performance existed among the seven department types examined, there appears to be a uniform base of physical activity requirements which will support the development of statewide minimum entry level physical standards for all police officers.

3. The results of this statewide study should be analyzed thoroughly and a decision rule developed with regard to the criticality level of each of the physical skills performed. The decision rule or "cut-off" point should be utilized to develop a physical performance examination which will effectively determine those candidates capable of performing those physical activities identified as critical in the performance of the police job in Michigan.

Recommendations

1. Federal guideline requirements in the area of employment testing, as well as common sense, dictate that special attention be paid to those job activities which are of a high criticality level. While this research proposal dealt only with the types of physical activities performed and frequency differences between department types, data regarding the criticality of each physical activity was collected for phase II of the statewide study. Those activities of a physical nature which are characteristically deemed to be most critical must be clearly identified because of their important implications for both employment testing as well as training curriculum development.

2. Once the data on criticality of activities is carefully analyzed it is recommended that two types of physical performance

tests be developed. The first test should be utilized to assess the police candidates prior to employment. Such an examination would be directly job related and designed to measure the candidates' physical skills with regard to the athletic skills identified as being critical to the performance of the police job. Those candidates passing the first exam along with meeting the other requirements of the police selection process would then receive a basic police training program which would include the defensive skills identified as critical to the performance of the police job. The physical and defensive skills of each candidate would then be measured at the end of the training program. Again, the test would have to be directly related to the data base supplied in this research.

In summary, the data base regarding the physical requirements necessary to perform the job of police officer in Michigan now exists. The existing (very generalized) physical standards under the mandatory police training act should be eliminated as soon as possible and be replaced with job related, validated physical standards which will stand any test in the courtroom.

APPENDICES

APPENDIX A

MICHIGAN ACT 203, P.A. 1965

ACT NO. 203, P.A. 1965

as amended by Act No. 220, P.A. 1968, Act No. 187, P.A. 1970, Act No. 31, P.A. 1971, and Act No. 422, P.A. 1976

AN ACT to provide for the creation of a law enforcement officers training council; to provide for additional costs in criminal cases and the establishment of the law enforcement officers training fund and allocations therefrom to local agencies of government participating in a police training program.

The People of the State of Michigan enact:

Sec. 1. This act shall be known and may be cited as the "Michigan law enforcement officers training council act of 1965".

Sec. 2. As used in this act:

(a) "Council" means the law enforcement council.

(b) "Executive secretary" means the executive secretary of the council.

(c) "Police officer" or "law enforcement officer" means a member of a police force or other organization of a city, county, township, village or of the state, regularly employed as such and who is responsible for the prevention and detection of crime and the enforcement of the general criminal laws of this state, but shall not include any persons serving as such solely by virtue of his occupying any other office or position.

Sec. 3. There is created the law enforcement council to carry out the intent of this act and to consist of 11 members selected as follows:

(a) The attorney general, or his designated representative.

(b) The commissioner of state police, or his designated representative.

(c) Three members appointed to the council by the governor from a list of 6 active members submitted by the Michigan association of chiefs of police.

(d) Three members appointed to the council by the governor from a list of 6 active law enforcement officials submitted by the Michigan sheriffs association.

(e) One member appointed to the council by the governor from a list of 3 names submitted by the fraternal order of the police.

(f) One member appointed to the council by the governor from a list of 3 names submitted by the metropolitan club.

(g) One member appointed to the council by the governor from a list of 3 names submitted by the Detroit police officers associations.

(h) All appointments made by the governor shall be subject to the advice and consent of the senate.

Sec. 4. All members of the council shall hold office for a term of 3 years, except that of the members first appointed from nominees submitted by the Michigan association of chiefs of police and the nominees submitted by the Michigan sheriffs association—1 shall be appointed for 3 years, 1 for 2 years, and 1 for 1 year. A vacancy caused by expiration of a term or termination of his official position in law enforcement shall be filled in the same manner as the original appointment. A member appointed to fill a vacancy created other than by expiration of a term shall be appointed for the unexpired term of the member who he is to succeed in the same manner as the original appointment. Any member may be reappointed for additional terms.

Sec. 5. The council shall designate from among its members a chairman and a vice chariman who shall serve for 1-year terms and who may be re-elected. Membership on the council shall not constitute holding a public office, and members of the council shall not be required to take and file oaths of office before serving on the council. The council shall not have the right to exercise any portion of the sovereign power of the state. No member of the council shall be disqualified from holding any public office or employment by reason of his appointment or membership on the council, nor shall he forfeit any such office or employment, by reason of his appointment hereunder, notwithstanding the provisions of any general, special or local law, ordinance or city charter.

Sec. 6. The council shall meet at least 4 times in each year at Lansing and shall hold special meetings when called by the chairman or, in the absence of the chairman, by the vice chairman or when called by the chairman upon the written request of 5 members of the council. The council shall establish its own procedures and requirements with respect to quorum, place and conduct of its meeting and other matters.

Sec. 7. The council shall make an annual report to the governor which will include pertinent data regarding the standards established and the degree or participation of municipalities in the training programs.

Sec. 8. The members of the council shall serve without compensation but shall be entitled to their actual expenses in attending meetings and in the performance of their duties hereunder.

Sec. 9. (1) The council shall prepare and publish minimum employment standards with due consideration to varying factors and special requirements of local police agencies relative to:

(a) Minimum standards of physical, educational, mental, and moral fitness which shall govern the recruitment, selection, and appointment of police officers.

(b) The approval of police training schools administered by a city, county, township, village, or corporation.

(c) Minimum courses of study, attendance requirements of at least 240 instructional hours, equipment, and facilities required at approved city, county, township, village, or corporation police training schools.

(d) The requirements in subdivision (c) shall be waived if any of the following occur:

(i) The person has previously completed the mandatory training requirements and less than 1 year of police service, has voluntarily or involuntarily discontinued his work as a law enforcement officer, and is again employed within 1 year after discontinuing work as a police officer.

(ii) The person has served more than 1 year and less than 5 years, has completed the mandatory training requirements, and takes employment with another police agency within 18 months of discontinued service.

(iii) The person has served 5 years or more and takes employment with another police agency within 2 years of discontinued service.

(iv) The person is a member of a sheriff's posse or police auxiliary temporarily engaged in the performance of his duties and while under the direction of the sheriff or police department.

(e) Minimum qualifications for instructors at approved police training schools.

(f) Minimum basic training requirements which regularly employed police officers excluding sheriffs shall complete before being eligible for employment.

(g) Categories or classifications of advanced in-service training programs and minimum courses of study and attendance requirements for these categories or classifications.

(h) The establishment of subordinate regional training centers in strategic geographic locations in order to serve the greatest number of police agencies that are unable to support their own training programs.

(i) Acceptance of certified basic police training and experience received in states other than Michigan in fulfillment in whole or in part of the minimum employment standards prepared and published by the council.

(2) Notwithstanding any other provision of this statute, a regularly employed person employed on or after January 1, 1977, as a member of a police force having a full-time officer shall not be empowered to exercise all the authority of a peace officer in this state, nor employed in a position which is granted the authority of a peace officer by statute, unless the person has complied with the minimum employment standards prepared and published by the council pursuant to this section. Law enforcement officers employed before January 1, 1977, may continue their employment and

participate in training programs on a voluntary or assigned basis but failure to meet standards shall not be grounds for dismissal of or termination of employment. A law enforcement officer employed before January 1, 1977, who fails to meet the minimum employment standards established pursuant to this section and who voluntarily or involuntarily discontinues his work as a law enforcement officer may be employed with a law enforcement agency if that officer meets the requirements of subsection (1) (d) (iii).

Sec. 10. The council may enter into agreements with other agencies, colleges and universities to carry out the intent of this act

Sec. 11. The council may:

(a) Visit and inspect a police training school, or examine the curriculum or training procedures, for which application for approval has been made.

(b) Issue certificates to police training schools qualifying under the rules of the council.

(c) Authorize the issuance of certificates of graduation or diplomas by approved police training schools to police officers who have satisfactorily completed minimum courses of study.

(d) Cooperate with state, federal, and local police agencies in establishing and conducting local or area schools, or regional training centers for instruction and training of police officers of this state, its cities, counties, townships, and villages.

(e) Make recommendations to the legislature on matters pertaining to qualification and training of police officers.

(f) Establish preservice basic training programs at colleges and universities which qualify under the rules of the council.

(g) Require a state examination for police officer certification.

Sec. 12. There shall be an executive secretary of the council who shall be appointed by the council, and who shall hold office during the pleasure of the council. He shall perform such functions and duties as may be assigned to him by the council. He shall receive compensation and reimbursement for expenses within the amounts available therefor by appropriation.

Sec. 13. There is created in the state treasury a law enforcement officers training fund, from which, the legislature shall appropriate sums deemed necessary for the purposes of this act.

Sec. 14. The amounts annually appropriated by the legislature shall be paid by the state treasurer in accordance with the accounting laws of the state upon certification of the executive secretary of the council for the purpose of reimbursing an amount not to exceed the training costs incurred for each officer meeting the recruitment standards prescribed pursuant to this act during the period covered by the allocation, plus an amount not to exceed the necessary living expenses incurred by the officer which are necessitated by training requiring that he be away from his residence overnight. If the moneys in the law enforcement officers training fund to be appropriated by the legislature for the training and living expenses are insufficient to allocate the amount for training and living purposes, the amount shall be reduced proportionately. An allocation shall not be made to a training agency or to a city, county, township, or village or agency of the state which has not, throughout the period covered by the allocation, adhered to the standards established by the council as applicable to either training or personnel or both recruited or trained by the training agency, city, county, township, or village or agency of the state during this period.

Sec. 15. A training agency, city, county, township, or village or state agency which desires to receive reimbursement pursuant to this act shall make application to the council for the reimbursement. The application shall contain information requested by the council.

This act is ordered to take immediate effect.

MICHIGAN LAW ENFORCEMENT OFFICERS TRAINING COUNCIL

MINIMUM BASIC POLICE TRAINING CURRICULUM

296 HOURS

I. ADMINISTRATION SECTION	Hours
Program Orientation	1
Classroom Notetaking	1
Examinations	6
Examination Review	3
Coordinator's Time (graduation, counseling, review, etc.)	2
MLEOTC Time	2
Total	15

II. LEGAL SECTION	
Introduction to Constitutional Law	1
Law of Arrest	4
Detention and Custody	2
Admissions and Confessions	3
Search and Seizure	8
Court Functions	10
Law of Evidence	10
Criminal Law	14
Juvenile Law	2
Total	54

III. INVESTIGATIVE SECTION	
Criminal Investigation	10
Vice Investigation	2
Narcotics and Dangerous Drugs	4
Crime Scene Search	6
* Collection and Preservation of Evidence	6
Interview and Interrogation	3
* Fingerprinting and Palm Printing	4
Latent Prints	4
Mock Crime Scene	6
Stolen Motor Vehicles	2
Total	47

IV. GENERAL POLICE SECTION	Hours
History and Philosophy of Law Enforcement	2
The Juvenile Offender	4
Firearms Training	28
Police First Aid	14
Field Notetaking and Report Writing	4
Blockade and Roadblock Procedure	1
* Police Communications	4
Patrol Techniques	10
Civil Disorders	9
Mechanics of Arrest and Detention	4
Domestic Complaints	3
State Liquor Law Enforcement	3
Emergency Preparedness - Disaster Control	3
Stopping Vehicles and Occupant Control	6
Physical Training and Defensive Tactics	28
Total	123

V. TRAFFIC SUBJECTS	
Motor Vehicle Law	10
Driver Licensing	2
D.U.I.L. Enforcement	2
Motor Vehicle Accident Investigation	18
Traffic Direction and Control	2
Techniques and Methods of Traffic Law Enforcement	2
Total	36

VI. SPECIAL SUBJECTS SECTION	
Human Relations	8
Police Courtesy and Ethics	4
Handling Abnormal Persons	2
State and Regional Social Services	2
Total	16

VII. EXTERNAL RELATIONS	
Jurisdiction of Federal Law Enforcement Agencies	2
Michigan Corrections, Parole and Probation System	3
Total	5

VIII. OPTIONAL SUBJECTS	Total	24

RECOMMENDED COURSES IN ADDITION TO THE MINIMUM 296 HOURS:

Precision-Pursuit Driving
Alcohol Education-Understanding the Problems of Alcohol and Alcoholism
Vocabulary and Spelling
Practical Exercises in Patrol Situations
Public Speaking

PROPOSED COURSES TO BE GIVEN TO EACH RECRUIT AT THE LOCAL LEVEL IN ADDITION TO REGIONAL RECRUIT TRAINING:

Department Rules, Regulations, and Policies
Department Forms and Reports
Local Court and Prosecutor Procedure
Local Government
Departmental Emergency Plan
Local Ordinances
Local Blockade and Roadblock Plans
Conservation Law
Boat and Water Safety

NOTE: ADDITIONAL COURSE MATERIAL SHOULD BE GIVEN TO MEET THE TRAINING NEEDS THAT MAY BE UNIQUE WITHIN EACH DEPARTMENT. THESE COURSE NEEDS CAN BEST BE DETERMINED BY THE LOCAL ADMINISTRATOR.

APPENDIX B

WORKSHOP PARTICIPANTS

PHYSICAL ACTIVITY SURVEY WORKSHOPS

Tuesday, October 3, 1978

Captain Gerald Higgins	Saginaw PD
Inspector Jack Fairfield	Roseville PD
Sgt. Joseph D. Smith	Ingham Co. SD
Captain Bruce Lucey	Lenawee Co. SD
Deputy Dave Harken	Muskegon Co. SD
Cpl. Andrew Henderson	Marquette PD
Inspector Paul A. Schnarr	Westland PD
Lt. Burton Kleeves	Grand Rapids PD
Sgt. Robert Aguirre	Flint PD
Ms. Karen McCracken	Flint PD
Training Coordinator Michael Ramsey	Pontiac PD
Sheriff David O. Wood	Barry Co. SD
Sgt. Joseph K. Pavlick	Dearborn PD
Asst. Jail Admin. Tony Shannon	Wayne Co. SD
Ptlm. Stanley Dziuba	Detroit PD
D/Sgt. Ronald Tuscany	Macomb Co. SD
Captain Allan A. Nalepa	Sterling Heights PD
Lt. Calvin W. Wylie	Midland PD
Ptlm. Kent Maurer	Jackson PD
Undersheriff Wilbur Bond	Lapeer Co. SD
Sgt. John Wilson	Allegan Co. SD
Sgt. Kenneth Giles	Allegan Co. SD
D/Sgt. John Bodenschatz	Ann Arbor PD
Sgt. Donavon Stockbridge	Livonia PD
Lt. James Doty	Calhoun Co. SD
Captain James McDonagh	Calhoun Co. SD

Tuesday, October 24, 1978

Sgt. G. Paul Cross	Royal Oak PD
Sgt. Eugene Bombich	Kalamazoo Township
Chief Willard Irwin	Cadillac PD
Lt. Stan Dinius	Central Michigan University
Asst. Chief Clyde Weaver	Buchanan PD
Undersheriff Roger Good	Delta Co., SD
Officer William Shafer	Fenton PD
Officer Milton Stringer	Clay Township
Sgt. David Emerson	Adrian PD
Chief William L. Hartley	Ludington PD
Sgt. Scott Fitzgerald	Sault Ste. Marie PD
Asst. Chief Lee. E. Edward	Sault Ste. Marie PD
Sgt. Gary Sauer	MSP - Northville

Tuesday, October 24, 1978 (continued)

Sgt. Elmer Haustein	MSP - West Branch
Sgt. William Pertner	MSP - Battle Creek
Sgt. Charles Keebler	MSP - South Haven
Sgt. Robert Ring	MSP - Rockford
Sgt. John Fiedler	MSP - Gaylord
Sgt. James Witz	MSP - Negaunee
Sgt. David Aho	MSP - Wakefield
Sgt. Robert Vezzetti	MSP - Sault Ste. Marie
D/Sgt. Ernest Berry	Woodhaven PD
Ptlm. Gary E. Kusz	Ironwood PD
Sgt. Frank E. Stevens	Isabella Co. SD
Officer Christopher Jens	Wayne State University
Lt/Asst. Chief W. Robert Huff	Buena Vista Township
John Longstreth, Admin. Analyst	MSP - East Lansing - HQ.
Chief Barton E. Howe	Charlotte PD
Sgt. Wayne Thomas	Gaylord PD
Lt. Lyle Reddy	Cadillac PD
Jack Jankovic	Owosso - Dept. Public Savety

Thursday, October 26, 1978

Captain Earl L. McGaw	Tri-County Airport Security
Donald Kelley, Parks Director	Kalamazoo County Parks & Rec.
Lt. A. Randall	Grand Trunk Railroad
Detective R. Mehl	Grand Trunk Railroad
Sgt. Ronald M. Yura	ConRail Railroad
Officer Terry L. Nelson	Muskegon County Airport
Sgt. Robert S. Tobolski	Detroit Terminal Railroad
Robert F. Selig	Kalamazoo Municipal Airport
Captain D. F. Miller	Norfolk & Western Railroad
Lt. L. M. Corbin	Norfolk & Western Railroad
Roger L. Wood, Law. Enf. Exec.	Department of Natural Resources
Officer Hassan Makled	Detroit Metro Airport
Captain Richard Potts	Detroit Toledo & Ironton RR.
Albert A. Sheaffer, Sr. Park Ranger	Genesee County Parks & Rec.
Sgt. Phil Davis	Capital Regional Airport
Ptlm. David Bush	Chessie System
Ptlm. Elroy Green	Lansing Parks & Recreation
Chief Robert Skellenger	Huron/Clinton Metro Authority

APPENDIX C

NARRATIVE DESCRIPTION OF FOUR ROLE PLAYING SCENES USED IN FIELD TEST II OF THE SURVEY INSTRUMENT

SCENE 1

Group Participants: Bill Martin
Greg Lovell
Kevin Swierczynski
Jerry Earhart

Description of Activity:

Encounter with a Drunk

The scene takes place at a bar. The police are requested by the bartender to come to his assistance. Two police officers arrive at the scene and they observe a drunk throwing chairs and breaking bottles. The officers issue a verbal warning to stop and the drunk throws a bottle at the officers. After throwing the bottle, the drunk attempts to flee through the back door. Both officers go after him and Officer No. 1 reaches him first and encounters resistance. They wrestle to the floor and Officer No. 2 assists in subduing the drunk. Officer No. 2 pins the subject to the floor and Officer No. 1 places handcuffs on and both officers carry him, still resisting, to the patrol vehicle.

Location: 200 seat class auditorium, Ferris State College, Education Building 003. Time - approximately 8:30 p.m.

SCENE 2

Group Participants: Matt Vallet
Denise Lester
Bruce Rix
Karen Jongekrijg

Description of Activity:

Subject comes home from a bar intoxicated after spending his entire paycheck. His wife argues with him and a fight ensues. Police come to the door, enter, calm the situation momentarily. Each officer takes one of them to a corner and proceeds to talk to them. Subject's wife still is in a highly emotional state and the husband physically assaults her in the presence of the officers. It takes both police officers to restrain him. The wife then obtains a gun and shoots husband in the chest. The police subdue the wife and both parties are arrested, handcuffed and removed from the home.

Location: 200 seat class auditorium at Ferris State College, Education Building 003. Time - approximately 8:45 p.m.

SCENE 3

Group Participants: Doug Lubahn
Bill Bigge
Dale Graczyk
Gary Millar

Description of Activity:

Two man patrol vehicle makes a stop of a reported stolen vehicle containing two occupants. As the suspect vehicle comes to a stop with the police vehicle directly behind, the passenger side occupant of the suspect vehicle steps out of the car and fires one round at the officers. Both officers return fire and the suspect drops his weapon. At this time the driver opens his door and flees on foot. Officer #1 orders him to halt without success, then pursues the subject on foot. Officer #2 then arrests the passenger side suspect and places him in the rear of the patrol vehicle. Officer #2 then joins #1 in pursuit of suspect.

Suspect #1 (driver) runs forward a total of about 50 feet then turns right and runs toward corner of Ed. Bldg. Suspect loses footing and falls in grass at the corner of Ed. Bldg. Officer #1 attempts to subdue suspect and a 3 minute physical encounter ensues. Officer #1 finally positions suspect face down on grass but cannot handcuff. Officer #2 arrives and 1 and 2 handcuff suspect. Suspect complains of injury to ankle so officers carry suspect back to patrol vehicle. Officer #1 is injured during the scuffle.

Location: Rear parking lot, Education Building, Ferris State College.
Time - approximately 9:00 p.m.

SCENE 4

Group Participants: Denise Lester
Karen Jongekrijg
Jerry Earhart
Matt Vallet

Description of Activity:

Subject driving a vehicle is stopped for suspicion of D.U.I.L. Officer taxes driver behind car and administers simple sobriety test. Driver fails and is placed under arrest. The driver starts pushing officer, pulls away and then begins to physically resist officer. Officer then subdues subject and places her in handcuffs. At the time officer advises the driver she is under arrest, the passenger comes to her aid and is subdued by the back-up officer.

Location: Rear parking lot, Education Building, Ferris State College.
Time - approximately 9:30 p.m.

APPENDIX D

LAW ENFORCEMENT PHYSICAL ACTIVITY QUESTIONNAIRE AND INSTRUCTIONS

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