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An Organizational Analysis of Professionalization in Police Departments

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AN ORGANIZATIONAL ANALYSIS OF
PROFESSIONALIZATION IN POLICE DEPARTMENTS

A Thesis

Presented to

The Faculty of the Department of Sociology

The College of William and Mary in Virginia

In Partial Fulfillment

Of the Requirements for the Degree of

Master of Arts

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by

Pamela J. Oppenheim

1975

APPROVAL SHEET

This thesis is submitted in partial fulfillment of
the requirements for the degree of

Master of Arts

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Approved, January 1975

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ABSTRACT

This study develops a middle range theoretical model
of professionalization in police organizations. Profession-
alization is interpreted as a knowledge development compo-
nent of organizational technology. The following model di-
mensions are related to professional development: organiza-
tional size, structure-complexity, environmental context,
and interorganizational field linkage. The model was tested
via a sample of 139 police departments which was obtained
from a total population survey of police departments from
cities of 50,000 and above. After a series of scaling and
factor analyses, a two step multiple regression format was
employed for statistical analysis of the model. The find-
ings indicate that model variables have a selective impact
on variations in the level of professionalization. Organi-
zational and contextual variables have strongest effects on
the interorganizational factor subsuming discretionary fund-
ing and community relations employees. Size and interor-
ganizational field linkage show a substantial positive im-
pact on a general education dimension of professionalization
but not on factors reflecting the structuring of educational
and training practices. The findings suggest that external
pressures for professionalization are being responded to by
knowledge development processes only marginally related to
. the structure of police practices.

AN ORGANIZATIONAL ANALYSIS OF
PROFESSIONALIZATION IN POLICE DEPARTMENTS

Background

Technological change, accompanied by alterations in
life styles and an unparalleled growth rate of cities, has
generated an increasingly complex set of problems for
police organizations such as rising crime rates, community
demands for personal and property protection, conflicting
role definitions of police personnel, and conflicting rela-
tionships with other law enforcement agencies. Moreover,
recent civil disturbances have heightened the visibility
and intensified the problematic nature of police effective-
ness. In response to these problems and demands for law
and order, law enforcement is currently undergoing rapid
change (Tifft and Bordua, 1969).

Much of the scholarly investigation in this area
focuses on such topics as equipment, criminal investigation
procedure, laboratory techniques, and juvenile delinquency.
Relatively little research has been done on police person-
nel and organization, yet obviously, optimal usage of
sophisticated equipment and the success of special programs
depends on the quality and structure of police practices.
The President's Commission Task Force Report on police
pointed out the need for improving the quality and quantity

of manpower, yet they were not able to provide guidelines or specific recommendations. This serves to highlight the lack of understanding of the mandate of police in modern society, and the necessary conditions to fulfill this mandate (Saunders, 1970; Steadman, 1972).

Even given this lack of understanding and research, it has been suggested that the traditional quasi-military approach of police departments is being replaced by a more "professional" orientation to police work and organization (Saunders, 1970; Kreps and Dynes, 1974a). Many police personnel are concerned with achieving the status of a professional (Walsh, 1970) but there is little consensus in the area of law enforcement as to what the concept should include (Saunders, 1970; Skolnick, 1971; Kreps and Dynes, 1974a). It should be added that neither has the concept been adequately elaborated and analyzed by social scientists. The research which is reported here will hopefully contribute to a more succinct conceptual development of the process of professionalization of police organizations. The following paper defines and empirically elaborates elements of the professionalization process, then works toward identifying structural and contextual characteristics of police departments which either promote or constrain this process. The relative impact of these structural characteristics will be assessed through comparative analysis of a sample of U.S. departments from cities of 50,000 and above. It should be specifically noted at the outset

that the level of analysis here is organizational, rather than individual or the social psychological. We are therefore interested in the professionalization of police organizations rather than, for example, the changing role definitions and attitudes of police personnel.

Professionalization will be interpreted as a knowledge resource basic to organizational action; in effect the knowledge development component of organizational technology (Perrow, 1967; Hickson, et al., 1969). Although the literature on professionalization has been predominantly social psychological, it does provide insights for the organizational model to be presented in this paper; changes in police work are part of an overall trend toward the increasing professionalization of the labor force as the complexity of urban industrial society generates demands for professional services. This trend has captured the interests of social scientists, as evidenced by the growing body of literature on occupations and professions. Much of this work involves the attempt to develop a set of attributes to characterize a profession. Vollmer and Mills have defined "profession" as an abstract model of occupational organization; and "professionalization" as a dynamic process by which an occupation moves in the direction of becoming a profession along the dimensions of a continuum.

A considerable degree of consensus has been reached on the core dimensions of a profession.[1] These include: 1) systematic body of theoretical knowledge, 2) specialized

training, 3) autonomy, 4) public definition of the service
as essential to society, 5) ideal of service, 6) code of
ethics, 7) colleague associations. The preceding are con-
ceived of as dimensions of a continuum; research on par-
ticular occupations involves assessment of the degree to
which they are professionalized, determined by where they
fall on each dimension. Recently researchers have begun
to study the police role within this basic conceptual frame-
work, noting definitional problems (Walsh, 1970; White,
1972).

Since the concept of professionalization has not yet
been adequately defined within the law enforcement community,
it is sometimes interpreted narrowly as administrative ef-
ficiency (Saunders, 1970; O. W. Wilson, 1964; Lafave, 1965),
or as prestige in the eyes of the public. Until the past
few years there was very little interest in gathering data,
hence reforms were based on personal experience and obser-
vation rather than systematic study. Although the litera-
ture frequently refers to the need to professionalize, with
particular reference to the training dimension, it is an
area of little consensus and specificity (Brerton, 1961;
Jameson, 1966; Teasely and Wright, 1973). Education and
training are fundamental dimensions of a professional model.
As the increasing complexity of the police mandate demands
higher levels of competence, it is therefore essential to
define professionalization more systematically in terms of
the educational background and training of personnel. In

following this approach, we suggest that professionalization reflects the technological capability (knowledge development) of police organizations.

It is also important to consider the effects of the structural setting on the professionalization process (Kornhauser, 1962; Scott, 1966; Pavalco, 1971). It has become axiomatic in the organizational literature that structure is crucial in determining what goes on in an organization (Blau, 1960; Hall, 1967; Aiken and Hage, 1967; Meyer, 1968; Blau, Heydebrand and Stauffer, 1968; Pugh et al., 1968). And a great deal of significant police behavior can be explained in terms of the organizational characteristics of departments.[2] It should also be added that policemen are not independent professionals, i.e., they cannot practice independently; nor is a police department an association of independent professionals. The organization as a whole provides the service (Ference, Goldner, and Ritti, 1971).[3] Therefore, professionalization can be understood more fully by examining organizational and contextual inputs into the change process.

Previous organizational research indicates that professionalization is differentially related to organizational structural dimensions. In a study of student nurses, Corwin found a negative relationship between professional role conceptions developed during training and hospital emphasis on rules and procedures (Corwin, 1961). Scott identified administrative bureaucratic control and conflicting goals as

structural characteristics which constrain professionaliza-tion (Scott, 1966). A study of industrial scientists and engineers also revealed an inverse relationship between administrative bureaucratic control and professionalization (Miller, 1967). On the other hand Clark (1963) found a positive relationship between size, complexity, and inter-nal specialization and professionalization in universities. Finally, in a comparative study of several different oc-cupations Hall (1968) documented a relatively weak negative relationship between hierarchy of authority and profession-alization, and a strong positive relationship between emphasis on technical competence (merit-based selection and promotion) and professionalization. Although measure-ment of the concept has varied, reflecting its multi-dimen-sionality, previous research indicates the utility of de-fining professionalization as an organizational property. However, there has as yet been no systematic organizational analysis of police professionalization. And in view of the traditionally highly bureaucratic organization of police work, it is important to consider this concept within the structural parameters of given departments.

Finally, the importance of organization-environment relationships is increasingly recognized in organizational research (Litwak and Hylton, 1962; Emery and Trist, 1965; Evan, 1966; Guetzkow, 1966; Terreberry, 1968; Hall, 1972). In a very dynamic interdependent manner, organizations are both affected by and have impact on their environments.

In this paper we define organization-environment relation-
ships as both an organizational property reflecting inter-
organizational linkages and as a contextual dimension,
referring to the setting within which the organization
develops (Pugh et al., 1963, 1968). Previous research in-
dicates that interorganizational linkages within law en-
forcement are increasingly relevant for organizational
action, particularly in response to the civil disturbances
of the 1960's (Kreps and Weller, 1973; Kreps and Dynes,
1974b). From the broadest level of abstraction this inter-
dependence may be thought of as an interorganization field
or social network (Warren, 1967; Turk, 1970).

To sum up, given gaps in the area of law enforcement
research discussed above, i.e., inadequate definition of
police department professionalization, and the need to
consider this concept within organizational and contextual
parameters, the following section summarizes a middle
range theoretical model of the professionalization of police
organizations.

A Model of Police Department Professionalization

The model will first be briefly outlined and then its
various elements presented. To facilitate discussion,
figure 1 provides a schematic presentation.

The model is organized into a two step multiple re-
gression framework. Organizational structural and contex-
tual dimensions are treated as input variables, representing

FIGURE 1

SCHEMATIC PRESENTATION OF PROFESSIONALIZATION MODEL

X_1

X_2

X_3 X_6 X_7

X_4

X_5

X_1 – Organizational Size

X_2 – Organizational Wealth

X_3 – Organizational Complexity (Horizontal differen-
tiation, Vertical differentiation, Spatial
dispersion)

X_4 – Organizational Decentralization

X_5 – Environmental Context

X_6 – Interorganizational Field Linkage

X_7 – Organizational Professionalization

system states. Although there are potential arguments of
causal primacy among these input variables, that type of
analysis is beyond the scope of the present paper.[4] Our
primary concern here is determining the sequence of effects
of these variables upon interorganizational field linkages
and professionalization. The model is a variation of path
analysis. There is some time-order built into the specifi-
cation of "endogenous" variables, i.e., pressures for in-
creased police professionalization have become noteworthy
only quite recently as has expansion of interorganizational
contacts among police departments. However, there are
many possible arguments of causal primacy among "exogenous"
variables and with multiple indicants, the related statis-
tical problem of multicollinearity. Second, path analysis
assumes non-recursive effects, yet reciprocal causation
can be conceptually argued along a number of lines. For
example, Pugh et al., (1963) have suggested that contextual
dimensions (they include size, technology, and various
environmental factors) cause variations in organizational
structure and process, but the causal argument is difficult
to decompose. The notion of organizational context is not
particularly delimiting and should become more focused.
And, if we accept a nonrecursive argument that context
causes structure and process, we assume that organizations
are passive in a dynamic environment; an assertion contrary
to evidence. A more plausible approach is one of recipro-
cal causation in which the organization is also seen as an

active agent of environmental control. In this paper, interorganizational field linkages and professionalization are focus dependent variables because we are trying to "explain" recent variation in them via assessment of other system states. For other types of analyses, it is clear that structural variables such as complexity and decentralization can also be analyzed as dependent variables.

The interorganizational field dimension of organization-environment relationships is internal to the model because we assume that variation in system states influences organizational capability for developing different types of interorganizational relationships. Moreover, from a temporal standpoint, the expansion of the social network of law enforcement is a relatively recent phenomenon. Not only has the federal government become actively involved, but crescive formal and informal relationships among police departments appear to be developing (Kreps and Weller, 1973). The effort is to organizationally account for variations in degrees of contact among police departments. Professionalization becomes the final output variable. Here again, demands for professionalization have increased recently, quite noticeably from social network sources such as the federal government. The model allows for the assessment of direct and indirect effects of structural, contextual, and interorganizational field dimensions on professionalization.

Concepts

1. Organization - An organization is assumed to be a relatively permanent, problem-solving system which will attempt to reduce or control environmental uncertainty in order to survive and meet charter specified goals. The analytical dimensions of the concept include: 1) charter - the image of the organization, including name, formal objectives, and domain which distinguishes it as an unique element of the social and ecological environment; 2) resources and technology - useable human attributes and material resources; 3) basic activities - including task, maintenance, communication, control and adaptation processes which are interrelated in normative, authority and status structures; 4) organization-environment relationships (context and interorganizational field linkages) - the sum of an organization's reciprocal linkages with an encompassing physical and social environment (Bakke, 1959; Haas and Drabek, 1973; Kreps and Dynes, 1974b).

2. Professionalization - This concept is considered to be both process and system state (Dubin, 1969). Processually, professionalization is defined as organizational activities related to movement along the following dimensions of the professional model: 1) systematic body of theoretical knowledge; 2) specialized training; 3) autonomy; 4) public definition of the service as essential to society; 5) ideal of service; 6) code of ethics; 7) colleague associations. An organization is considered to be professionalized at any

point in time by the extent to which its structure and
activities exhibit professional dimensions. More specific
to this research, professionalization is interpreted as a
knowledge resource basic to organizational action. It
therefore represents a property space of the resources and
technology dimension of organization.

Research Hypotheses

1. The greater the organizational size, the greater the
   interorganizational field linkage.

2. The greater the organizational size, the greater the
   organizational professionalization.

3. The greater the organizational wealth, the greater the
   interorganizational field linkage.

4. The greater the organizational wealth, the greater the
   organizational professionalization.

5. The greater the organizational complexity, the greater
   the interorganizational field linkage.

6. The greater the organizational complexity, the greater
   the organizational professionalization.

7. The more decentralized the organizational decision-
   making structure, the greater the interorganizational
   field linkage.

8. The more decentralized the organizational decision-
   making structure, the greater the organizational pro-
   fessionalization.

9. The more complex the organizational environmental con-
   text, the greater the interorganizational field linkage.

10. The more complex the organizational environmental
    context, the greater the organizational profession-
    alization.

11. The greater the interorganizational field linkage,
    the greater the organizational professionalization.

Discussion of the Model

Concepts

The model is based on the general premise that organi-
zations, in this case police departments, will rationally
adapt to and attempt control of those elements of the
environment which affect basic activities. The range of
member skills and competencies limits to what extent and
by what methods an organization can monitor and actively
manipulate its environment (Thompson, 1967; Hage and
Drabek, 1973). Thus professionalization, a knowledge
generating process, is seen as a technological adjustment
to uncertainty. As law enforcement becomes more complex
and problematic, police departments may attempt to profes-
sionalize as a means of coping with new environmental de-
mands. The professionalization process is considered to
be related to the internal form and external relationships
of the organization.

Professionalization has both attitudinal and behavioral
referents (Jackson, 1970). However, given the vagueness
of the concept, this study will use behavioral measures,
specifically educational background and training variables,
to avoid making inferences from attitudes to behavior.

Deutscher (1969) concludes, for example, that validity becomes problematic when instruments are designed to provide estimates of hypothetical behavior. Therefore he suggests that direct behavioral measures substantially mitigate validity problems. Furthermore, research has shown that behavioral and attitudinal attributes of professionalization do not necessarily vary together (Hall, 1968). Finally, the education and training dimensions are particularly amenable to survey research. In order to statistically assess the relationships between other organizational properties and professionalization, the following variables will serve as indicants. Size and wealth are also properties of the resources and technology dimension. Wealth is clearly a material resource, while size reflects usable human attributes. Complexity refers to the way basic activities are organized. Elements of this dimension include horizontal and vertical differentiation (Hall et al., 1967; Pugh et al., 1968; Blau and Schoenherr, 1971), and spatial dispersion (Crozier, 1964; Hall, 1972). The structure of activities also involves control and decision-making processes which are, in part, formalized in an authority structure. One property space of this dimension which has been shown to be related to professionalization is the degree of organizational decentralization (Aiken and Hage, 1967). Environmental context represents an element of the organizational-environment relationships dimension. Previous research has demonstrated that the

type and magnitude of client demands are important deter-
minants of the way organizational activities are performed
(Perrow, 1967). Here the concept refers to the general
physical and social characteristics of the environment
relevant to organizational activities. For police or-
ganizations, this dimension would be represented by his-
torical and contemporary characteristics of surrounding
communities.

The second element of organization-environment re-
lationships employed in this research is labeled inter-
organizational field linkage. In this case the concept
represents that subset of relationships of individuals,
groups and organizations relevant to the law enforcement
network which involves focal police departments. We sug-
gest that the recent expansion of the social network of
law enforcement has increased department awareness of
developments in the field, has made more sophisticated
information available, and in general, has increased con-
cern with effectiveness (Whisenand, 1971). As previously
noted, effective performance logically depends in part
upon personnel quality. It is argued that interorganiza-
tional contacts generate demands for increased profession-
alization. The relationship between environmental link-
ages and professionalization is potentially reciprocal
in that the more cosmopolitan orientation of professionals
may in turn become a normative orientation for greater
social network linkage (Gouldner, 1957, 1958).

Size, Wealth - Interorganizational Field Linkage, Profes-
sionalization (Propositions 1, 2, 3, 4)

With regard to size, it is hypothesized that the
total number of personnel is related to the potential num-
ber of interorganizational linkages. For example, an or-
ganization of greater size has more personnel available
for attendance at national and regional conventions, semi-
nars, and other meetings. These linkages in turn, may
generate new contacts, i.e., a multiplier effect on the
number of boundary roles. Through contact with another
police organization, a department may become aware of a
new program. The subsequent adoption of this program may
require knowledge resources beyond present organizational
capability, thus prompting additional search within the
social network. With regard to professionalization, there
has been some debate concerning the relative primacy of
size versus other structural variables (such as complexity),
on the development of professionalization (Hall, 1972). As
a direct effect, size may merely enhance the probability of
greater numbers of personnel reflecting "professional charac-
teristics." Previous research on police departments sug-
gests that size has moderate effects upon knowledge genera-
tion in organizational decision-making (Kreps and Dynes,
1974a, 1974b). Although not a direct test of professiona-
lization, this past research suggests, at the very least,
that size generates demands for professional expertise.
The present study provides the opportunity of assessing

directly the effects of size.

Wealth represents an economic resource for action. Proposition 3 suggests that expanded material resources enables an organization to initiate and/or support increased normative and comparative reference contact (Evan, 1966). Quite simply, outside contacts and the seeking of assistance involves costs to the organization. We suspect that organizations will vary in their ability to absorb these costs. In proposition 4, it is reasoned that greater wealth permits an organization to support special programs, planning and research which require, as well as attract, professional personnel. Finally, it is suggested that monetary resources afford training programs of greater sophistication and comprehensiveness.

Complexity - Interorganizational Field Linkage, Professionalization (Propositions 5 and 6)

We assume that a more complex structure entails a more complex orientation to problem-solving. It is therefore hypothesized that with greater complexity the search for problem solutions (information, new ideas, practices, etc.) will increasingly transcend organizational boundaries. A complex orientation to problem solving also reflects the demand for professional personnel. Horizontal differentiation involves greater specialization, while vertical differentiation provides channels for the communication of larger amounts of information and the need for new managerial roles to coordinate professional activities (Clark,

1963; Lawrence and Lorsch, 1967; Whisenand, 1971; Blau, 1973). Greater spatial dispersion is associated with increased loci of organizational action and less contact with central offices, thus increasing coordination complexity and the need for highly qualified personnel.

Decentralization - Interorganizational Field Linkage, Professionalization (Propositions 7 and 8)

The distribution of organizational authority is another important structural property. Administrative to line operations ratios and the proportion ranked to total personnel both reflect the distribution of formal decision-making power. It is suggested that the effect of greater decentralization of authority is to increase the number of personnel who can legitimately exercise boundary activities. Decentralization permits more specialized components to seek out the specific types of informational and other resources they need from outside the organization.

Proposition 8 deals with the autonomy dimension of the professional model. Diffusion of the decision-making process throughout the organization requires that personnel make judgements (exercise autonomy) based on their own expertise in specialized areas. It is suggested that decentralization stimulates increased professional competence which in turn becomes basic to the redistribution of status and power necessary for organizational action (Corwin, 1973). Reciprocal causation between professionalization and decentralization is therefore evident. The presence of

professionals in an organization may lead to further
decentralization as knowledge becomes a more important
basis of decision-making authority.

Environmental Context - Interorganizational Field Linkage,
Professionalization (Propositions 9 and 10)

These propositions deal with the adaptation of an
organization to its task environment; to the kinds of
problems it must solve in order to maintain its charter.
This adaptation process is especially interesting in view
of the recent civil disturbances which police have been
called upon to control and prevent. It is reasoned that
a more complex environmental context is a potential threat
to charter maintenance; and will therefore be related to
more extensive interorganizational linkages. As the or-
ganization seeks problem solutions, including such items as
funds for research, equipment and information, the social
network becomes an increasingly important resource. Much
the same line of reasoning supports proposition 10. In
this case the response to task environment complexity in-
volves seeking to improve the competence level of organiza-
tional personnel thus serving as an impetus to increased
professionalization.

Interorganizational Field Linkage - Professionalization
(Proposition 11)

It is suggested that the external relationships of an
organization have direct implications for the quality of
its personnel. These relationships are of particular

interest here, in view of the crescive nature of the law enforcement network. It is suggested, for example, that interorganizational contact increases awareness of the need for professional development and of current trends and new knowledge sources in law enforcement. It logically follows that professional competence is needed to comprehend and implement this more sophisticated knowledge. It should be reiterated that reciprocal causation may also be involved here as greater professionalization logically creates demands for greater social network contact.

Methodology

Sample

Our findings are based on a total population survey of United States police departments from cities of 50,000 and above (N = 374). A cover letter (see Appendix B) explaining the research and an enclosed questionnaire (see Appendix B) was sent to the chief of each department. Thus entre was established with the chiefs but most of the data on education, training, and other structural characteristics required examination of organizational records. One follow-up questionnaire was sent to the largest departments (cities of 100,000 and above), but only a small number of additional cases were picked up. Of the 152 largest departments, 77 or 50.6% responded; of the 222 smaller departments 62 or 27.4% responded; the resulting response rate for the entire population was 139 or 37.2%. The

sample size is moderately skewed to larger departments but this was expected given the substantial quantity of information requested. While large departments have systematized these types of data, we suspect that smaller departments cannot as readily retrieve them. Finally, the sample exhibits fairly broad regional representation with 22 northeastern, 36 southern, 44 midwestern, and 37 western cities. In conclusion, although the sample is not random, it is reasonably representative of size and region, exhibits considerable variability on model elements and shows no readily discernible response biases.

Measurement of Model Elements

We first list model elements and their indicants, then follow with a sequential discussion of measurement.

1. Professionalization

    Hours of recruit training required
    Recruit training score //Number of hours + (hours
    above state mandate) 2//
    Number of fulltime training personnel
    Number of library volumes
    Number of officers with college degrees
    Number of officers who have taken college courses
    Number of officers currently enrolled in college
    courses
    Ordinal Scale of minimum educational requirements
    for recruits (1 = less than high school; 2 = high
    school diploma; 3 = high school diploma, plus;
    4 = 2 year college degree; 5 = 4 year college degree)

    Guttman scale of topics included in training
    Ordinal scale of promotional evaluation procedures
    (4 = educational achievement; 3 = formal evaluation
    of work performance; 2 = oral exams; 1 = written
    exams)

2. Interorganizational Field Linkage

        L.E.A.A. discretionary funding, in thousands of
dollars (1969-1974)
Number of officers attending regional, national
conferences, 1973
Presence of mailing list (dummy variable)
Number of departments on mailing list
Number of officers making site visits, 1973
Presence of written interorganizational agreements
for natural disasters (dummy variable)
Presence of written interorganizational agreements
for civil disturbances (dummy variable)
Number of community relations employees

3. Organizational Size

        Number of sworn personnel

4. Organizational Wealth

        Annual budget of the police department
Baseline salary of police personnel

5. Organizational Complexity

        Number of subunits
Number of bureaus and subunits (total number of
units)
Number of ranks in the chain of command
Number of precincts

6. Organizational Decentralization

        Ratio of ranked to total personnel (vertical)
Ratio of middle ranked to total personnel (vertical)
Ratio of staff to line personnel (horizontal)
Ratio of clerical to total personnel (horizontal)

7. Environment Context

        Number of days of civil disturbance, 1965-1969

With regard to professionalization, we assume that the
quality of education and training activities is related to
the educational background of police personnel and the
structuring of recruitment, training, and promotional pro-
cedures. A series of questions was therefore designed to

measure the college background of police personnel, the
relevance of education for recruitment and promotion, the
absolute amount of training within the department, and
the content and resources of the training program.
Measurement of college education, library volumes, training
personnel, and the number of hours of recruit training was
straightforward. It should merely be added that the
derivative recruit training score assumes that hours above
state mandate reflect higher professional commitment and
we have weighted this effect by squaring the difference.

Recruit minimum educational requirement was measured
by a five item ordinal scale subsuming recruitment stan-
dards from less than a high school diploma through a 4
year college degree. Two checklists for topics covered
in training and promotional testing procedures were also
included. Guttman scaling techniques were employed in
both instances in a search for unidimensionality. Tables
1 and 2 list items developed from Guttman analysis in
descending order of difficulty. Training topics scaled
quite well, revealing a trend from more traditional course
content to topics depicting new social service definitions
of the police mandate. Number of items passed was employed
as an interval measure of training content. Although the
number of errors within the promotional evaluation scale
was somewhat high, we felt justified in developing an or-
dinal scale of 1-10 based upon the ordering of items in

TABLE 1

GUTTMAN SCALE ANALYSIS OF TOPICS INCLUDED
IN TRAINING IN POLICE DEPARTMENTS

Scale Items

1. Family Crises Intervention
2. Role in Modern Society
3. Alcohol
4. History of Law Enforcement
5. Minority Groups
6. Drugs
7. Juvenile Delinquency
8. First Aid

Scale Results

Coefficient of Reproducibility = .924
Minimum Marginal Reproducibility = .836
Percent Improvement = .088
Coefficient of Scalability = .534

TABLE 2

GUTTMAN SCALE ANALYSIS OF PROMOTIONAL EVALUATION
PROCEDURES IN POLICE DEPARTMENTS

Scale Items

1. Education
2. Formal Evaluations of Work Performance
3. Oral Examinations
4. Written Examinations

Scale Results

Coefficient of Reproducibility = .871
Minimum Marginal Reproducibility = .758
Percent Improvement = .114
Coefficient of Scalability = .469

the Guttman analysis. The resulting measure assumes that written examinations (e.g., civil service) and oral testing represent more conventional approaches to promotional testing while educational achievement and formal evaluation of work performance entail increased professional emphasis.

Factor analysis was then employed to simplify the multiplicity of measures. A principle components factor analysis with varimax orthogonal rotation was employed and a lower limit eigen value of 1.00 was used to terminate extraction of factors for rotation (see Table 3). Three underlying constructs subsuming over 70% of the variance were revealed. Measures of college education, library resources, and training personnel load on Factor 1 and exhibit a general educational dimension. Factor 2 represents a specific recruit training dimension, containing loadings with hours of recruit training and the recruit training score. Factor 3 is interpreted as a structural requirements construct. Minimum educational requirements for recruits, topics covered in training, and techniques of promotional evaluation all involve formal structural arrangements related to education and training. In sum, three distinct analytical dimensions of the knowledge and training components of professionalization emerge. Factor 1 is related to the general knowledge posture of the organization while Factors 2 and 3 entail more specific organizational arrangements relevant to education and training. Given the substantial variance explained by these

TABLE 3

FACTOR ANALYSIS: PROFESSIONALIZATION
IN POLICE DEPARTMENTS

	FACTOR 1	FACTOR 2	FACTOR 3	h^2
RETRREQ	0.087	0.949	0.101	0.918
RECSC	-0.003	0.960	-0.026	0.921
TRPERS	0.983	0.032	-0.014	0.967
LIBVOL	0.928	0.050	0.079	0.869
DEGREE	0.972	0.039	0.064	0.949
COURSE	0.632	0.008	0.058	0.402
ENROLLED	0.941	0.025	-0.037	0.888
EDREQ	0.105	0.030	0.703	0.506
SUBSCAL	0.041	0.005	0.770	0.594
PROMSCAL	0.194	0.183	0.580	0.407

Variance: 74.2%

RETRREQ - Hours of recruit training required
RECSC - Recruit training score (Number of hours + (hours
           above state mandate) 2)
TRPERS - Number of fulltime training personnel
LIBVOL - Number of library volumes
DEGREE - Number of officers with college degree
COURSE - Number of officers who have taken college courses
ENROLLED - Number of officers enrolled in college courses
EDREQ - Minimum educational requirements for recruits
SUBSCAL - Guttman scale of topics included in training
PROMSCAL - Ordinal scale of promotional evaluation pro-
           cedures

constructs, factor scores were assigned to each case in the sample.

Dimension 2 involves an assessment of the knowledge development potential of the interorganizational field. The environment contains both manifest and latent sources of knowledge and information relevant to goal achievement (Dill, 1962). Contacts with other organizations provide opportunities for expanding knowledge technology, thus potentially contributing to increased professionalization. Evan (1966) heuristically distinguished between comparative and normative reference contacts. Comparative reference contacts are those in which members are similar organizations, perhaps having similar structures and objectives. Mailing lists of other departments for purposes of information exchange, site visits and attendance at regional and national conferences all involve comparative reference contact with other departments. In a normative reference situation the focal organization accepts, at least in part, the values and goals of some other environmental element. Written agreements with other community organizations for natural disasters as well as civil disturbances and number of community relations employees conceptually represent local normative reference relationships in that interdependence with other community organizations must be taken into account by those police departments having such ties. Finally discretionary funding from the Law Enforcement Assistance Administration specifically involves normative

reference interplay between the local department and what
has become an extremely important federal law enforcement
agency. One of the formal mandates of L.E.A.A. is improved
professionalism in law enforcement training and practices.

A principle components factor analysis with varimax
orthogonal rotation was again used to organize the data
(see Table 4). Four underlying constructs accounted for
substantial variance. Factors 1 and 3 are interpreted as
normative reference constructs subsuming, respectively,
contacts at the local and national levels. The high load-
ing of community relations personnel on Factor 3 documents
the attention of L.E.A.A. to the community involvement of
local departments. Factors 2 and 4 are configurations of
comparative reference indicators. There may be a speci-
ficity-diffuseness continuum reflected here. Mailing lists
are often employed for rather specific information requests
(e.g., training bulletins) while site visits and particular-
ly attendance at conferences often involve rather elaborate
informal ties beyond the formal purposes of the meetings.
Once again, factor scores were assigned to each case in
the sample.

With regard to the input variables, size is a property
space of the resources and technology dimension, reflecting
usable human attributes. Size both intensifies inherent
system problems and serves as a latent functional resource
for problem solutions such as the professionalization of

TABLE 4

FACTOR ANALYSIS: INTERORGANIZATIONAL
FIELD LINKAGES OF POLICE DEPARTMENTS

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	h^2
AMTGRANT	-0.194	0.133	0.849	0.036	0.777
CONFER	0.216	-0.145	0.203	0.838	0.812
MAIL	0.263	0.761	0.040	-0.032	0.650
NOMAIL	0.077	0.732	0.031	-0.006	0.543
SITE	-0.175	0.563	-0.051	0.628	0.745
CREMP	0.197	-0.069	0.815	0.132	0.725
CDCOMPL	0.889	0.087	0.030	0.069	0.083
NDCOMPL	0.877	0.196	-0.027	0.056	0.811
Variance:	73.3%				

AMTGRANT - L.E.A.A. discretionary findings
CONFER - Number of officers attending regional, national
        conferences, 1973
MAIL - Mailing list (dummy variable)
NOMAIL - Number of departments on mailing list
SITE - Number of officers making site visits, 1973
CREMP - Written interorganizational agreements for natural
        disasters
CDCOMPL - Written interorganizational agreements for civil
        disturbances
NDCOMPL - Number of community relations subunit employees

organizational personnel (Kasarda, 1974). The measure
employed in this research involves few assumptions as its
direct empirical link is readily apparent. Wealth is also
an element of the resources and technology dimension;
specifically an economic resource basic to the performance
of charter specified tasks. We assume that the level of
funds available limits knowledge development. The annual
budget and the baseline salary of police personnel logical-
ly reflect the economic strength of departments.

Complexity is a characteristic of the structuring of
basic activities and is often defined with reference to the
division of labor (Blau and Schoenherr, 1971; Hall, 1972).
In this regard, Hall (1972) notes that complexity is multi-
dimensional, incorporating horizontal differentiation,
vertical differentiation, and spatial dispersion. Horizon-
tal differentiation involves the subdivision of organiza-
tional tasks, reflected in a proliferation of distinctive
work units. Thus, the number of subunits and the total
number of bureaus and subunits are indicants of the hori-
zontal division of labor. [5] As work becomes more specialized,
problems of administrative coordination increase, evidenced
by greater complexity of organizational control structures.
Assuming that ranks represent various levels of authority,
the total number of ranks is a logical measure of vertical
differentiation (Blau and Schoenherr, 1971). Interpreted
as a geographic indicator of horizontal differentiation,
spatial dispersion refers to increased loci of organizational

activity (Hall, 1972). The empirical link between spatial dispersion and the number of precincts is direct.

Decentralization is defined as one property of organizational authority structures evidenced by the distribution of formal decision-making power. Hall (1972) distinguishes between horizontal and vertical decentralization. Horizontal decentralization refers to the distribution of authority among organizational subunits. One aspect is the ratio of administrative or staff services to line operation functions. The staff-line ratio is more specifically related to the authority structure and decision-making influence; while the clerical ratio reflects a more general dimension of administrative complexity. Vertical decentralization involves the delegation of authority to lower levels of the hierarchy. Assuming that all ranked personnel perform some administrative decision-making function, a higher proportion of ranked to total personnel indicates greater decentralization of authority. The proportion middle ranked to total personnel was also employed as a somewhat more specific measure.

Horizontal and vertical differentiation, spatial dispersion, and decentralization all reflect dimensions of the structuring of organizational activities. In order to assess their interrelationships, we entered all of the measures into a principle component factor analysis with varimax orthogonal rotation. Three factors accounting for 69.1% of the variance were extracted (see Table 5).

TABLE 5

FACTOR ANALYSIS: STRUCTURE-COMPLEXITY
OF POLICE DEPARTMENTS

	FACTOR 1	FACTOR 2	FACTOR 3	h^2
SUBUNIT	0.95572	-0.02457	-0.02873	0.01484
TOTUNIT	0.95862	-0.02133	-0.03155	0.92041
PRECINCT	0.75956	-0.06638	0.06033	0.58498
TOTRANK	0.45822	0.46632	-0.09354	0.43617
RANKSIZ	-0.08661	0.84994	0.05483	0.73291
MIDSIZ	-0.04147	0.86945	0.09749	0.76717
CLERSIZ	-0.03194	0.35685	0.49077	0.36921
STAFLINE	0.02001	-0.08104	0.89257	0.80364
Variance:	69.1%			

SUBUNIT - Number of subunits
TOTUNIT - Number of divisions (bureaus) + subunits
PRECINCT - Number of precincts
TOTRANK - Number of ranks in the chain of command
RANKSIZ - Ratio of ranked to total personnel
MIDSIZ - Ratio of middle ranked to total personnel
CLERSIZ - Ratio of clerical to total personnel
STAFLINE - Ratio of staff to line personnel

Subunits, total number of units, and precincts all load highly on Factor 1. Interestingly, the total number of ranks loads about equally on Factors 1 and 2. Since indicants of both horizontal and vertical differentiation and spatial dispersion all exhibit high positive loadings, Factor 1 is interpreted generally as a structural differentiation construct, although the horizontal dimension predominates. The second factor also has high positive loadings on the total number of ranks, as well as the proportion ranked to total personnel and the proportion middle ranked to total personnel. Thus, Factor 2 reflects the formal distribution of organizational authority, emphasizing vertical patterns of decentralization. Staff-line ratio and the clerical ratio both load highly on Factor 3, evidencing a horizontal decentralization dimension. In order to assess effects of organizational structure on professionalization each case was assigned factor scores as measures of structural differentiation, vertical differentiation-decentralization, and horizontal decentralization.

Environmental context is a property of organization-environment relationships, referring to the physical and social setting of organizational activities. Certain characteristics of the surrounding community are potential sources of uncertainty and constraints upon task performance. Of particular relevance to this study, civil disturbances of the late 1960's were disruptive community

events; generating both immediate response and prevention
demands upon police departments. We employed criteria
and data on civil disturbance from senate subcommittee
reports and the Lemberg Center for the Study of Violence
to determine the number of days of civil disturbance
experience from 1965-1969 for each department in the
sample (Kreps and Dynes, 1974a). Given this time frame,
it is therefore possible to determine whether these environ-
mental conditions contributed to the level of profession-
alization measured 5 years later.

Findings

The model depicts a sequence of hypothesized effects
of organizational and contextual variables upon interorgani-
zational relationships and professionalization. For reasons
stated earlier, we approached the data as a two step mul-
tiple regression problem rather than a classic path analytic
model. Consistent with that decision, as well as for ease
of presentation, we have organized the data in tabular form
(see Tables 6 and 7). The statistical analysis is divided
into two steps. We first regressed the interorganizational
field factor scores with size, wealth, formal structure
factor scores, and environmental context to determine their
impact upon these recent professionally relevant interorgan-
izational relationships. We then regressed professionaliza-
tion factor scores with all the preceding measures; the re-
sult being a logical test of the direct and indirect effects

TABLE 6

MULTIPLE REGRESSION ANALYSIS FOR INTERORGANIZATIONAL
FIELD LINKAGE FACTOR SCORES*

Interorganizational Field Linkage Factor 1 (Env 1)

Independent Variable	Simple r	Standardized Beta
Size	0.097	0.164
Civil	0.023	-0.121
Wealth	0.092	0.029

R = .126   Variance = .016

Interorganizational Field Linkage Factor 2 (Env 2)

Wealth	0.040	0.034
Salary	0.039	0.033

R = .047   Variance = .003

Interorganizational Field Linkage Factor 3 (Env 3)

Wealth	0.424	0.377
Struct 1	0.481	0.377
Civil	0.219	-0.209
Size	0.399	0.047
Salary	0.167	0.065

R = .539   Variance = .279

Interorganizational Field Linkage Factor 4 (Env 4)

Salary	-0.035	-0.039
Wealth	0.013	0.021

R = .034   Variance = .002

* All Betas are at least twice the standard error.

TABLE 7

MULTIPLE REGRESSION ANALYSIS FOR
PROFESSIONALIZATION FACTOR SCORES *

Professionalization Factor 1 (Prof 1)

Independent Variable	Simple r	Standardized Beta
Size	0.713	1.682
Wealth	0.475	-0.804
Env 3	0.497	0.333
Civil	0.388	-0.333
Env 2	0.077	0.391
Env 4	-0.004	0.380
Struct 1	0.450	-0.234
Salary	0.158	0.036

R = .877   Variance = .783

Professionalization Factor 2 (Prof 2)

	Simple r	Standardized Beta
Size	0.294	0.128
Env 4	0.074	0.068
Salary	0.089	0.037
Wealth	0.283	0.098
Civil	0.267	0.096

R = .313   Variance = .099

Professionalization Factor 3 (Prof 3)

	Simple r	Standardized Beta
Salary	0.116	0.113
Env 4	0.085	0.092
Size	0.054	0.111
Civil	0.011	-0.077
Wealth	0.047	-0.022

R = .161   Variance = .025

* All Betas are at least twice the standard error.

posited in the original model.

With regard to Table 6, the pattern exhibited is one of relatively little variance explained in the dependent variables with the major exception of Environment 3, the factor subsuming discretionary funding and community relations employees. The same selective pattern emerges with professionalization in Table 7. With 78.2% of the variance explained, we have essentially captured the general education dimension of professionalization (Professionalization 1) but account for relatively little variance in professionalization factors which reflect more specific organizational arrangements. This selective empirical power of the model will be discussed further as we highlight specific inter-relationships.

Size, Wealth - Interorganizational Field Linkage, Professionalization (Propositions 1, 2, 3, 4)

The effects of size and wealth range from low to quite high on the two sets of dependent variables.[6] With regard to size, we hypothesized that the number of personnel would be related directly to the magnitude of interorganizational relationships because of expansion of potential contact points with the environment. The Betas are low to moderate and in the expected direction (.163 and .047) on factors measuring normative reference (Environment 1 and 3); however, the effect of size washes out completely on factors subsuming contact with other police departments (Environment 2 and 4). This selective as well as at best moderate

impact of size is important to note. Larger departments
do not disproportionately seek out knowledge exchanges
with other police departments while they do generate some-
what greater involvement with dissimilar but charter rele-
vant groups and organizations, particularly at the local
level (natural disaster and civil disturbance arrangements
and community relations programs). If we assume that
larger departments have more complex and uncertain task
environments, this finding implies a rather constricted
search for solutions and a failure to utilize the growing
knowledge potential of the law enforcement network. Alter-
natively, the leadership of larger departments may have con-
fidence that internal capability is sufficient to meet char-
ter relevant demands. It is also interesting to note that
L.E.A.A. discretionary funding is not being dominated by
larger departments. To a certain extent this greater spread
of discretionary money is intentional at the federal level,
but the data also suggest that grantsmanship skills are not
monopolized by big city departments.

Size does show a very substantial positive impact
(Beta = 1.68) on the general knowledge posture of police
organizations (Professionalization 1) and moderate effects
on both training (Professionalization 2, Beta = .128) and
the importance attached to education in recruitment, train-
ing and promotion evaluation (Professionalization 3, Beta
= .111). Our hypothesis was that size enhances the simple

probability of greater numbers of personnel reflecting pro-
fessional characteristics and also serves as an impetus to
professionalization by generating coordinating problems.
This hypothesis receives strong support from our data.[7]
With regard to the relative importance of size versus other
structural variables on the professionalization process,
size clearly has direct implications for knowledge genera-
tion particularly in terms of the general educational pro-
files of the departments. Yet the selectivity of effects
are intriguing. When we focus upon specific organizational
arrangements related to professionalization (Professiona-
lization 2 and 3) the effects of size moderate (as do other
relationships) and variance is depleted. It is previously
evident from the factor analysis that general education
variables do not correlate highly with organizational di-
mensions of professionalization. The distributions of Pro-
fessionalization 1 dimensions are generally broad and a
substantial proportion of departments exhibit relatively
high levels. Although we do not have time lag data, we
infer that substantial increases in Professionalization 1
dimensions have occurred. Although the range is lower,
clearly patterns of internal variation for Professionaliza-
tion 2 and 3 also exist but we have simply not accounted
for them.

Assuming that organizations vary in their ability to
absorb costs of outside contact, we hypothesized that

greater wealth permits them to initiate and support in-
creased normative and comparative reference relationships.
Two measures of organizational wealth were employed: the
annual budget and the baseline salary of police personnel.
Budget displays a positive but low impact on interorganiza-
tional field linkage generally but is a moderate stimulus
(Beta = .267) for efforts to secure discretionary funding
and expand community relations programs. The development
and processing of grant applications (many related to com-
munity relations) as well as expansion of what may be de-
fined as a marginal role (Kreps and Weller, 1973), requires
a certain degree of slack in economic resources. We sus-
pect that larger budgets allow for some flexibility in these
areas. It should also be added that budget is essentially
an alternative measure of size, being highly multicollinear
with that variable. The effects of baseline salary are
quite minimal. This measure may merely be a function of
the socioeconomic status of the community or collective
bargaining while having relatively little direct impact on
the organization except as an inducement for quality per-
sonnel.

With regard to professionalization, we hypothesized
that wealth permits an organization to support activities
which both require and attract professional personnel.
The Betas are inconsistent for the budget measure, evi-
dencing slight positive effects (Beta = .098) on training

(Professionalization 2), very little but negative impact on the structural requirements factor (Professionalization 3) and strong negative impact (Beta = -.804) on the general education dimension. We suggest this latter strong negative effect is a statistical artifact of the tremendous multicollinearity between budget and size and therefore should not be given much conceptual credence. However, it could be argued from our data that economic resources are not being noticeably diverted to the qualitative improvement of organizational personnel. Perhaps general manpower and equipment needs predominate. More systematic research is needed. Again the Betas for salary are relatively slight but in the expected direction. This finding suggests that higher salaries may attract better qualified personnel, but professionalization involves more than simple monetary inducement (Kreps and Dynes, 1974a).

Complexity, Decentralization-Interorganizational Field Linkage, Professionalization (Propositions 5, 6, 7, 8)

The findings on structural complexity and decentralization are, in some cases, substantially different from what was expected. The most general hypothesis was that the more complex the structuring of organizational activity the more complex the orientation to problem solving; an orientation involving environmental search for problem solutions. The findings exhibited on Table 6 are clearly mixed. None of the structural factors display any impact

upon contact with other police departments (Environment 2
and 4), or on the normative reference construct reflecting
written agreements with other local organizations (Environ-
ment 1). General structural differentiation (Structure 1)
does have a relatively substantial positive effect (Beta =
.377) on the normative reference construct subsuming dis-
cretionary funding and community relations employees (En-
vironment 3). We had expected that horizontal decentrali-
zation (Structure 3) would be positively related to Environ-
ment 3 because grantsmanship is largely a staff rather than
a line activity, and community relations is perhaps only
marginally defined as a line function. The Beta was mod-
erate and in the expected direction, but not twice its
standard error. The push toward the environment is there-
fore clearly evidenced, but the process is again selective.
Organizationally complex departments are pursuing the fed-
eral largess but do not disproportionately seek out other
police departments as knowledge resources. As stated
earlier, the leadership of large and complex police organi-
zations, operating in fluid environments, may feel rightly
or wrongly that internal capability is sufficient to meet
charter objectives. More systematic research of this issue
is needed, particularly given recent concerns with effec-
tiveness of police practices.

In general, these findings suggest that relationships
with law enforcement network at the national level are

substantially enhanced by complex task structures. No such case can be made for other types of contact. It should also be remembered that environmental relationships are reciprocal and it may ultimately be more relevant to look for structural effects rather than antecedents. Considerable recent attention, generated to a substantial degree externally, has been given to improvement of law enforcement; but whether this attention has fundamentally altered the social organization of police practices remains an empirical question in need of systematic research.

Structural complexity has been defined both in terms of the division of labor (Hall, 1972) and with reference to the level of knowledge employed in organizational activities (Price, 1968). With regard to professionalization, we assumed that structural complexity involves a complex orientation to problem solving, creating demands for professional personnel. We also argued that decision making must be more decentralized in order to allow qualified personnel to make judgements based upon expertise in specialized areas. These hypotheses receive only very limited support. Vertical differentiation-decentralization (Structure 2) has no impact on professionalization, and contrary to expectations, structural differentiation (Structure 1) exhibits a moderate negative impact on Professionalization 1 (Beta = -.234). Structure 3 also washes out completely.

We suggest that police professionalization is not

closely associated with the internal structure of police practices. It is interesting to again note that we can clearly account for the most generalized form of knowledge development, namely college training, but not those factors involving structural arrangements. By implication, the general knowledge posture of organizations can be altered with little structural modification. Indeed, we found that by reversing the regressions, professionalization factors exerted little or no structural effects. The tacit question is what are the short term consequences of the recent concern with police professionalization? Our interpretation is that at the structural level, the consequences are at best rudimentary. Police departments have historically been organized along rigid bureaucratic lines, thus recent and largely external pressures for professional development would likely engender bureaucratic resistance. It might logically be inferred from our findings that the short term interrelationships between measures of professionalization and structure in police organizations would be relatively low.

If professionalization, defined as knowledge development, is relatively independent of the structure of police practices, what are its beneficial short and long range consequences and how can they be studied? Our data suggest sociologically that what is occurring is a gradual change in the "culture" of police work, stimulated by a

general expansion of knowledge. The knowledge resources
held by police personnel and organizations and the values
brought to bear in approaching police problems are prob-
ably changing, albeit slowly. These cultural patterns will
not be reflected in short term structural changes; in fact
it is demonstrably arguable that there is considerable de-
bate and much resistance within law enforcement to any
fundamental changes in police practices. Thus change is
incremental, highly complex, and involves processes of
resistance and accommodation. These processes cannot be
addressed sufficiently with survey research. Rather what
is now required are intensive case studies of potentially
high change organizations which have noticeably expanded
these types of knowledge resources.

Environmental Context - Interorganizational Field Linkage,
Professionalization (Propositions 9 and 10)

Organization-environment relationships have been given
recent attention in the organizational literature as impor-
tant sources of influence on organizational affairs. The
findings on environmental context (civil disturbance ex-
perience) are both very interesting and relevant to this
growing body of literature. It was hypothesized that a
more complex task environment is a potential threat to
charter maintenance and as organizations seek solutions to
intensified demands, they look to the social network as an
important knowledge resource. However, civil disturbance

has had no such effect on police departments. Direct civil disturbance experience does not stimulate contact with other police departments (Environment 2 and 4), has moderate negative impact on civil disturbance and natural disaster agreements at the local level (although little variance is absorbed), and perhaps most interesting, has a moderate negative impact (Beta = -.209) on discretionary funding and community relations efforts (Environment 3). It appears that some retrenchment takes place among those departments directly experiencing civil unrest. We suggest that departments become oriented to symptoms based upon a traditional concern with social control. This may result in minimal attention to underlying problems which would require increased knowledge resources and an expansion of involvement in the local community. The preceding interpretation is given additional support by the findings on professionalization. We also suggested that improving the competence of police personnel to deal with problems in the community would be another result of civil disturbance experience. This hypothesis is also refuted. Civil disturbance has low to moderate effects on Professionalization 3 (Beta = -.077) and Professionalization 1 (Beta = -.333) and a small positive effect (Beta = .096) on Professionalization 2 (recruit training).

Reiterating, these results suggest that civil disturbance experience breeds a concern for control rather than

prevention. Professionalization, particularly the general education factor implies a relatively broad orientation to community problems. The clear deflating effect of civil disturbance experience may reflect a concern with symptoms rather than underlying causes. More subtly, it could also be argued that as a department encounters higher levels of civil disturbance, the symptoms do become more clearly defined as does organizational response capability. Given the traditional social control mandate of police, a specific response to concretely defined problems would likely seem appropriate. A case in point is crowd control training. Crowd control training is relevant to the problem and can be incorporated readily into training. The slight positive effect of civil disturbance experience on the recruit training factor (Professionalization 2) perhaps evidences this process. In any event, it is clear that response to environmental uncertainty can take a number of forms. In this case not only does uncertainty not seem to induce professionalization but it might also be argued reciprocally (although our data cannot be used to test the assertion) that it is low professionalization that breeds a concern with symptoms instead of a more probing look at underlying issues.

Interorganizational Field Linkage - Professionalization (Proposition 11)

Assimilating the resources of other organizations is another way of adapting to environmental uncertainty. The

complexity of urbanism has created the need for more so-
phisticated information. We have argued that the crescive
social network of law enforcement has enhanced the knowledge
potential of the environment of police organizations. By
implication, interorganizational contacts should heighten
awareness of new knowledge and other resources in law en-
forcement and stimulate professional development. The in-
terorganizational field factors operate strongly in the
expected direction but again the effects are selective.
Both comparative and normative reference contacts have the
greatest impact on the educational dimension of profession-
alization, while noticeably, if not totally enervating on
Professionalization 2 and 3. This finding is perhaps con-
sistent with the fact that public attention and pressure
on law enforcement has focused, in part, on improving the
educational background of police personnel. Yet that con-
cern is not well articulated; there is merely the general-
ized assumption that expanded knowledge will improve law
enforcement effectiveness. Whether the premise is supported
or not, in responding to public concerns as well as fiscal
impetus from the federal level, police departments can ex-
pand their general educational posture without fundamental-
ly altering the structure of police practices. Stated
another way, if the assumed benefits of education are not
well articulated generally, or if there is some debate
about these benefits, it is logical to conclude that the

actual translation of expanded knowledge resources in terms
of changed organizational performance would be quite diffi-
cult.

Notice again the fact that our findings concerning
the more specific organizational aspects of professionaliza-
tion (Professionalization 2 and 3) are far less impressive.
In analyzing knowledge developments, the closer we get to
specific organizational arrangements, the lower the vari-
ance we explain and consequently the more ambiguous the
results. As stated earlier, our inference is that the
general knowledge posture of police organizations is ex-
panding, but in a structurally isolated manner. The pro-
cess appears to be one of subtle and complex changes in the
"culture" of police work; changes which are not well de-
fined (certainly not well researched), but potentially
have far reaching implications.

Discussion

An important aspect of recent attempts to improve law
enforcement in the United States has been the effort to
professionalize police practices. Yet the concept has re-
mained vague as does the actual process of professional
development. The general notion of professionalization of
police services obviously involves a number of elements,
but all seem to have in common the underlying premise that
general education and specialized training are central as-
pects of professional development. Focusing upon education
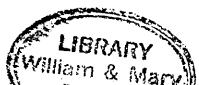
and training, this study was designed to define and empirically elaborate professionalization organizationally. While previous research has been largely social psychological, emphasizing a multidimensional "professional model", this research has documented the usefulness of interpreting professionalization as a knowledge development process basic to the technological posture of police organizations. In so doing, we have also contributed to a more precise understanding of what has been an empirically elusive concept in the organizational literature; namely knowledge technology.

Given this organizational translation of the concept, a model was developed to assess the effects of organizational and environmental characteristics on professional development. After a series of scaling and factor analyses, a two step multiple regression format was used to test the model. The findings indicated the selective impact of model dimensions on variations in professionalization. Size had both direct and indirect effects, thus once again documenting its importance for organizational affairs. However, the effects of size were not uniformly great, but generally moderate. They were most apparent in terms of the general educational dimension of professionalization. Yet the effects of size noticeably enervated in terms of specific organizational arrangements related to knowledge development and use.

The effects of wealth were generally quite low. In-
terestingly, structural measures had little direct impact
on professionalization and by reversing the regressions in
various ways we found minimal, if any, structural effects.
These findings again imply an isolation between knowledge
development and the structure of police practices. Ob-
viously the translation of technological resources into
workflow is a complex process, particularly when these re-
sources are potential sources of change.

Of equal interest were the effects of the environment.
The present research joins a growing number which have
shown the genuine importance of the environment for organi-
zational processes. As a contextual dimension (measured
by direct civil disturbance experience), the environment
had relatively clear negative effects on professionaliza-
tion. These findings evidence, perhaps, a well articulated
concern with symptoms rather than underlying causes, there-
by deflating more complex knowledge development processes.
On the other hand, police departments are positively
responding to other environmental sources in terms of
professional development; but again the effects were selec-
tive. Normative and comparative reference ties had sub-
stantial impact only on the general education dimension of
professionalization. We suggest that the public and law
enforcement network attention to education has been based
on the assumption of its relationship to police

effectiveness. However, it is not all clear how this re-
source is employed organizationally. Police departments
are clearly responding to these pressures, but in a manner
that is to a very great extent structurally marginal.

When we think of this elusive concept of profession-
alization, interpreted organizationally as a knowledge
development process, we should ask what is the relation-
ship between tasks performed and human and material re-
sources employed in task performance? This question is
particularly important, given the assumed relationship
between professionalization and organizational effective-
ness. Certainly the educational background, special skills
and training of organizational personnel must be identified
as well as the material resources employed in knowledge
development. We must also be able to characterize the
knowledge potential of the environment and how it is being
used. And we must finally ask how these technological
resources are translated into workflow activities. The
present research suggests that this latter translation is
highly complex. General education is not highly related
with organizational dimensions of professionalization and
the relationships between professionalization and structure
are quite ambiguous.

If professionalization is developing in a structurally
isolated manner, what are its short term benefits? Perhaps
the question is not correctly put in that the expectation

implied is unrealistic. We suggest that the knowledge held by police personnel and organizations and potentially the values brought to bear in approaching police problems are being affected by the push for professionalization. But these beneficial effects are subtle cultural changes, many involving considerable resistance. What is most sociologically interesting about police organizations is that they are in a state of adaptation. There are efforts at experimentation, innovation, and diffusion. There are environmental pressures for change. And there is considerable internal reflection and strain. What is needed now are intensive case studies of these change processes.

APPENDIX A

LITERATURE REVIEW AND MODEL DEVELOPMENT

The literature review and model development is divided
into three sections. The first section works toward pre-
cise conceptualization of formal organizations. Briefly
summarizing the literature, we draw out assumptions which
underly our own interpretation of the concept and delineate
logical properties of organizational behavior. In the
second section we develop the concept of police profession-
alization. Drawing insights from previous social psycho-
logical work, we elaborate police professionalization as an
organizational property. The final section outlines
elements of the professionalization model which informs
the present study.

Organization

Although the literature is quite diverse, historical
review of the field reveals two major lines of development:
the managerial tradition and the structural tradition
(Mouzelis, 1968; Perrow, 1972). The managerial school
was initially preoccupied with identifying universal prin-
ciples of administration for increasing organizational
efficiency (Taylor, 1947; Fayol, 1949). Critique of the
rational economic model of man underlying these studies

stimulated development of the human relations approach. Emphasis shifted to more complex psychological and socio-logical variables of the work place, thereby prompting a modicum of concern with organizational structure (Mayo, 1945; Roethlisberger and Dickson, 1947). An important by-product of managerialism and human relations approaches was Barnard's (1938) theory of organizations as cooperative systems. Virtually all of the above works involved efforts to explain organizational behavior with concepts developed for the individual level of analysis. Yet empirical research revealed the conceptual weakness of reducing an organization to a simple collectivity. The field now emphasizes decision-making models which interrelate individual behavior and structural characteristics (Simon, 1947; March and Simon, 1958; Cyert and March, 1963), and systems models which view organizations as unique problem-solving entities (Gouldner, 1954; Selznick, 1957).

These latter models of the managerial tradition redound with the second major line of theoretical development, namely structuralism. For this approach, the organization as a unique whole is the basic analytical unit. The problem is to assess the interrelationships among structural properties and internal and external processes. Weber's (1947) writings on bureaucracy are of seminal import. Via a macro historical study of the concept, Weber identified relevant aspects of formal structure. His works provided the basis for more recent, middle range,

comparative analyses of structural characteristics and distinctly set the tone for a sociological approach to organizations (Etzioni, 1959; Pugh et al., 1963, 1968, 1969; Hage, 1965; Perrow, 1967; Blau and Schoenherr, 1971; Meyer, 1972; Child, 1972).

Although managerialism and structuralism began with divergent definitions of the problem certain similarities are historically evident (Mouzelis, 1968; Perrow, 1972). These points of theoretical convergence, outlined below, reflect assumptions about organizational behavior which underly our definition:

1. Organizations are established purposefully to attain relatively specific ends.

2. Organizations are open systems; thus organizational rationality is constrained by a fluid environment (Simon, 1947; Thompson, 1967).

3. As total systems, organizations have emergent structural characteristics which merit study at that level of analysis.

4. Organizations have identifiable properties which exhibit various levels of functional interdependence (Thompson, 1967).

A comprehensive definition of organization should reflect these assumptions and clearly specify basic analytic properties. Organization is defined here as a relatively permanent problem-solving system which will attempt to reduce or control environmental uncertainty in order to

survive and meet charter specified goals. Organizations, as distinct social entities, are therefore assumed to be purposefully established, rational, and bounded by an encompassing social and ecological environment. Rationality is limited by the extent to which an organization articulates its needs with a fluid environment. Defined objectives are attained through various human behaviors, integrated into systems of patterned activity. In what follows, the basic analytical elements of organizations are identified and their interrelationships discussed.

Analytical dimensions of organization

1. Charter

Charter is defined as the image of an organization, including name, formal objectives, and domain which distinguish it as a unique element of the social and ecological environment (Bakke, 1959). As a guideline for ordering activities (Thompson, 1967), charter influences organizational structure, (Pugh et al., 1969), decision-making (Warren, 1969), and responses to environmental conditions (Haas and Drabek, 1973).

2. Resources and technology

Although this dimension is not particularly well delimited in the organizational literature, two basic elements have been distinguished; namely, the nature of organizational tasks and human and material resources employed in task performance (Perrow, 1967; Terreberry, 1968). Given this general framework, Hickson et al., (1969) specify

workflow, materials, and knowledge technologies as sub-elements of this abstract concept. Workflow or operations technology refers to specific techniques and procedures used in task performance. It therefore involves actions performed on raw materials to make appropriate changes in them (Perrow, 1967). Materials technology refers to equipment, physical plant, and economic resources employed in organizational activities. Knowledge technology subsumes information, expertise, and other forms of knowledge development related to organizational problem-solving (Dill, 1962; Kreps and Dynes, 1974a). We argue that professionalization be conceptualized as an important property of knowledge development. For example, the education and training of organizational members represents a type of knowledge resource. The range of technological resources available to the organization serves as a constraint on performance, and, in turn, has implications for organizational structure. Logically, certain tasks and technologies require particular types of work arrangements and organizational controls (Woodward, 1962; Perrow, 1967; Hage and Aiken, 1969; Mohr, 1971; Pugh et al., 1969; Hrebinak, 1974).

3. Activities

This dimension includes integrated sets of behaviors directed toward organizational survival and achievement of charter-specified objectives. Included here are task, control, communication, maintenance and adaptation processes (Bakke, 1959; Haas and Drabek, 1973). Though empirically

linked, these processes may be conceptually distinguished. Task performance activities are specifically related to central organizational production goals. These activities are, in turn, coordinated by intentional control processes (Tannenbaum, 1962). Control is achieved, in part, through communication activities, represented by exchanges of information, directives, and formal evaluations. The remaining two activity sets explicitly link the organization to its environment. Maintenance activities include member recruitment and socialization. Adaptation activities involve modification of organizational or environmental elements in response to changes in environmental conditions.

The above activities are patterned and interrelated by organizational normative, status and authority structures (Bakke, 1959; Haas and Drabek, 1973). Together these structures form a generalized system of stratification. The normative structure delimits official and unofficial guidelines (directive, evaluative, or coordinative) for social interaction. Research has demonstrated that the degree to which these rules and procedures are formalized is related to other organizational characteristics (Hall, 1972). The status structure involves patterns of differentiation among individuals or positions according to expertise, prestige, power, and authority. Status may rest in a position or be achieved on the basis of performance evaluation. Control and communication processes are formalized in organizational authority structures.

Authority may be defined as legitimized power residing in an office or position (Weber, 1947; Rosengren, 1967). Patterns of authority relationships involve translation of goals into directives for organizational action and their transmittal throughout the hierarchy. Major dimensions of the authority structure shown to be related to other organizational characteristics include degree of centralization, staff-line relationships and leadership styles (Etzioni, 1959).

4. Organization-environment relationships

Organizations as open systems exhibit varying degrees of autonomy and interdependence with their environments. This reciprocal organization-environment interaction is considered basic to organizational functioning (Thompson, 1967). Since organization-environment relationships are relatively new areas of research, there are no universally accepted defining properties. However, two approaches to this problem may generally be distinguished; those which classify environments and those which classify specific types of social relationships. The first approach suggests that environments vary both in terms of level of complexity, stressing the number of environmental elements and their degree of interconnectedness; and in terms of degree of fluidity, reflecting frequency and magnitude of change (Emery and Trist, 1965; Duncan, 1972; Jurkovitch, 1974). Terreberry (1968) argues for a general societal trend toward increasing environmental complexity and dynamism.

As problem-solving systems organizations will develop adaptive mechanisms to deal with uncertain environments (Osborn and Hunt, 1974). Thompson (1967) suggests that as the environment changes, organizations will modify technologies and structures in order to maintain charter. Logically, the nature of the task environment affects the structure of organization-environment relationships. These relationships are the primary foci of the second approach.

Various classificatory schemes have been offered such as those based on type of product, degree of formalization, degree of specificity, duration, and degree of organizational control (Thompson and McEwen, 1958; Litwak and Hylton, 1962; Thompson, 1967). Evan (1966) heuristically distinguished between comparative and normative reference contacts. Comparative reference contacts are those in which members are similar organizations, perhaps having similar structures and objectives. The assumption is that these organizations have a basis for comparison of output, problems, and needs. In a normative reference relationship, the focal organization accepts, at least in part, the values and goals of some other environmental element. Taken together, the above schemes identify important analytical properties of organization-environment relationships. Variations in these properties have been shown to be related to organizational goals, structural differentiation, patterns of authority and influence, and organizational change (Thompson and McEwen, 1958; Aiken and Hage,

1967; Lawrence and Lorsch, 1967; Pfeffer, 1973; Kreps and Dynes, 1974b).

In this paper, organization-environment relationships are defined as the sum of an organization's reciprocal linkages with an encompassing physical and social environment. Drawing upon Hall's (1972) useful distinction, we identify two relevant property spaces; distinguishing between the general environmental context and more specific interorganizational relationships. As a contextual factor, the environment constitutes the setting for organizational activity (Eisenstadt, 1959). Here the concept refers to physical, political, social and economic conditions which have an impact on organizational structure and functioning (Pugh et al., 1969). Interorganizational contact articulates the environment in social terms. Here specification of types of relationships (such as normative or comparative reference) becomes very important. By way of summary, the environment provides energy inputs for organizational activities and absorbs organizational outputs. It therefore represents a potential source of uncertainty which organizations will attempt to control. For example, external ties may be generated as internal resources become insufficient to maintain charter in a fluid environment. These contacts may assume a variety of forms, depending on both organizational and environmental characteristics. Finally, by incorporating environmental inputs, organizations may be confronted with the

need for basic structural changes.

Organizational charter, resources and technology, activities and organization-environment relationships are the abstract concepts underlying the organizational model of professionalization employed in this research. In order to empirically assess interrelationships these dimensions must of course be linked to measurable variables at a lower level of abstraction. After a discussion of professionalization in the next section, we will outline this organizational model of professionalization, specifying linkages among analytical dimensions, model elements, and empirical indicators.

Police Professionalization

This section works toward conceptualizing police professionalization and is divided into three parts. The first part summarizes the general sociological orientation to the broader concept of professionalization. Although the majority of this work is social psychological, it does provide insights for organizational research. The second part involves a discussion of professionalization as an organizational system-state and is a logical lead-in to a concluding discussion which defines and elaborates police professionalization as a technological resource.

General sociological orientations to professionalization

Professionalization is difficult to conceptually and empirically decompose. Although it has been the focus of

much sociological research, the concept is not yet well delimited in terms of formally stated and tested propositions. Even though most studies in the sociology of occupations and professions focus on individual characteristics rather than organizational processes, this research provides some insights for higher levels of abstraction. Professionalization can be referred to as a process by which an organized occupation, by virtue of making claim to special competence and having concern for the quality and benefits of its work, obtains the exclusive right to perform a particular kind of work. That right involves control of training and considerable autonomy in the evaluation of work performance (Vollmer and Mills, 1966). Definitions such as the above imply changes in work activities which are a response to increasing societal complexity and demands for expertise. The complex nature of these changes has made them difficult to identify and study (Corwin, 1970). Thus before professionalization can be meaningfully related to organizational structure and process, its underlying dimensions must be clearly specified.

Efforts to formulate a succinct conceptualization are centered around what might be called a professional model. Where variations are found it is more a matter of relative emphasis or degree of specificity than one of using totally different sets of dimensions. For example, Goode (1957) identifies two dimensions, i.e., specialized and abstract knowledge and a service orientation, as basic to

the professional model. Other researchers such as Green-
wood (1957), Kornhauser (1962), and Pavalco (1971) expand
upon Goode's discussion and develop as many as eight di-
mensions.

The following seven core dimensions appear to sum-
marize the professional model developed in the literature:
1) systematic body of theoretical knowledge; 2) specialized
training; 3) autonomy; 4) public definition of the service
as essential to society; 5) ideal of service; 6) code of
ethics; 7) colleague associations.

1. Systematic body of theoretical knowledge - Know-
ledge constitutes the basis for professional activities
which involve unstandardized products, or unique problems.
Principles or theory, often derived from systematic scien-
tific research, provide the groundwork for practice, i.e.,
rational actions in concrete situations. There is fre-
quently a division of labor within a profession between
the researcher-theorist role (concerned with knowledge-
generation) and the practitioner role (involved with the
application of this knowledge). Since the public is gen-
erally unfamiliar with this knowledge, it legitimates work
activities and therefore serves as a potential power base.

2. Specialized training - Mastery of a body of know-
ledge requires a prolonged period of specialized training.
As a prerequisite for professional performance, this train-
ing must emphasize the ability to manipulate ideas and
understand general principles as well as technical skills.

In addition to knowledge and experience, Goode (1957) and Pavalco (1971) suggest that values, a unique set of norms, and work role conceptions are also acquired. This dimension is deemed particularly important in that training provides a means for acquiring the knowledge base, is used to justify a claim for autonomy, and begins the process of inculcating a service orientation and codes of ethics. In his description of the transitions from occupation to profession, Hughes (1958) observes that soon after recruitment, the question of training arises. This training becomes increasingly sophisticated as professionalization develops.

3. Autonomy - This dimension deals with the degree to which professional expertise, acquired through training, becomes the basis for self-regulation. Autonomy is defined as the amount of control over matters related to work activities, justified, in this case, by professional competence.

4. Public definition of the service as essential to society - This dimension is concerned with the relationship of service to basic social values; the health and welfare of the individual and society. Pavalco (1971) observes that professional activities involve the generation and application of knowledge and service to crucial, recurring human problems or intense crises. Goode (1957) and Hughes (1968) further point to the necessity of public recognition that professional activities contribute to

human betterment.

5. <u>Ideal of service</u> - Service to clients is said to
be the primary goal and ideology of a profession (Pavalco,
1971). Thus motivation to work stems from a desire to im-
prove client welfare and the intrinsic rewards from accom-
plishing this task are considered more important than
material gains. Moreover, the career aspect of this di-
mension is exemplified by Greenwood's (1957) distinction
between activity engaged in for a short period of time and
the professional sense of life long commitment.

6. <u>Code of ethics</u> - This dimension is concerned with
the degree to which a value and normative system defines
relationships among professionals and provides guidelines
for work evaluation. This system also formalizes the ser-
vice orientation, thereby protecting society from abuse
of professional authority. And as behavioral guidelines,
work standards help to assure higher levels of performance
and universalism in providing public services (Greenwood,
1957).

7. <u>Colleague associations</u> - A sense of common iden-
tity and shared values, fostered by the service ideal and
a code of ethics, are related to the formation of formal
and informal professional organizations. Systematic re-
search, generating needs for discussion and evaluation,
also provides stimulus for these types of organizations.
It logically follows that these social arrangements become
major reference groups serving as sources of ideas, identity

reinforcement and social control.

It is recognized that these dimensions of profession-
alization have attitudinal as well as behavioral components.
For example, Hall(1969) discusses the importance of atti-
tudes such as identification with colleagues, dedication
to work, the desire to perform a service, and freedom to
exercise judgement and discretion. Perhaps prompted by
ease of measurement, much of the empirical work in this
area has involved attitudinal indicants (see, for example,
Sorenson and Sorenson, 1964; Miller, 1967; Corwin, 1970).
But the work of Hall (1968) is of special interest in this
regard. He differentiates attitudinal and structural com-
ponents of professionalization and then suggests that they
do not necessarily vary together. Given this observation
and problems of validity with attitudinal measures
(Deutscher, 1969), the weakness of many previous empirical
studies of professionalization is readily apparent; this
problem being further complicated by the vagueness of the
concept.

The above dimensions, incorporating both behavioral
and attitudinal components, represent an abstract model of
professional organization; a heuristic device designed to
permit assessment of the degree to which an occupation is
professionalized. Each dimension is conceived of as a
continuum. Thus rather than debate whether or not an
occupation is a profession, it is more appropriate to ask
how professionalized an occupation is at a particular point

in time (Vollmer and Mills, 1966). Professionalization
is also defined as a dynamic process. Caplow (1964) and
Wilensky (1964) suggest that this process be conceptualized
as a set of stages involving changes in characteristics
identified by model dimensions. It is generally accepted
that the sequence of the professionalization process can
vary; and that the degree to which each of the dimensional
characteristics are present or absent at any given point
is affected by type of occupation (Vollmer and Mills,
1966; Pavalco, 1971).

The so-called professionalization model, encompassing
both system-state and processual elements, reflects the
general sociological orientation of this concept. Clearly
greater specificity regarding model dimensions and neces-
sary and sufficient conditions for them are needed. The
utility of the model for the present research lies in its
division into simpler components and the description of
component characteristics.

Professionalization as an organizational system state

Much of previous organizational research on profes-
sionalization stresses its relationship to structural di-
mensions. Both conceptual and empirical works have in-
volved evaluating the argument that many of the changes in
work activities referred to earlier are incompatible with
more traditional bureaucratic models of organization.
Weber's extensive elaboration of the rationalization of
work is the basis for identifying properties of a

bureaucratic model. Then as Freidson (1973) argues, professionalization represents a countertrend of work organization which seems to logically contrast with bureaucratic structural characteristics. Investigation of the hypothesized conflict has made significant contribution to conceptualizing professionalization organizationally. The research can be divided into two parts: 1) role analysis, including studies of individuals in bureaucratic settings and professional versus bureaucratic models (principles) of work organization; and 2) professionalization as an organizational system property.

1. <u>Role Analysis</u> - The professional-bureaucratic conflict is characterized by professionals, desiring autonomy and personal judgement in carrying out activities, being confronted with bureaucratic restrictions (Zald, 1971). The effort is to analyze organizational activities in terms of individual work role conceptions. Some role conflict studies of professionals employed in formal organizations have served, in part, to identify organizational characteristics related to professionalization; e.g., goals, tasks, authority structures, promotional procedures, etc. (Reissman, 1949; Corwin, 1961; Miller, 1967; Sorenson and Sorenson, 1974). Other studies have moved toward considering professionalization and bureaucratization as contrasting models, systems, or institutions of work organization (Kornhauser, 1962; Scott, 1966).

It is apparent that the dimensions of both professional

and bureaucratic models should be treated as separate continua. For example, Hall (1968) observes that occupations exhibit different configurations of professional dimensions and that bureaucratic characteristics of organizations do not necessarily vary together. The relationship of bureaucracy and professionalization is not inherently problematic, i.e., a balance may be achieved with formalization on some dimensions and flexibility in others (Udy, 1961; Kornhauser, 1962; Hall, 1968; Eisenstadt, 1969). Thus professional-bureaucratic conflict can be seen as involving relationships between two systems of social organization. Each system is said to have multiple dimensions but their interrelationships are not well specified. What is needed is more systematic research of dimensions of professionalization as they relate to other organizational properties such as size, complexity, authority structure and task environment. That is the goal of the present research. In other words, from defining the issue as professional-bureaucratic conflict to one of the interrelationships between the two systems of organization, it becomes a logical step to define professionalization at the organizational level of analysis.

2. <u>Professionalization as an Organizational System Property</u> - Professionalization is defined as both a system-state and a process. An organization is considered to be professionalized to the extent that its structure and activities exhibit the dimensions of a professional model.

Processually, professionalization refers to movement of organizational activities along these dimensions. In considering this definition, three points must be addressed: first, acceptance of organization as the level of analysis; second, specification of organizational activities to which the concept can be meaningfully applied; and third, identification of organizational dimensions related to professionalization.

Recognition that organizations should be studied at their own level is well documented in the organizational literature (Mouzelis, 1968; Hall, 1972; Haas and Drabeck, 1973). However, an organizational approach to professionalization has only recently received sustained attention. Hughes (1960) and Vollmer and Mills (1966) both observe that organizations as well as occupations can become more professionalized. The recent research on priests and the church conducted by Ference et al. (1971) makes a crucial distinction between organizations which employ professionals and a "profession-as-organization." In the latter, the service is provided under the auspices of an aggregate of individuals joined into an organization. This distinction is particularly important to the present research. Police work may only be performed under organizational auspices, i.e., the department as a whole, not independent professionals, provides the service. Considerable thought and research is needed to systematically observe how and in what respects an organization may become professionalized.

What constitutes organizational professionalization? By what criteria do we identify an organization as professionalized? The professional model confronts the complexity of the concept by breaking it down into multiple dimensions. We assume that the variable presence of these dimensions as well as their interrelationships, determine the extent of professionalization of a given organization. As stated earlier, our view is that professionalization involves changes in the structure of organization (Vollmer, 1964). The specification of dependent and independent variables is a matter of researcher designation, but is constrained by logic and the space-time context of the research. For this paper professionalization is defined as the focus dependent variable because our objective is to "explain" its variance in terms of other organizational structural and contextual characteristics. This arrangement is further justified by the fact that pressures for increased police professionalization have only recently become noteworthy.

The dimensions of the professional model outlined earlier may be used to specify what organizational activities can become professionalized. Thorough assessment of organizational professionalization involves defining it systematically in terms of each of these dimensions. However, that kind of closure would be beyond the scope of any single study. Given the ambiguity of the concept, our effort is to systematically analyze professionalization

in terms of dimensions 1 (systematic body of theoretical knowledge) and 2 (specialized training), focussing in particular on education and training. In this manner, we hope to contribute to a more precise formulation of the concept; one that interprets professionalization as a technological resource of organizations. Moreover, education and training are amenable to direct behavioral measures, thus alleviating the problem of making inferences from attitudes to behavior (Deutscher, 1969). Considered as an organizational element, professionalization here subsumes structural arrangements for recruitment, education and training, and promotional activities. For example, an organization may be considered to be professionalized to the extent that it has high educational requirements for recruits, extensive and well-equipped training programs emphasizing theoretical principles and practical application, and effective measures related to performance assessment (see Vollmer, 1964).

Finally, with regard to identification of the organizational dimensions related to the process of professionalization, the underlying question is why does an organization become professionalized? To answer this question, basic assumptions about the nature of organizations and the relationship of environmental conditions to organizational structure should be considered.

Organization has been defined as a problem-solving system which will attempt to control environmental

uncertainty. The works of Dill (1958), Thompson (1967), and Haas and Drabek (1973) are of particular interest in relating this definition to professionalization. Thompson defines environmental uncertainty as outcomes of organizational activities affected by interaction with environmental elements. As actions cause changes in an organization's task environment, and organization will attempt to control these changes through structural and/or technological adaptation. Following Dill's suggestion of defining the task environment as a flow of information, adaptation involves environmental monitoring and the search for knowledge relevant to organizational problemsolving. Dill argues that as environmental complexity increases, organizational search strategies become more elaborate. Haas and Drabek observe that the scope and method of environmental monitoring and manipulation is related to the range of member skills and the structure of organizational activities. Thus professionalization, as defined in this study, is one form of elaborating knowledge search strategies related to coping with environmental uncertainty (Kreps and Dynes, 1974a). Environmental uncertainty for police departments is evidenced by the increasing level and complexity of community demands for law enforcement services. Professionalization is one manner in which police organizations attempt to meet these demands.

Police professionalization as an organizational property

Since police work must be performed under organizational auspices, it logically follows that the structure of police organizations is relevant to any analysis of law enforcement practices (Balch, 1974). The problem is a paucity of genuinely organizational research on police departments. Thus an organizational approach to police professionalization is not well grounded in the literature. A few studies point to the organizational dimensions of police work (Banton, 1964; Clark, 1965; Skolnick, 1966; Preiss and Erlich, 1966; Cain, 1968; Wheeler, 1968; Tifft and Bordua, 1969; Cain, 1973), but these studies only relate one or perhaps two elements of structure to police attitudes and behavior. This research is more appropriately labeled social psychological in that the effort largely involves interpreting work orientations of police personnel. Given the dearth of organizational research in general, there are few guidelines for a systematic organizational study of professionalization.

Considerable research has been done on police professionalization within a role analysis framework. Yet the concept remains ambiguous because the parameters of a professional model have not been made explicit. Police professionalization has variously been defined in terms of high public status (Teasely and Wright, 1969), task differentiation (Clark, 1965; Steadman, 1972; Cain, 1973), self direction and personal behavioral control (Skolnick,

1966; White, 1966), community service orientation of
police personnel (Steadman, 1972), and finally, education
and training (Brerton, 1961; Jameson, 1966; Saunders,
1970; Leonard and Moore, 1971; Whisenand, 1971). More-
over, attitudinal surveys are often employed to measure
professionalization, but the measures used do not expli-
citly link attitudes to a projected set of behavioral
outcomes (White, 1966). The consequence is an inadequate
basis for differentiating levels of professionalization
among police personnel and minimal insight for an organi-
zational treatment of the concept. Walsh's (1970) work
is a notable exception. Although still concerned with
police role orientations, he discusses police attitudes
and behavior in terms of the conceptual framework of the
sociology of professions. For example, he suggests that
organizational memberships, familiarity with professionally
relevant journals and academic training are behavioral
referents of professional commitment. In so doing he
more clearly articulates certain behaviors with the di-
mensions of the professional model discussed earlier and
provides some insight for the present organizational frame-
work.

Specifically, a concern with the nature and problems
of education and training does inform our research. We
can begin to enumerate professionalization of these
activities in police organizations as they relate to
recruitment, training, and promotional criteria (Epstein,

1971). We assume that police departments, as social service agencies, must deal with difficult human problems (Saunders, 1970). Professionalization, defined in terms of education and training, involves a theoretical as well as practical approach to law enforcement (Jameson, 1966; McNamara, 1967; Whisenand, 1971; Steadman, 1972). The need for education in law enforcement and behavioral science is increasingly stressed and professional recruitment standards incorporate educational prerequisites (Saunders, 1970). In addition, promotional techniques often include educational achievement and performance quality as well as length of service as criteria of advancement. Thus organizational professionalization is reflected in personnel quality. Logically personnel quality is constrained, in part, by recruitment standards, the amount of training required, resources allocated to training and the reward structure of given departments. We suggest that higher educational standards for recruits and training personnel, greater numbers of hours of basic and in-service training, more sophisticated training materials, and promotions based upon educational achievement and quality of performance reflect greater knowledge capability of police organizations. Therefore, professionalization is logical referent for the knowledge development component of organizational technology. All of the above structural arrangements can be linked to direct behavioral measures. In sum, this research addresses professionalization as a

logically refers to the number of organizational employees. While there is general agreement about the relevance of size for organizational behavior, there is considerable debate as to its importance vis-a-vis other organizational characteristics. For example, Hall et al., (1967), Blau and Scott (1962), Woodward (1962), and others argue that size does not have predominant causal impact on organizational outcomes, i.e., its effects are largely mediated by technology and complexity of the task environment. However, an alternative argument frequently made is that size is a major determinant of structure. Size has been shown to be systematically related to organizational wealth, complexity, formalization, decentralization of authority, and the administrative component (Meyer, 1968; Pugh et al., 1969; Blau and Schoenherr, 1971; Hall, 1972; Kasarda, 1974). The works of Kreps and Dynes (1974a) and Kasarda (1974) are particularly important for this study. Kreps and Dynes demonstrate the moderate effects of size on knowledge generation in police departments. Kasarda argues that size both intensifies inherent system problems and serves as a latent functional resource for problem solutions. For example, size creates coordination problems, but is also a stimulant to the professionalization of organizational personnel. The professionalization process represents, in part, a system solution to coordination problems.

technological property of police organizations, referring to expansion of knowledge resources employed in organizational activities.

As stated earlier, in elaborating organizational professionalization in terms of education and training, we empirically treat two important dimensions of the professional model as developed in the sociology of professions literature. The effort is to explicitly ground our research to a crystallized conceptualization of professionalization, thereby avoiding the discontinuity that presently prevails. Measurement of the concept involves assessment of behavioral outcomes rather than attitudes. We then determine the effects of other organizational and contextual properties upon levels of professionalization, as measured.

Elements of the Professionalization Model

The model elements are size, wealth, complexity, decentralization, environmental context, interorganizational field linkages, and professionalization. They are developed and logically interrelated in the thesis proper. In this section we present an overview of these elements and their empirical indicators.

1. Organizational Size

Size is a property space of the resources and technology dimension, reflecting usable human attributes. Size intensifies system problems but also serves as a latent functional resource for problem solutions. Size is logically measured by the number of uniformed personnel.

2. Organizational Wealth

The level of material resources available to an organization limits the range of its activities and techniques used to perform them. Organizational wealth is one property space of the resources and technology dimension; specifically an economic resource basic to performance of charter specified tasks. We assume that the level of funds available acts as constraint upon resource development. It is therefore logical to suggest that professionalization (a knowledge resource) is affected by the economic posture of the organization. The annual budget and baseline salary of police personnel are employed as indicators of the economic strength of departments.

3. Organizational Complexity

Complexity is a characteristic of the structuring of basic activities. Complexity has been defined, although infrequently, as knowledge resources related to work specialization (Hage and Aiken, 1967; Price, 1968). This interpretation clearly links complexity to the knowledge component of organizational technology. However, the more common approach defines complexity with reference to the division of labor (Blau and Schoenherr, 1971; Hall, 1972). In this regard, Hall (1972) notes that complexity is multidimensional, incorporating horizontal differentiation, vertical differentiation and spatial dispersion. Horizontal differentiation involves greater task specialization and is evidenced by a proliferation of subunits. Vertical

differentiation refers to the number of levels in the hierarchy. Multiple centers of organizational activity represent spatial dispersion. Little is known about the relationships among these dimensions. For example, both Meyer (1968) and Blau (1973) suggest that vertical and horizontal differentiation may be seen as alternative methods of organizing work activities. It is clear, however, that considerable empirical research is needed before definitive conclusions can be made.

In general, the structuring of activities can be seen as an organizational response to particular system problems (Kasarda, 1974). Complexity has been shown to vary with organizational size and authority structures (Meyer, 1968; Blau, 1973), technology (Litwak, 1961), environmental relationships (Aiken and Hage, 1967; Lawrence and Lorsch, 1967), and organizational change (Kreps and Dynes, 1974b). However, its relationship to other important organizational properties and outcomes remains empirically unresolved (Hall, 1972). Here we assess the impact of the structuring of police activities upon environmental linkages and the level of professionalization. Three elements of complexity are of primary interest. Divisions (bureaus) and subunits are indicants of the horizontal division of labor. Assuming that ranks represent various levels of authority, the total number of ranks is a logical measure of vertical differentiation (Blau and Schoenherr, 1971). Spatial dispersion, or the number of sites of organizational action, is logically

measured in this study by the number of precincts.

4. Organizational Decentralization

Decentralization is defined as one property of organizational authority structures, measured by the distribution of formal decision-making power. Weber argued that relatively rigid, centralized decision-making is a distinctive feature of bureaucratic administration. More recent empirical efforts suggest that other organizational characteristics such as size, horizontal and vertical differentiation (Meyer, 1968), materials technology (Blau and Schoenherr, 1971), and formalization (Child, 1972) affect the degree to which authority is confined to the top of the hierarchy. The works of Aiken and Hage (1967) and Hage and Aiken (1967) are particularly relevant to the present research. They suggest that interorganizational linkages and professional training have important consequences for decentralization of organizational decision-making.

It is recognized that decentralization is a multidimensional concept. Hall (1972) distinguishes between horizontal and vertical decentralization. The former refers to the distribution of authority among organizational subunits. The relative decision-making responsibility of staff and line positions is one important aspect of this dimension (Etzioni, 1959). The latter refers to the delegation of authority to lower levels of the hierarchy. Blau and Schoenherr (1971) suggest that the extent to which decision-making responsibility is decentralized to

lower levels of the authority structure is of basic impor-
tance for organizational behavior. Here we assume that
organizational ranks are differentiated in terms of formal
decision-making power. Thus, a higher proportion of ranked
to total personnel logically indicates greater organization-
al decentralization.

5. Environmental Context

Context is the first property of organization-environ-
ment relationships, referring to the physical and social
setting of organizational activities. Context may vary
both in complexity and fluidity, together interpreted as
degree of environmental uncertainty. As problem-solving
systems, organizations will attempt to modify technology
and structure to maintain charter in an uncertain environ-
ment (Thompson, 1967). We assume that environmental con-
text has implications for structural complexity, control
processes and performance (Pugh et al., 1969). Logically,
variations in the level of uncertainty affects organization-
al strategies for adaptation. For police departments, the
characteristics of the surrounding community are potential
sources of uncertainty and constraints upon task perfor-
mance. To illustrate, civil disturbances are disruptive
community events which generate new demands for police pro-
tection. Variation in the frequency and magnitude of civil
disturbance experience should therefore discriminate among
police organizations as an indicator of environmental un-
certainty.

6. Interorganizational Field Linkage

Interorganizational field linkage is the second pro-
perty of organization-environment relationships, subsuming
normative and comparative reference types (Evan, 1966;
Warren, 1967). As the level of environmental uncertainty
rises, activities of other field members become increasing-
ly important for action by the focal organization (Thompson,
1967). Reiterating, it is assumed that organizations will
attempt to adapt to or control impinging environmental
forces in order to maintain charter. Interorganizational
contact is seen as one type of coping mechanism. Levine
and White (1961) argue that exchanges of resources such as
products, personnel, and knowledge are crucial types of
linkages. In this research we address the knowledge
development potential of the interorganizational field.
The environment contains both manifest and latent sources
of information relevant to survival and goal achievement
(Dill, 1962). Thus contact with other organizations pro-
vides opportunities for expanding knowledge technology. We
assume that organizations will engage in information search
activities as internal resources become inadequate to deal
with increased demands (Wilensky, 1967; Kreps and Dynes,
1974a). We argue that those organizations which more fully
exploit the knowledge potential of the environment will
exhibit substantially greater professionalization.

Police organizations are faced with increasingly com-
plex task environments. In particular, the civil

disturbances of the 1960's constituted significant threats to charter. Efforts to heighten police effectiveness prompted search for knowledge resources within the expanding network of law enforcement (Kreps and Dynes, 1974a). Information exchange through site visits and mailing lists reflect comparative reference contacts, while participation in national and regional conferences may be seen as having both comparative and normative reference elements (Evan, 1966). Police departments also have many ties at the local level such as police community relations programs and a variety of intergovermental cooperative arrangements.

7. Professionalization

Professionalization is a logical referent for the knowledge development component of organizational technology. Clearly the expertise of organizational personnel influences knowledge generation and processing (Price, 1968; Kreps and Dynes, 1974b). Professionalization may be conceptualized as one response to an uncertain task environment, involving the quality and structure of work activities. Given the complexity of this concept and its importance for this study, an entire section of this review was devoted to its treatment in the literature. At this point we merely stress again its relevance for understanding organizational behavior. Previous research has shown relationships between professionalization and other organizational properties such as authority structures (Blau, 1968), complexity (Blau and Schoenherr, 1971), materials technology (Hall,

1972), interorganizational linkages (Aiken and Hage, 1967), and innovation (Corwin, 1973; Kreps and Dynes, 1974b).

Recently pressures for professionalization of police work have intensified (Saunders, 1970; Whisenand, 1971). The present research stresses two dimensions of a professional model, i.e., a systematic body of theoretical knowledge and specialized training. We focus specifically upon the education and training of police. The quality of these activities is logically related to the structure of recruitment, training and promotional procedures.

To briefly sum up, the preceding review lays the groundwork for an organizational treatment of professionalization. The analytical dimensions underlying the model are organizational charter, resources and technology, basic activities, and organization-environment relationships. The properties of size, wealth, complexity, decentralization, environmental context and interorganizational field linkage are measured and their relationships with professionalization assessed.

APPENDIX B

COVER LETTERS AND QUESTIONNAIRE

Dear Chief:

The Metropolitan Criminal Justice Center operates the Pilot City Program in Chesapeake, Norfolk, Portsmouth and Virginia Beach, Virginia. Established in September, 1971, the Center is a research and program planning and development component of the College of William and Mary in Williamsburg, Virginia. The Center's Pilot City Program is one of eight throughout the nation funded by the Law Enforcement Assistance Administration of the U. S. Department of Justice. The basic purpose of each Pilot City project is to assist local jurisdictions in the design and establishment of various programs, often highly innovative and experimental in nature, which will contribute over a period of years to the development of a model criminal justice system. Each Pilot City team is also responsible for assuring comprehensive evaluation of such programs, for assisting the development of improved criminal justice planning ability within the host jurisdictions, and for providing technical assistance to various local agencies when requested. Since its inception, the Center has concentrated its efforts on the various issues involved in modern policing.

Our work indicates that police departments continue to face new challenges and problems in a rapidly changing society. It is also apparent that law enforcement agencies are actively responding to these challenges, seeking solutions to the problems that confront them. As a result, the police profession is one of the most rapidly changing American institutions.

Although policing has been receiving increased attention, both locally and nationally, we believe that more systematic study is needed about the effects of that attention. We realize that these change efforts, and research and evaluation of them, have added greatly to the already heavy burden of police administrators. But as you know, the gathering of objective information is basic to research and program development. Mindful of your many obligations, we ask for your cooperation in our research of police professionalization, education, training, and other innovations and changes made by departments in the past few years.

To gain as much data as feasible about these topics, we have developed the two enclosed questionnaires: a very brief one for your own opinions and perceptions, and a second designed to gather specific information about your department. We expect that much of the latter information can be obtained from organizational records. Two addressed, stamped envelopes are provided so that the two questionnaires can be filled out and returned separately.

The first questionnaire, "Police Problems and Sources of Solutions", asks you to indicate problems you consider to be most pressing in your department, possible sources of solutions to these problems, and finally, your opinions about the developments of your department and the profession. Given the importance of police problem-solving efforts, the perceptions and opinions of police chiefs are an essential source of information.

The second questionnaire, "Selected Police Innovations and Characteristics", is divided into four parts and concerns such matters as the educational background and training of police personnel, possible innovations made by your department in the past few years, and selected background information about your department. The latter background information will enable us to see how changes, problems, and attempted solutions are associated with different organizational characteristics.

Under our supervision, this research is being conducted as part of the police research being undertaken by the Pilot City Program. We are faculty members at the College of William and Mary and the University of Kansas, respectively, and have both done previous research in cooperation with several police departments throughout the United States.

We have made every effort to conserve your valuable time by making the questionnaire as straightforward as possible. Again, we recognize that police departments face difficult problems. Research such as this should be very helpful in determining the effects of recent attention to police problems. We, therefore, will share our results with police departments both through the Center's report series and through publication in an appropriate police professional journal.

However, it should be stressed that your responses are confidential. At no time or place will a particular police organization or respondent be identified. Your department was selected as part of a random sample of all U.S. departments of large size. Our results will be reported only in general terms concerning trends and patterns for such departments.

We thank you in advance for the assistance you are able to provide us in this study.

Sincerely,

Gary A. Kreps, Ph.D.

Jack M. Weller, Ph.D.

GAK/ph

enclosures

Dear Chief:

Your department is part of a randomly selected sample of U.S. police departments. Several weeks ago we mailed the enclosed letter, questionnaires, and stamped return envelopes to the police organizations in our sample. A substantial number of departments have favorably responded to our request for information.

However, the validity of our research will be considerably enhanced if we can persuade some departments that have not yet responded to do so. On the chance that our original mailing has not reached you, we have enclosed another set of questionnaires and return envelopes.

We fully appreciate that studies like this involve an investment of your time and resources. We are also confident that knowledge gained through research will more than compensate this investment. We thank you for whatever assistance you are able to provide.

Sincerely,

Gary A. Kreps, Ph.D.

Jack M. Weller, Ph.D.

GAK/ph

enclosures

Name of Dept._____

SELECTED POLICE INNOVATIONS AND CHARACTERISTICS

Part I   <u>EDUCATIONAL</u> <u>BACKGROUND</u> <u>AND</u> <u>TRAINING</u>

(1) How many hours of recruit training does your state
mandate? _____

(2) How many hours of recruit training does your depart-
ment require? _____

(3) How many hours of in-service training per month or
year (please specify) does your state mandate?
_____

(4) How many hours of in-service training per month or
year (please specify) does your department require?
_____

(5) Please indicate the number of full-time personnel whose
primary function is police training. _____

(6) Does your department maintain its own library?
___Yes   ___No.

   a. If "Yes", how many volumes (approximately) does
      your library contain? _____

(7) How many officers in your department have college
degrees? _____

(8) How many officers have taken college courses for credit?
_____

(9) How many officers are presently enrolled in college
courses? _____

(10) We recognize that your training program includes im-
portant and basic police practices. We would also
like to know if any of the following topics are in-
cluded as well. Please check the following topics
that you include in training.

                                        Number of Hours

___Family crisis intervention   ___
___First aid   ___
___Alcohol related problems   ___
___Drug abuse   ___
___History of law enforcement   ___
___Role of police modern society   ___

Number of Hours

___Minority groups
___Juvenile delinquency   ___

(11) Is your training program coordinated with a local
     college or university? ___Yes ___No. If "yes",
     please briefly describe the nature of the relation-
     ship. _____
     _____

(12) Which of the following outside resources are employed
     in your recruit training program? (please check)

     ___Guest speakers
     ___Field trips
     ___Films
     ___Police technical journals, reports, books, etc.
     ___Social science journals, reports, books, etc.
     ___Other (Please list) _____

(13) What are the minimum educational requirements for
     your recruits? _____

(14) Have these requirements increased in the past 10
     years? ___Yes ___No.

     a. If "yes", what was the standard 10 years ago?

     _____

     b. 5 years ago? _____

(15) Please check which of the following testing procedures
     your department employs for promotion purposes.

     ___Oral exams
     ___Written exams
     ___Formal evaluation of work performance
     ___Length of service
     ___Educational achievement
     ___Other (Please specify) _____

(16) Does your department have formal minimum qualifica-
     tions for all training personnel? ___Yes ___No.
     If "yes", please list these qualifications.

     _____
     _____
     _____

Part II CIVIL DISTURBANCE RELATED INNOVATIONS AND SUBSE-
       QUENT MODIFICATIONS

(17) Below is a checklist of innovations sometimes adopted
by police departments between 1965 and 1970. Please
indicate first whether your department did adopt each.
If adopted, then please indicate what has happened to
this innovation since 1970. Has it been discontinued,
or continued, and if continued, at a reduced level or
at the same or higher level as in 1970?

| | (1965 - 1970) | |
INNOVATION	NOT ADOPTED	ADOPTED
Written civil dist. plan	___	___
Mass arrest procedures	___	___
Crowd control training	___	___
Community relations training	___	___
Emergency operations center	___	___
Mobile command and com- munications facilities	___	___
Special effort to recruit minority police officers	___	___

| | (Since 1970) | | |
| | DISCONTINUED | CONTINUED: LOWER LEVEL | SAME OR HIGHER LEVEL |
INNOVATION			
Written civil dist. plan	___	___	___
Mass arrest procedures	___	___	___
Crowd control training	___	___	___
Community relations training	___	___	___
Emergency operations center	___	___	___
Mobile command and com- munications facilities	___	___	___
Special effort to recruit minority police officers	___	___	___

Part III ADDITIONAL POLICE DEPARTMENT INNOVATIONS

(18) Please indicate whether in the last 10 years your
police department has made substantial changes in
the areas listed below (or any other areas).

   ___Automatic data processing for general organiza-
      tional records
   ___Automatic data processing for crime and arrest in-
      formation

___ Automatic data processing for personnel deployment
___ Automatic data processing for research and development
___ Program evaluation methods (e.g. effectiveness assess-
   ment, cost-benefit analysis)
___ Promotional evaluation procedures
___ Personnel relations or collective bargaining
___ Equipment
___ Recruitment procedures
___ Recruit training
___ In-service training
___ Team policing
___ Alcohol and drug abuse programs
___ Family crisis intervention programs
___ Other community crime prevention programs (please
   specify _____

___ Other innovations (please specify) _____

Part IV BACKGROUND CHARACTERISTICS

(19) How many sworn personnel does your department employ?

_____

(20) How many clerical personnel does your department
     employ? _____

(21) What is the number of precincts in your department?

_____

(22) What is the total number of bureaus (or divisions)
     listed at the top of your department's organization
     chart? _____.

(23) Please list the names of these major bureaus or divi-
     sions and if possible, the number of personnel within
     them.

     Name of Bureau   Number of Personnel

(24) What is the total number of subunits (within bureaus
     or divisions) listed in your department's organiza-
     tion chart? _____

(25) What is your department's annual operating budget?

_____

(26) What is the starting annual salary of new sworn police personnel in your department? _____

(27) Under what auspices does your department operate (e.g. commission, safety director)? _____

(28) How many non-retirement resignations did your department have in 1973? _____

(29) How many new recruits did your department accept in 1973? _____

(30) How many 1973 recruits either resigned or were screened out during their probationary period?

_____

(31) In the space below, please list each rank in your chain of command and the number of police officers in each rank.

1. .   4.   7.
2.   5.   8.
3.   6.   9.

(32) Does your department have a formal community relations program? ___Yes ___No.

(33) Does your department have a subunit whose primary task is community relations? ___Yes ___No. If "yes", how many full-time employees are members of your community relations subunit? _____

(34) Does your department have a written plan for operations in natural disasters? ___Yes ___No.

(35) Do you have a written plan for operations in civil disturbances? ___Yes, as part of the disaster plan, ___Yes, a separate plan, ___No.

(36) Does your department have written plans governing your relations with local organizations (other than police) for civil disturbances? ___Yes ___No.

(37) Does your department have written plans governing your relations with local organizations (other than police) for natural disasters? ___Yes ___No.

(38) Do your department and the local prosecutor have any arrangement for developing policies, standards or procedures on matters affecting both offices (e.g. guidelines for the decision to arrest or to charge, procedure for filing charges, etc.)? ___Yes ___No.

If "yes", since when _____?. Do other agencies participate? ___Yes ___No. Do citizen representatives? ___Yes ___No.

(39) Please estimate the number of officers who attended regional and national police conferences, training seminars and conventions in 1973. _____

(40) Does your department have a mailing list of other police departments for the purposes of exchanging information about police practices and problems? ___Yes ___No. If "yes", about how many departments are on the mailing list? _____

(41) Please estimate the number of your police personnel who were sent to other departments (site visits) to obtain information about police practices in 1973.
_____

(42) Please list any LEAA discretionary grants your department has received since 1968.

Grant Title   Amount

(43) For the purpose of LEAA state level planning, how many jurisdictions are in your regional planning district? _____

APPENDIX C

APPENDIX C

CORRELATION MATRIX OF MODEL ELEMENTS

	PROF 1	PROF 2	PROF 3	ENV 1	ENV 2	ENV 3	ENV 4
PROF 1	1.000						
PROF 2	0.104	1.000					
PROF 3	-0.027	0.035	1.000				
ENV 1	0.093	0.051	0.127	1.000			
ENV 2	0.077	-0.081	-0.062	-0.610	1.000		
ENV 3	0.498	0.112	-0.075	0.042	0.042	1.000	
ENV 4	-0.004	0.073	0.085	0.637	-0.901	-0.008	1.000
SIZE							
SALARY							
WEALTH							
STRUCT 1							
STRUCT 2							
STRUCT 3							
CIVIL							

APPENDIX C, Continued

	SIZE	SALARY	WEALTH	STRUCT 1	STRUCT 2	STRUCT 3	CIVIL
PROF 1	0.713	0.149	0.475	0.449	0.028	0.025	0.388
PROF 2	0.294	0.109	0.283	0.254	0.013	-0.014	0.267
PROF 3	0.054	0.119	0.047	0.065	0.019	-0.032	0.011
ENV 1	0.097	0.028	0.092	0.143	0.087	-0.019	0.023
ENV 2	0.038	0.036	0.040	0.038	-0.045	-0.035	0.033
ENV 3	0.400	0.168	0.424	0.481	-0.073	0.092	0.218
ENV 4	0.010	-0.034	0.013	0.070	0.046	-0.081	0.051
SIZE	1.000	0.181	0.883	0.699	-0.025	-0.010	0.761
SALARY		1.000	0.195	0.181	-0.010	0.016	0.126
WEALTH			1.000	0.645	-0.016	-0.076	0.672
STRUCT 1				1.000	-0.151	-0.361	0.542
STRUCT 2					1.000	-0.361	-0.018
STRUCT 3						1.000	-0.090
CIVIL							1.000

APPENDIX C, Continued

PROF 1 - Professionalization Factor 1

PROF 2 - Professionalization Factor 2

PROF 3 - Professionalization Factor 3

ENV 1 - Interorganizational Field Linkage Factor 1

ENV 2 - Interorganizational Field Linkage Factor 2

ENV 3 - Interorganizational Field Linkage Factor 3

ENV 4 - Interorganizational Field Linkage Factor 4

SIZE - Total Number of Personnel

SALARY - Baseline Salary of Police Personnel

WEALTH - Annual Budget

STRUCT 1 - Structure-Complexity Factor 1

STRUCT 2 - Structure-Complexity Factor 2

STRUCT 3 - Structure-Complexity Factor 3

CIVIL - Civil Disturbance Experience

APPENDIX D

CORRELATION MATRIX OF ALL MODEL VARIABLES

	RETRREQ	RECSC	TRPERS	LIBVOL	DEGREE	COURSE	ENROLL	EDREQ	SUBSCAL	PROMSCAL
RETRREQ	1.000	.301	.273	.270	.199	.180	.080	.040	-.274	.134
RECSC		1.000	.176	.169	.102	.099	.009	-.009	.068	.045
TRPERS			1.000	.930	.808	.568	.649	-.091	.071	.141
LIBVOL				1.000	.784	.514	.505	-.020	.123	.174
DEGREE					1.000	.659	.901	-.000	-.016	.181
COURSE						1.000	.672	-.047	-.063	.127
ENROLL							1.000	-.054	-.217	.123
EDREQ								1.000	.213	.108
SUBSCAL									1.000	.212
PROMSCAL										1.000

CONTINUED

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APPENDIX D, continued

	AMTGRANT	CONFER	MAIL	NOMAIL	SITE	CDCOMPL	NDCOMPL	CREMP	SIZE	WEALTH
RETRREQ	.077	.109	.059	.279	-.014	.076	-.004	.231	.364	.330
RECSC	-.020	.052	.020	.002	-.054	-.003	-.070	.113	.264	.251
TRPERS	.250	-.191	.173	.260	.037	.097	.110	.724	.831	.571
LIBVOL	.181	-.001	.179	.257	-.028	.167	.140	.399	.770	.499
DEGREE	.433	.019	.154	.272	.076	.132	.108	.527	.594	.447
COURSE	.399	.019	.207	.116	-.016	.143	.143	.351	.523	.403
ENROLL	.611	-.014	.170	-.030	.206	.071	.126	.417	.705	.373
EDREQ	-.006	-.015	-.025	.013	.021	.004	.009	-.108	-.037	-.028
SUBSCAL	-.183	.066	.018	.086	-.340	.079	.111	.088	.098	.078
PROMSCAL	.028	.121	.076	.063	.020	.136	.174	.076	.094	.059

CONTINUED

APPENDIX D, continued

	SALARY	SUBUNIT	TOTUNIT	TOTRANK	PRECINCT	RANKSIZ	MIDSIZ	STAFLINE	CLERSIZ	CIVIL
RETRREQ	.138	.032	.107	.161	.173	.213	.638	.156	.300	.097
RECSC	.049	.215	.227	.069	.104	-.037	-.073	-.075	-.030	.217
TRPERS	.162	.567	.564	.266	.540	-.015	-.010	-.003	-.000	.498
LIBVOL	.162	.473	.460	.280	.331	.016	-.001	-.051	.068	.452
DEGREE	.201	.352	.348	.276	.276	.018	.035	.046	.117	.233
COURSE	.101	.317	.325	.265	.223	.020	-.004	-.024	-.032	.333
ENROLL	.109	.273	.266	.245	.193	.047	.132	.119	.031	.365
EDREQ	.159	-.077	-.083	.066	-.076	-.010	-.008	-.072	.096	-.036
SUBSCAL	-.025	.140	.129	.120	-.027	-.395	-.601	-.250	-.395	.142
PROMSCAL	.093	.167	.143	.001	-.054	.012	.080	.026	.122	-.024

CONTINUED

APPENDIX D, continued

	AMTGRANT	CONFER	MAIL	NOMAIL	SITE	CDCOMPL	NDCOMPL	CREMP	SIZE	WEALTH
AMTGRANT	1.000	.017	.100	.089	.043	.073	-.047	.326	.208	.091
CONFER		1.000	.083	.190	.007	.075	.063	.052	.016	.013
MAIL			1.000	.339	.280	.175	.313	.136	.157	.139
NOMAIL				1.000	-.019	.157	.149	.201	.114	.154
SITE					1.000	-.067	.019	.207	.072	.116
CDCOMPL						1.000	.672	.077	.082	.029
NDCOMPL							1.000	.148	.118	.098
CREMP								1.000	.855	.826
SIZE									1.000	.883
WEALTH										1.000

CONTINUED

APPENDIX D, continued

	AMTGRANT	CONFER	MAIL	NOMAIL	SITE	CDCOMPL	NDCOMPL	CREMP	SIZE	WEALTH
SALARY	.147	-.033	.059	-.039	.018	.065	.065	.134	.179	.194
SUBUNIT	.310	.081	.251	.238	.062	.151	.148	.510	.700	.656
TOTUNIT	.308	.085	.204	.214	-.022	.137	.142	.513	.694	.661
TOTRANK	.167	.129	.198	.102	.216	.010	.179	.163	.325	.266
PRECINCT	.274	.006	.102	.330	.971	.042	-.021	.327	.447	.422
RANKSIZ	-.028	.029	-.057	-.050	.630	.067	.091	-.104	-.035	-.045
MIDSIZ	.007	.026	-.025	-.077	.919	.097	.110	-.058	-.022	-.028
STAFLINE	.055	-.085	.102	.330	.253	.030	-.092	.153	-.000	.053
CLERSIZ	-.031	-.007	-.054	-.064	.655	.117	.133	-.042	-.036	-.040
CIVIL	.179	.040	.115	.081	-.020	.025	.059	.356	.759	.672

CONTINUED

APPENDIX D, continued

	SALARY	SUBUNIT	TOTUNIT	TOTRANK	PRECINCT	RANKSIZ	MIDSIZ	STAFLINE	CLERSIZ	CIVIL
SALARY	1.000	.231	.209	.030	-.038	-.143	-.052	.025	-.055	.119
SUBUNIT		1.000	.996	.340	.559	-.097	-.087	.002	-.075	.604
TOTUNIT			1.000	.310	.536	-.079	-.071	-.050	-.093	.534
TOTRANK				1.000	.207	.018	.177	.076	-.033	.304
PRECINCT					1.000	-.102	-.054	-.027	-.031	.298
RANKSIZ						1.000	.800	.181	.850	-.061
MIDSIZ							1.000	.361	.823	-.087
STAFLINE								1.000	.282	-.073
CLERSIZ									1.000	-.097
CIVIL										1.000

1. These core dimensions of the professional model are
    conceptualized as follows: 1) Systematic body of theo-
    retical knowledge - constitutes the basis for the claim
    to expertise, i.e., a power base frequently derived
    from scientific research with which the general public
    is unfamiliar; 2) Specialized training - a relatively
    prolonged training period necessary to master a theore-
    tical body of knowledge emphasizes the ability to mani-
    pulate ideas and to understand general principles, as
    well as techniques and skills; 3) Autonomy - self
    regulation based on the training through which special-
    ized knowledge is acquired, justifies claim to make
    decisions about work activities; 4) Public definition
    of the service as essential to society - the relation-
    ship of the professional service to basic social values,
    i.e., the degree to which it is legitimated by or sup-
    ports the health and welfare of the individual and
    society; 5) Ideal of service - extent to which the
    client's welfare represents an intrinsic reward for
    professional service; 6) Code of ethics - the degree
    to which a normative system defines relationships among
    professionals, and professionals and clients;

7) <u>Colleague</u> <u>associations</u> - extent of development of

formal and informal relationships among professionals.

2. Note that an organizational approach has proven insight-

ful in studies of police role orientation, attitudes,

and behavior, and changes in law enforcement (Tifft and

Bordua, 1969; Cain, 1973; Kreps and Weller, 1973; Balch,

1974; Kreps and Dynes, 1974a, 1974b).

3. It is recognized that policemen often exercise substan-

tial personal discretion in their work; this itself

being a stimulus to greater expertise. However role

performance requires the legitimacy of organizational

auspices.

4. There is some logic for assessing the effects of size,

wealth and civil disturbance on structure (Blau, 1971).

Any interesting findings in this regard will be reported.

5. We asked each department for the total number of bureaus

(or divisions) on their organizational chart. However,

some departments distinguish between divisions and

bureaus, incorporating both into their organizational

setup. For example one department may indicate 3 divi-

sions (and also have 5 bureaus, for a total of 8 units)

while a smaller department may only have 5 bureaus.

The most generalized unit was therefore confounded.

Although there are some problems with collapsing these

categories, by adding the number of these units to our

basic subunit measure we have a derivative indicator of

the subdivision of organizational tasks.

6. As suggested earlier, it could be argued that size is causally antecedent to structure. Regressing structural dimensions with size, wealth, and civil disturbance measures, we found that only size has moderate effects on structural differentiation (Structure 1) and none of the independent variables have significant impact on Structure 2 and Structure 3.

7. Given the large effects of size (Beta = 1.59), we also analyzed each high loading variable of Professionalization 1. Each high loading variable was measured as a proportion of total personnel: logically a higher proportion of officers holding degrees, training personnel, etc., represent higher levels of professionalization. The effects of size although still positive, were considerable lower; the impact of interorganizational linkages remained moderately positive, and the effects of structure became slightly more pronounced.

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