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THE RELATIONSHIP OF ORGANIZATIONAL STRUCTURAL CHARACTERISTICS

TO MODES OF CONFLICT MANAGEMENT

EMPLOYED BY MICHIGAN SPECIAL EDUCATION ADMINISTRATORS

by

Patricia J. Kearly

A DISSERTATION

Submitted to
Michigan State University
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and
Special Education

1984

THE RELATIONSHIP OF ORGANIZATIONAL STRUCTURAL CHARACTERSITCS TO MODES OF CONFLICT MANAGEMENT EMPLOYED BY MICHIGAN SPECIAL EDUCATION ADMINISTRATORS

by

Patricia Jean Kearly

Previous research on conflict in the organizational setting has suggested that primary reliance on a collaborative approach to conflict management is most closely related to long term organizational effectiveness. The purpose of this study was to investigate the relationship between special education administrators' perceptions of how they most typically manage conflict and their perceptions of structural characteristics of the organizations in which they work.

The general approach for this research employed a cross-sectional survey design. The major hypothesis predicted that administrators' perceptions of organizational characteristics would be related to their self-reported patterns of conflict management. Survey packets were mailed to the population of Directors and Supervisors of Special Education serving in local or intermediate school districts in Michigan for the 1982-83 school year.

The theoretical framework for this study was designed as a combined model linking structural characteristics at the organizational level to a two-dimensional model of conflict behavior (Ruble & Thomas, 1976). The independent variables were identified as the organizational characteristics of centralization, formalization and district size. The dependent variables were identified as the five conflict management modes of: collaborating, compromising, competing, accommodating and avoiding.

Results from this study were based on responses from 314 administrators using canonical correlation analysis. A significant finding for the major hypothesis revealed a relationship between a structural pattern labeled as "HIGH POWER" to a conflict management pattern of "YIELDING". Subsequent analyses showed a strong pattern of relationship between a structural pattern termed as "OPEN" to a conflict management pattern of "CONTRIBUTING" for intermediate supervisors.

The implications from this study were based on the assumption that systems marked by high degrees of collaboration are most effective. The findings suggested that administrators' perceptions of organizational structure were related to their reported patterns of conflict management. Systems characterized by low centralization, moderate formalization and moderate size were most closely related to conflict management patterns marked by high degrees of collaboration. Limitations related to the subjective nature of the measures and reliability of the MODE instrument are included. Personnel preparation and policy implications are discussed and recommendations for future research with the combined model are given.

DEDICATION

To Mary Parker Follett

ACKNOWLEDGMENTS

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CHAPTER I

THE PROBLEM

The goal of equal educational opportunity for handicapped children is a relatively recent social value in this country. It was not until the early sixties, when the impact of the Civil Rights movement began to influence our assessments of Constitutional guarantees for "equal opportunity" and "due process", that as a nation we began to question our exclusionary practices with regard to the education of the handicapped. The social forces for change have created a period which can be characterized as one of inherent conflict for both individuals and organizations dedicated to the provision of educational service to handicapped youth.

The current state of special education in this country magnifies the need for special education leaders who are capable of dealing with a multiplicity of demands and constraints in a manner which is both effective and constructive to the educational system as a whole. In the mid-seventies legislation requiring that special education services be offered to eligible students on an individualized basis resulted in a period of rapid program expansion. Additional requirements for service delivery in the "least restrictive environment" and simultaneous demands for procedural safeguards and accountability have created new roles and increasing conflict for special education administrators.

The demands for service and accountability in a period of economic instability have made conflict and its effective management an important concern for special education administrators. Research in the area of conflict management suggests that people tend to employ a "primary mode" of conflict management and that reliance on various modes may result in differential outcomes. Previous studies conducted in business and industrial settings have suggested that (a) structural characteristics of an organization may influence the modes of conflict management employed by administrators in the system, and (b) the collaborative mode is most closely associated with long-term organizational effectiveness. The implications from this research have raised questions about the relationship between conflict management and organizational structure in special education administration.

Purpose of the Study

The purpose of this study was to identify and describe the relationships between perceptions of conflict management employed by special education administrators and their perceptions of the characteristics of the organizations in which they work. Research on conflict in the organization has suggested that modes of conflict management may be related to the structural characteristics of an organization and the environmental conditions in which the organization exists (Lawrence & Lorsch, 1967; Meyer & Rowan, 1978; Pfeffer & Salancik, 1978; Scott, 1981) and that primary reliance on certain modes of conflict management behavior may be more effective than others over the long term (Blake & Mouton, 1964; Lawrence & Lorsch, 1967; Renwick, 1975a, 1975b; Thomas, 1976).

Definition of Terms

For the purposes of this study, the following definitions were employed. These definitions were derived from the literature and are consistent with previous research efforts dealing with these particular constructs.

Administrators of Special Education refers to individuals reimbursed through the State of Michigan as Directors or Supervisors of special education serving in local or intermediate school districts for the 1982-83 school year. Where appropriate, the terms "Directors" and "Supervisors" will be used to indicate these subsets of the population.

Conflict refers to "the condition in which the concerns of two parties appear to be incompatible" (Thomas, 1973, p. 6). "... conflict is the process which begins when one party perceives that the other has frustrated, or is about to frustrate, some concern of his" (Thomas, 1976, p. 891).

Modes of Conflict Management refers to the five classifications of conflict-handling behavior (Thomas, 1973).

Competing refers to behavior in which one party strives to satisfy self concerns at the expense of the other party (forcing, arguing, pulling rank, etc.).

Collaborating refers to behavior in which one party seeks to satisfy the concerns of both self and the other party (confrontation, looking for new alternatives, problem-solving, etc.).

Sharing or Compromising refers to behavior in which both parties settle for partial satisfaction on incompatible concerns (bargaining, etc.).

Avoiding refers to behavior in which one party deliberately attempts to sidestep the issue, thus making no attempt to satisfy the concerns of either party (withdrawal, delaying, ignoring, passing the buck, etc.).

Accommodating refers to behavior in which one party concedes a self concern in order to satisfy the other party (smoothing, sacrificing, taking pity, etc.).

Structural Characteristics of an Organization refers to the constructs of centralization, formalization and size of district.

Centralization refers to the degree to which power is distributed in an organization (Aiken & Hage, 1968).

Sub-constructs:

Participation in Decision-Making refers to the distribution of decisions dealing with resource allocation or policy formulation.

Hierarchy of Authority refers to the distribution of decisions dealing with performance of tasks.

Formalization refers to the degree to which rules and procedures are defined by the organization (Aiken & Hage, 1968).

Sub-constructs:

Job Autonomy refers to the degree to which job descriptions are specified for a position.

Rule Observation refers to the degree to which job occupants are supervised in conforming to the standards specified for the position.

Job Specificity refers to the degree to which procedures defining jobs are spelled out.

Size of District refers to the number of professional personnel employed by a district.

Background of the Study

The forces for change which have resulted in educational programming for handicapped children over the past few decades reflect the shifting social values toward handicapped individuals in American society (Burello & Sage, 1979). The first traces of these shifting social values began to manifest themselves in our courts in the form of case law (e.g. Pennsylvania Association of Retarded Children v. Pennsylvania and Mills v. D.C. Board of Education). The subsequent passage of legislation at both the state (P.A. 198 of 1971) and federal levels (P.L. 94-142, the Education of All Handicapped Children Act of 1975, and Section 504 of The Rehabilitation Act of 1973) placed requirements on schools to provide access to "free appropriate public education" for all handicapped

children regardless of the severity of the handicapping condition. This legislation not only required major changes in our programmatic practices, but also reflected a shift in our cultural value system.

Further evidence of our emerging perspective can be noted in the requirements for education in the "least restrictive environment" which were also included in this legislation. With foundations in the principle of normalization, this concept calls for a continuum of services to be made available to all handicapped children. Given these provisions, handicapped children must be placed in the educational alternative which: (a) most closely fits their educational needs, and (b) most closely reflects the patterns of everyday life in the mainstream of society.

As a result of the mandates and the subsequent requirements for additional staff and services, school systems increased their administrative personnel to direct and supervise special education programs. This pattern of growth is depicted in Figure 1 for the years 1970-81 for the State of Michigan. Actual numbers show a total of 212 Directors and 229 Supervisors for the 1980-81 school year.
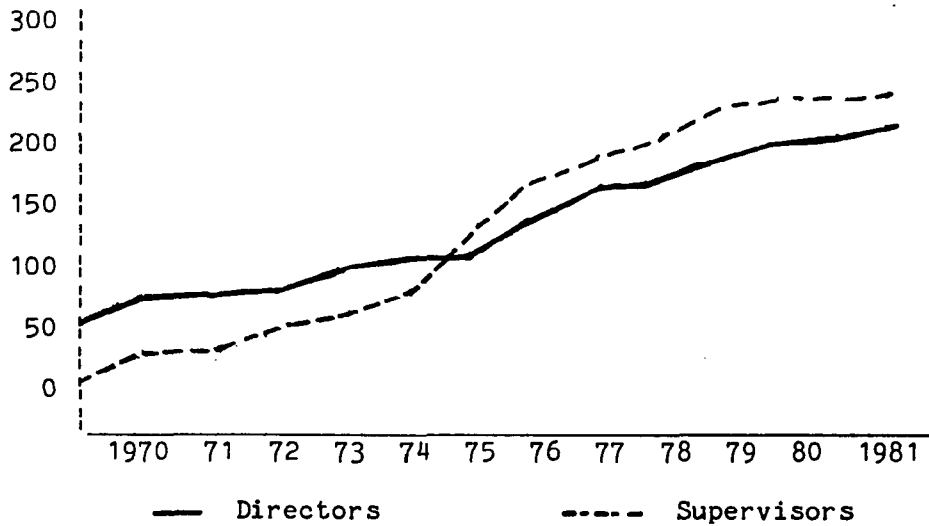
Figure 1. Pattern of growth for state supported positions
in special education administration. (Courtesy
Michigan Department of Education, Special Education
Services Unit.)

The period of rapid program expansion which characterized the
seventies was marked by a number of social forces which affected both
organizations and individuals responsible for the service delivery system
to handicapped children. The enactment of legislation requiring the
development of individualized educational programs for each handicapped
student resulted in increasing demands for procedural safeguards and due
process. School systems were required to establish specific procedures
and timelines for provision of service and appeal. Additionally, states
were required to develop mechanisms for accountability and monitoring of
these provisions.

In Michigan this mechanism was established in the mid-seventies
through employment of coordinators at the intermediate district level.
Further demands for standardization and bureaucratic management were

issued as a result of program administrative reviews conducted by the U.S. Office of Special Education which found Michigan not fully in compliance with monitoring responsibilites under P.L. 94-142 (Procedures and Standards for Monitoring Special Education Programs in the State of Michigan, September, 1981).

Changes in the political and ecomomic climate in Michigan also exerted a major influence on the service delivery system to handicapped children. Spiraling inflation and double-digit unemployment rates created an unstable economic situation. In the late seventies and early eighties, school systems were forced to cut both programs and staff and at the same time maintain state and federal standards for special education programming. The tension caused by declining resources and greater job uncertainty resulted in poor staff morale and increasing concern for job security in many school systems.

The combined effect of these various influences has resulted in a period marked by a high degree of inherent conflict. The traditional advocacy role which special education administrators assumed in years of rapid program expansion has been overshadowed by demands for bureaucratic management and accountability. Declining enrollments and massive budget reductions have required school administrators to re-evaluate and set new priorities. Differences in value orientation and heightened uncertainty have served to increase competition between regular and special education administrators in the face of declining resources.

Likewise, the relationship between parents, as representives of the constituency, and administrators, as representatives of the organization, has been altered. Prior to mandatory legislation for special education, many administrators were viewed as "champions of the cause". The social forces for change have modified this role to the degree that

administrators may be placed in adversarial roles in defense of established bureaucratic structures or qualitative decisions. This pattern has been evidenced in the form of formal hearings and investigations conducted at both the local and state level. At the federal level, efforts to modify legislation have resulted in increased lobbying by special education representatives in competition for declining dollars.

The changes brought about by these social forces have created a situation in which special education administrators have had to deal with conflict on many levels. Research on conflict management in the organizational setting indicates that there are a variety of methods for approaching conflict situations and that primary reliance on certain methods may result in differential outcomes in terms of long-term organizational effectiveness (Blake, Shepherd & Mouton, 1964; Lawrence & Lorsch, 1967; Thomas, 1976). The factors which influence the effectiveness of these efforts have been associated with the structural characteristics of the organization (Hage, 1974, 1980; Hall, 1969, 1982; Robbins, 1974, 1977, 1983; Scott, 1981; Thompson, 1967), an individual's patterns of conflict management (Blake & Mouton, 1961, 1964; Lawrence & Lorsch, 1967; Ruble & Thomas, 1976; Thomas, 1976), with the individual's perceptions of the intent of the other party (Howat & London, 1980, Thomas & Pondy, 1977), and with the source and topic of disagreement (Renwick, 1975a, 1977).

Research in the area of special education administration has not addressed factors related to patterns of conflict management in a period when conflict and its consequences are most critical. The importance of establishing the presence or absence of a relationship between modes of conflict management employed by special education administrators and

characteristics of the organizations in which they work served as the basis for this research effort.

The findings from previous research efforts raised questions about the relationships between organizational structure and conflict management behavior. What is the relationship between structural characteristics of an organization and the strategies for dealing with conflict which are employed by special education administrators? Is there a relationship between structural characteristics and the modes of conflict management which have been suggested as preferable for overall organizational effectiveness? These questions served as the basis for the major hypothesis of this study.

The Major Research Question and Hypothesis

The major research question addressed in this study was whether a relationship exists between perceptions of the structural characteristics of an organization and the modes of conflict management reported by special education administrators employed in these organizations. It was predicted that administrators' perceptions of the structural characteristics of centralization, formalization and size of district would be related to the modes of conflict management which they reported as most typical of their behavior.

The major hypothesis for this study was:

MAJOR HYPOTHESIS : There is a relationship between the structural characteristics of an organization and the modes of conflict management employed by special education administrators.

Supplemental analyses were conducted to control for the variables of district type and job title. District types were defined as either intermediate or local. Job titles were defined as either Director or Supervisor depending on reimbursement status. Four sub-hypotheses were derived to assess potential differences in response patterns for special education administrators from the four sub-groups.

The Conceptual Framework

The major hypothesis for this study was based on the synthesis of two theoretical approaches to the study of conflict behavior in the organization. The process approach suggests that behavior may be "determined" by the types of conflict management modes employed by participants in the sequence of one or more conflict episodes. In contrast, the structural approach suggests that behavior may be "determined" by organizational characteristics which influence inherent conflict potential and its overt manifestation within the organization. The conceptual framework for this study combines these approaches and predicts a relationship between a set of five conflict management modes derived from the two-dimensional process model of conflict behavior (Ruble & Thomas, 1976) and a set of three organizational structural characteristics.

The modes of conflict management which were investigated were derived from the two-dimensional model of conflict (Ruble & Thomas, 1976; Thomas, 1973) which is presented in Chapter II. This two-dimensional model incorporates both a cooperativeness dimension and an assertiveness dimension as components of behavior in a conflict situation. The five modes of conflict management are described as (a) avoiding, (b) accommodating, (c) competing, (d) compromising, and (e) collaborating. The five modes were measured with a forced choice ipsative scale developed by Thomas and Kilmann (XICOM, Inc., 1974).

The three organizational structural characteristics examined were: (a) centralization, as a measure of distributed power in the district; (b) formalization, as a measure of rule specification in the district; and (c) district size, the number of professional personnel employed in the district. The structures of centralization and formalization were measured with instrumentation developed by Aiken & Hage (1966), and district size was measured as a simple count.

The conceptual framework makes no assumption about the causal direction of the hypothesized relationship between the two sets of variables. Thus, structural characteristics were not strictly viewed as "determinants" of conflict management behavior or vice versa. Instead, the framework suggests that the elements from each of the two sets of variables may interact in complex ways.

Significance

It was speculated that the implications which could be drawn from this research could have the potential for application to a variety of substantive issues at a number of levels. Information derived from a study of conflict management strategies employed by special education administrators could provide information for university training programs and practicing administrators in special education. Increased knowledge of effective strategies for conflict management might also be generalizable to a wider population of educational administrators who deal with similar problems on a daily basis. Finally, research in this area could serve as an impetus for future examination of the problems and potential solutions which must be addressed in our educational system in a period of change and uncertainty.

Delimitations and Limitations

This study was delimited to include the population of Directors and Supervisors of special education serving in local or intermediate school districts in the State of Michigan for the 1982-83 school year. In the strictest sense, generalizability is statistically limited to this population. Logical extensions, however, may be bridged to larger populations of school administrators.

Limitations imposed by the design of the study were related to the unit of analysis, the subjective nature of the instruments, and the constraints imposed by limited resources. Measures of the structural characteristics of centralization and formalization were assessed using the individual as the unit of analysis. Individual assessments were treated as measures of organizational structure for special education departments within the districts. These individual reports should not be

construed as organizational measures, but as individual perceptions of these organizational characteristics from the social positions which they represent.

Secondly, this study was constructed as survey research based on self-report data. As such, interpretations are limited to subjective perceptions on the part of the participants about aspects of their conflict management behavior and characteristics of their districts. While this does not invalidate the information collected, it may present different information than would objective measures of these same constructs.

Ideally, research on conflict would incorporate objective measures and "other party" assessments as well as self-reports of conflict management behavior. Additionally, studies conducted in the organizational setting would employ a longitudinal design with both objective and subjective measures of organizational structures and key environmental variables. Constraints imposed by time and economic considerations limited the scope of this study.

Organization of the Dissertation

Chapter I has presented a brief description of the purpose for this study and provided a definition of terms to clarify semantic interpretations. The background information has described the various social forces which have influenced both organizations and individuals responsible for educational service delivery to handicapped students and established the need for a better understanding of the relationships between organizational characteristics and conflict management behavior of special education administrators. The major research question and the

specific hypothesis under investigation have been stated. The theoretical base for this study has been briefly outlined and the potential significance of this research has been discussed.

Chapter II provides a review of the literature on intergroup conflict in an organizational setting. This chapter also reviews historical perspectives on organizational structure and lends support to investigation of centralization, formalization and size of district as relevant structural dimensions. Finally, this chapter presents the conceptual framework for this study as a combined model of intergroup conflict in the organization.

Chapter III discusses the research design and methodology for this study. It includes statements of the major hypothesis and the four sub-hypotheses derived from the major research question. It provides a description of the population, the respondents, and the procedures employed in data collection. The instrumentation is described and reliability and validity of these measures are discussed. This chapter also includes a description of the statistical model employed in the data analysis.

Chapter IV is a discussion of the results of this study. The chapter includes the descriptive statistics and is organized around the findings for the tests of the major hypothesis and the four sub-hypotheses. Chapter V provides a summary of the research with conclusions and recommendations for further research and programmatic improvement.

CHAPTER II.

REVIEW OF THE LITERATURE

Conflict in the organizational setting and its relationship to overall organizational effectiveness has been a subject of interest to researchers for some time. It has been viewed from differing philosophical perspectives and described from various analytical levels. Very few empirical studies, however, have attempted to address relationships between organizational structure and intergroup conflict due to a number of conceptual and methodological problems. This chapter provides a review of the literature on intergroup conflict and also provides a summary of the literature relating to organizational structure. The conceptual framework for this study is presented as a combined perspective which incorporates characteristics of organizational structure and a two-dimensional process model of conflict behavior.

The chapter is organized in the following manner:

PART I: Literature on Intergroup Conflict
      Section 1: The Elusive Definition of Conflict
      Section 2: Historical Views of Organizational Conflict
      Section 3: Sources of Conflict in Organizations
      Section 4: Research on Intergroup Conflict

PART II: Literature on Organizations
      Section 1: Historical Perspectives on Structure
      Section 2: Research on Organizational Structure

PART III: The Conceptual Framework
      Section 1: A Summary of the Structural Models
      Section 2: The Two-Dimensional Model of Ruble & Thomas
      Section 3: A Combined Perspective

PART I: Literature on Intergroup Conflict

Section 1: The Elusive Definition of Conflict

The concept of conflict may be defined in a variety of ways

depending on the focus of interest. When used by psychologists, it may

refer to incompatible response tendencies within an individual or to role

conflict stemming from perceptions of incompatible role expectations

(inner conflict).   It may also refer to interpersonal conflict between

individuals which may occur in the organizational setting. When used by

sociologists, it may refer to conflict between groups or subunits

internal to the organization or to more global conceptions of conflict

between organizations or nations. March & Simon (1958) have identified

three classes of conflict which they refer to as individual,

organizational and interorganizational.

The focus for this study was restricted to conflict between two

social units (individuals and/or groups) in the organizational setting

which is sometimes referred to as "dyadic conflict". Even within this

limited scope, the literature reveals a lack of consensus on the

definition of intergroup conflict.

One approach which is frequently cited in the literature (Schmidt &

Kochan, 1972) defines conflict as:

> The overt behavior arising out of a process in
> which one unit seeks the advance of its own interests
> in its relationships with others. . . .Units are not
> in conflict when deliberate interference is absent .
> . . the interference must be deliberate and goal
> directed by at least one party. (p. 363).

Under this definition, conflict exists when one party, either an

individual or a group, (a) attempts to achieve goals of concern to the

other party, (b) interferes with the goal attainment of the other party, and (c) makes a deliberate attempt (either actively or passively) to thwart the goal achievement of the other party. While this definition is appealing in that it is limited to overt behavior, it includes the concept of deliberate intent and therefore excludes the possibility of conflict which arises out of misperception, unintended action, or events beyond the range of control.

Thus, for the purposes of this study, conflict will be defined as:

> . . . (T)he condition in which the concerns of two parties appear to be incompatible" (Thomas, 1973, p. 6). . . . (C)onflict is the process which begins when one party perceives that the other has frustrated, or is about to frustrate, some concern of his (Thomas, 1976, p. 891).

This definition emphasizes conflict as a process and also recognizes the subjective perceptions and the situational context in which the conflict occurs.

Research on conflict in the organization has been influenced not only by definitional inconsistencies but also by shifting perspectives on the relationship between conflict and organizational effectiveness. The following section presents a brief description of the historical views which have influenced organizational reactions to conflict.

Section 2: Historical Views of Organizational Conflict

Before proceeding with a discussion of the most pertinent literature

dealing with conflict in the organizational setting, it is first

important to note the system of values which have been associated with

conflict.   In the mechanical, closed-system view of the classical

theorists (Weber, 1924/1947) conflict was viewed as the result of

ineffective application of sound management principles. Under this

rational system perspective, manifestations of conflict were seen as

incompatible with efficient goal attainment and were perceived as

dysfunctional to organizational effectiveness.

The human relations theorists, while acknowledging the inherent

nature of conflict in organizations, also viewed it as detrimental to

optimal organizational effectiveness (Landsberger, 1958; March & Simon,

1958).   The theoretical conception, based on the work of Mayo (1945),

gave credence to informal systems of power, reward and communication

which naturally occur within the boundaries of the organization. The

emphasis for this group of theorists was on conflict minimization and

strategies to resolve and eliminate conflict when it emerged.

Robbins (1983) has classified these past perspectives on conflict as

the traditional view and the behavioral view and added a third which he

has labeled as the interectionist view. The interactionist philosophy

accepts conflict as a natural function of organizational operation and

encourages an optimal level of controlled conflict to promote creativity

and broad based decision-making. This philosophy has been noted in the

work of a few of the earlier writers who advocated that a moderate degree

of conflict can be conducive to optimal organizational performance

(Follett, 1924, 1925/1941; Hoffman & Maier, 1961; Litterer, 1966; Peltz,

1956).   Much of the discussion, however, focused on the individual level

of analysis with little attention to organizational factors.

The interactionist view recognizes conflict as inherent, not only by virtue of the different value systems and abilities which characterize individuals who make up the organization, but also by virtue of the organization itself. This view suggests that the roots of conflict cannot be limited to the individual level of analysis. This view is supported by Hall (1982) who states, "The inadequacy of the individualized approach to conflict is based on the fact that organizational considerations and the very nature of organizations themselves contribute to conflict situations" (p. 152).

From the interactionist perspective, conflict may be viewed as either functional or dysfunctional depending on its overall effect on organizational performance and goal achievement. Unfortunately, the relationships between conflict and organizational performance are not clear. Pondy (1967) has suggested reasons for this lack of clarity may be that the organizational goals of productivity, stability and adaptibility are not necessarily compatible with each other and thus, conflict may have multiple effects on the "equilibrium" of an organization.

Burrell & Morgan (1979) have categorized perspectives on conflict in the organization under a three-stage typology. Their "unitary view" of conflict is similar to that of the classical theorists, in that it deems conflict to be a rarely occuring phenomenon which can be attributed to individual behavior and which can and should be eliminated through appropriate adminstrative action. Their "pluralist view" is similar to the perspective embraced by the interactionist philosophy. Conflict is perceived as inherent within organizational interaction and as a potentially positive element when managed effectively. Their "radical

view" of conflict and power focuses on the mutual opposition of the social classes within organizations as reflections of societal patterns in general. Under this perspective conflict is seen as a ubiquitous force for change which may be manifested overtly on the surface or covertly, as an undercurrent, within a social system. Organizations are seen as power stations through which ruling interest groups exercise options and manipulate the masses through mechanisms of social control.

The varying perspectives which have characterized conceptions of conflict in the organizational setting have been influenced by perceptions of its sources (locus) and effects (organizational value). The locus of conflict has been associated with the individual, the group, the organization or society in general. The organizational value associated with conflict in the organization has been viewed as negative under certain conceptions, while other perspectives have incorporated potentially positive components within the philosophical view.

The two perspectives presented by Robbins (1983) and Burrell & Morgan (1979) have been synthesized under a new typology consisting of four classifications. The "classical" type is similar to the traditional view of Robbins (1983) and the unitary view of Burrell & Morgan (1979). Under this perspective conflict is associated with the individual and is viewed as dysfunctional to organizational effectiveness. The "human relations" type is similar to the behavioral view of Robbins (1983). Under this conception conflict is viewed as negative and is believed to be a natural by-product of group interaction within organizations. The "systems" type is similar to the interactionist view of Robbins (1983) and the pluralistic view of Burrell & Morgan (1979). It recognizes sources of conflict as inherent within organizational structure and

function which may have either positive or negative effects on organizational performance. The organizational value attached with conflict is essentially viewed as neutral. The "environmental" type is most similar to the radical view of Burrell & Morgan (1979) in that it associates the primary locus of conflict with societal factors. The organizational value attached to conflict is seen as having differential outcomes for various classes of individuals in the society with the organization serving as a reflection of the prevalent norms and power contingencies. A summary of this combined perspective is presented in Table 1.

Table 1
Conceptions of Organizational Conflict

Theorist	Typology			
Robbins (1983)	traditional	behavioral	interactionist	
Burrell & Morgan (1979)	unitary		pluralistic	radical

Combined	classical	human relations	systems	environmental
LOCUS	individual	groups	organization	society
ORG VALUE	(-) neg	(-) neg	(+/-) neutral	(+) pos (-) neg

The summary provided in Table 1 suggests that as the level of analysis moves from the individual perspective to broader conceptions of social interaction, conflict takes on different values. Conflict may be viewed as either functional or dysfunctional depending on the relationship of its effects to overall organizational performance and goal attainment.

In order to assess the conditions under which conflict is associated with positive effects in the organizational setting, it is necessary to establish the major sources which contribute to conflict creation. The following section presents a summary of the literature on major contributors to intergroup conflict.

Section 3: Sources of Conflict in Organizations

The variables which have been suggested as contributors to conflict in the organizational setting are many. Robbins (1983) has acknowledged the influence of individual (psychological) variables, but has placed primary emphasis on eleven organizational variables as sources of intergroup conflict. Thomas & Schmidt (1976), in a survey sponsored by the American Management Association, found that communication failure rated as the highest perceived source of conflict for managers at three organizational levels. They also noted that middle managers perceived conflict differently than managers at higher levels in terms of both source and amount.

While many sources of organizational conflict may exist, Dessler (1980) has suggested that four factors are prime contributors to conflict in the organizational setting (a) intergroup differences, (b) interdependencies and shared resources, (c) authority imbalances, and (d) ambiguities. Although most of the studies dealing with conflict in the organizational setting are ex post facto in nature, the literature does suggest that these factors are prime contributors to conflict creation.

Intergroup Differences

Organizations are comprised of individuals with varying personal attributes, values, and goals. Research has indicated that differences in variables such as race (Collins, 1946), gender (Kanter, 1977), age (Dalton, 1959) and class (Warner & Low, 1947) are related to differing societal expectations and that these differences can lead to increased conflict. Additionally, differences in goals or the preferred methods to

achieve goals can lead to increases in interdepartmental conflict (Dutton & Walton, 1966).

Personality variables, such as the degree of authoritarianism (Walton & McKersie, 1965), have also been associated with increased conflict behavior in interunit relationships. Blake & Mouton (1964) noted that although individuals employ a hierarchy of styles in dealing with conflict situations, habit will often predispose the use of a "dominant style" of response.

In contrast, Kanter (1977) has argued that organizational behavior cannot be adequately explained on the basis of individual differences. Kanter contends that structural determinants are more relevant than individual characteristics for explaining many types of behavior in the organizational setting.

> "Opportunity, power and relative numbers (proportions and social composition) have the potential to explain a large number of discrete individual responses to organizations. Indeed, except for factors more properly located outside of an organization's boundaries, there appear to be few instances of important aspects of individual behavior and attitudes that do not bear a relation to these variables." (Kanter, 1977, p. 246)

Interdependencies

Reliance on shared resources and task completion by other subunits can lead to conflict within an organization. Walton & Dutton (1969) refer to this variable as mutual task dependence and define it as "the extent to which two units depend on each other for assistance, information, compliance, or other coordinative acts in the performance of their respective tasks." In their studies of interdepartmental conflict and cooperation, they found that under conditions of high task interdependence and overload the magnitude of a selected conflict management strategy was increased. However, the findings showed an

inconsistent pattern in the type of conflict management strategy employed under these conditions (Dutton & Walton, 1966).

Pfeffer & Salancik (1978) have noted that the existence of interdependencies does not necessarily lead to conflict unless there is disagreement about the means or ends. Thus, interdependence is necessary but not a sufficient condition for conflict in the organizational setting. In order for conflict to emerge, the parties must perceive that they have the "power to interfere" with the other party (Kochan, Huber, & Cummings, 1975; Schmidt & Kochan, 1972).

Asymmetries in Power or Dependence

Imbalances in authority and prestige when divergent views or value systems exist can create conflict (Seiler, 1963; Zald, 1963). Similarly, imbalances in the degree of dependence between subunits can lead to heightened conflict (Aldrich, 1979; Dalton, 1959; Strauss, 1963). When asymmetical relationships in the degree of power or the degree of task dependence exist, the potential for interference by the more heavily weighted party is increased. The asymmetries may be associated with individual differences, but are more typically associated with the structure of the organization.

Ambiguity and Uncertainty

The degree of ambiguity or uncertainty which exists in an organization has also been associated with conflict. Uncertainity created by low formalization may serve to heighten interunit tension, thus laying the groundwork for conflict to emerge (Robbins, 1983, Walton & Dutton, 1969). Blau (1955) found a high degree of uncertainty to lead to strict enforcement of rules and high pressure to conform. Likewise,

Kanter (1977) found that managers attempted to control uncertainty by restricting the types of individuals who were allowed to participate in decision-making and by stressing conformity.

Other Sources of Organizational Conflict

Some of the other major factors which have been suggested as sources of interunit conflict are organizational differentiation, communication obstacles, and organizational systems of reward and evaluation. The research suggests that these factors are closely tied to the formal structures of the organization.

Differentiation has been defined by Lawrence & Lorsch (1967) as the "segmentation of the organizational system into subsystems, each of which tends to develop particular attributes in relation to the requirements posed by its relevant external environment." Where units performed different tasks and interacted with different segments of the environment, these units developed significant internal differences. The degree of uncertainty faced by these units was found to be related to the degree of formal structure, the time orientation, the environmental orientation and interpersonal relations orientation. They concluded that greater differentiation resulted in a greater degree of potential conflict but that the actual degree of conflict created was dependent upon the mode of conflict management employed and the method for achieving coordination between departments (integration).

A number of researchers have suggested poor communications can lead to intergroup conflict. This can be caused by knowledge imbalances between departments (Coser, 1956), semantic ambiguities arising from differences in training and the development of specialized vocabularies (Robbins, 1974; Strauss, 1963). Imperfect channel flow between subunits

within the organization (March & Simon, 1958) has been also associated with bias and distortion in communication.

Katz (1964) refers to "hierarchical conflict stemming from interest-group struggles over the organizational rewards of status, prestige and monetary rewards" as one of the major forms of organizationally induced conflict. Walton & Dutton (1969) concur with this notion when they state, "the more the evaluations and rewards of higher management emphasize the separate performance of each department rather than their combined performance, the more conflict" (p. 78).

Summary

In summary, a number of variables have been described as sources of conflict within organizations. While past research efforts have focused on individual traits and abilities as the primary contributors to intergroup conflict, more recently attention has been directed toward organizational structural characteristics as determinants of behavior.

The major organizational sources of conflict discussed in the literature have been identified as interdependencies, assymetrical power and ambiguity. These factors seem to be closely related to three aspects of organizational structure (a) power and its distribution in the organization, (b) organizational procedures for dealing with uncertainty and ambiguity, and (c) the social composition of the work group.

Section 4: Research on Intergroup Conflict

Empirical research studies on conflict management in the organizational setting are noticeably lacking in the literature. In spite of high interest in this area, research efforts have been hampered by both methodological and conceptual problems. Most of the studies which are reported are ex post facto in nature and rely on self-assessment instruments as primary measures of behavior. Some of these studies have been referenced in the previous section and others are more appropriately covered in the section describing the conceptual framework for this study. The five studies which are described in this section highlight the major differences in the research which has been conducted on conflict management in the organizational setting and demonstrate the need for a combined perspective.

The research by Schmidt & Kochan (1972) supporting their model of conflict behavior provides an example of an ex post facto study relying on self-assessment data. Unlike some other examples provided here, this study attempted to assess the impact of organizational structures as influences on conflict management behavior. These researchers employed the mailed survey approach to gather information from various types of city officals involved in union activities. Over 200 cities were sampled in an attempt to assess the influence of goal incompatibility and interference capacity (power distribution) as determinants of conflict behavior. Their findings provided general support for these factors as antecedents to perceptions of open conflict.

Lawrence & Lorsch (1967), in their classic study of three different types of manufacturing firms, employed a more macro-analytically based approach in analyzing conflict management behavior. They classified

firms from each of the organizational types in terms of their degree of successfulness and then examined differences in the types of methods employed to achieve coordination. They used the term "integration" to mean coordination for achieving unity of effort between subunits. In analyzing the effectiveness of conflict management behaviors, they used the three categories of confrontation, smoothing and forcing. The results of their study indicated that high performance organizations employed confrontation as a dominant conflict management strategy. Additionally, their findings showed that differences in environmental conditions were related to differences in the degree of differentation for the various organizational types, and in turn, greater differentiation led to greater intergroup conflict.

Other research has employed a conceptually broader approach to assessment of conflict management behavior in the organization. These studies have analyzed conflict behavior as the product of two dimensions (cooperativeness and assertiveness). The initial work of Blake & Mouton (1964), with subsequent revisions by Ruble & Thomas (1976), have resulted in a number of studies which examine five different types of conflict management strategies.

An example using a micro-analytical approach is offered by Renwick (1975a) in which a Likert-type questionnaire was employed to assess the use of conflict management strategies with 72 employees from various departments in two large manufacturing firms. In this study the Blake & Mouton (1964) classifications were used to designate the five conflict management modes: withdrawal, smoothing, compromise, forcing and confrontation. The results of this study indicated that the topic and the source of the conflict influenced the type of conflict management mode that predominated. Confrontation was reported as a preferred mode

around substantive issues, whereas compromise was reported as a preferred mode around more personal topics. Similarly, confrontation was reported as a preferred mode around conflicts originating in factual or knowledge differences, whereas compromise and smoothing were reported as preferred modes around sources of conflict more closely associated with individual personalities or opinions.

Similarly, Howat & London (1980) conducted research on the superior-subordinate dyad where power and dependency differences are built into the relationship as a function of organizational position. They collected survey information from one supervisor and a randomly selected subordinate from 113 state service agencies in California. The instruments were constructed as Likert scales to assess both the frequency and the dominant conflict management strategies employed by the "other" in a conflict situation. The strategies measured were based on the five categories suggested by Blake & Mouton (1964). The researchers concluded that use of forcing and withdrawal were positively related to perceptions of conflict frequency and that differential perceptions for use of these strategies were related to job position. The authors concluded that attributions of intent were important influences in a conflict situation.

It should be noted that a model to predict the choice of conflict management strategy employed by subordinates in a superior-subordinate dyad is presented in the literature by Musser (1982). This model assumes that high stakes are inherent in the dyad because of the power and dependency differences. Although, Musser does not provide any data to support this model, the presentation suggests the importance of attributions of intent and behavior of the "other" as variables in the conflict situation.

In contrast to the survey approach, Cosier & Ruble (1981) examined conflict management behavior in a laboratory setting using an experimental methodology developed from the gaming literature. Based on the two-dimensional model developed by Ruble & Thomas (1976), a series of experimental games were conducted with 100 male undergraduate subjects to assess the use of five different conflict strategies: avoiding, competing, compromising, accommodating, and collaborating. The results indicated that conflict management perceptions involve more than a unidimensional cooperation-competition dichotomy. When given five choices based on a two-dimensional model which assesses both cooperativeness and assertiveness, subjects elected to compete only 33% of the time and there was movement toward collaboration over the series. Additionally, reciprocal behaviors, where participants shifted modes to match that of the "other party", were reported with the highest level of reciprocal collaboration noted in the last sequence.

Major Criticisms of Research on Intergroup Conflict

The major criticisms relating to research in this area are related to the limitations inherent in ex post facto studies using self-report measures. The problem of social desirability as a response bias in some of the major studies (Blake & Mouton, 1964; Lawrence & Lorsch, 1967; Renwick, 1972) has been pointed out by Kilmann & Thomas (1977). The probability of response bias in some of these major studies has raised serious questions about the validity of the findings.

Secondly, limitations incurred by studies employing a unidimensional, cooperative-competitive dichotomy, have been seriously criticized as an inadequate conceptualization of conflict-handling behavior (Cosier & Ruble, 1981; Ruble & Thomas, 1976). The research

which has been conducted on the two-dimensional approach has suggested that conflict behavior involves both evaluative and dynamic dimensions. Studies of conflict which fail to include this two-dimensional approach for analysis of conflict management in the organizational setting are viewed as lacking in depth.

Recommendations in the literature have suggested that validated instruments need to be developed for future research on intergroup conflict in the organizational setting. Thomas (1976) has pointed out that there is a need not only for validated self-assessment measures, but also a need for coding systems to assess ongoing conflict behavior.

A final criticism can be drawn from previous research which has suggested that many sources of intergroup conflict are rooted in the structural characteristics of the organization. Very few of the studies in the literature have attempted to assess the relationship of variations in organizational characteristics to individual conflict management behaviors. Additionally, the characteristics of the organization which may influence conflict management behavior at the individual level have not been clearly defined.

Summary

The five major studies which have been presented are summarized in Table 2:

Table 2

Summary: Five Studies of Intergroup Conflict in the Organization

Researchers	Characteristics of the Study
Schmidt & Kochan	Mailed survey, self-assessments. ORG STR: goal differences, power distribution and interdependence. CONFLICT: one dimensional (high/low)
Lawrence & Lorsch	Questionnaire, self-assessments. Org. Types and Degree of Success ORG STR: differentiation, integration and performance. CONFLICT: one dimensional (forcing, smoothing, confrontation)
Renwick	Questionnaire, self-assessments. ORG STR: not assessed CONFLICT: two dimensional (forcing, smoothing, confrontation, withdrawal, compromise)
Howat & London	Mailed survey, superior and subordinate dyads with self and other-assessments. ORG STR: not assessed CONFLICT: two dimensional (forcing, smoothing, confrontation, withdrawal, compromise)
Cosier & Ruble	Laboratory observations of "games" ORG STR: not assessed CONFLICT: two dimensional (competing, avoiding, accommodating, compromising, collaborating)

Several important conclusions may be drawn from the research studies described in this section. First, these studies illustrate that most of the research which has been conducted on conflict in the organizational

setting has relied on self-assessments of behavior collected through survey procedures. Limitations imposed by possible response bias have cast serious doubt on the validity of these studies. Secondly, previous research efforts have indicated that organizational characteristics may strongly influence individual conflict management behavior, yet only two of these studies have attempted to assess the impact of organizational structures. Thirdly, research efforts conducted in both the laboratory and the field indicate that conflict management behavior involves both an evaluative (cooperative - uncooperative) and a dynamic (assertive - unassertive) dimension. None of these studies have attempted to assess the impact of organizational characteristics in combination with a two-dimensional model of conflict behavior.

Part I of the review of the literature has focused on the elusive definition of intergroup conflict, historical views toward conflict in the organizational setting, the sources of conflict rooted in the structure of the organization, and the research which has been conducted on intergroup conflict. In Part II, attention will be turned to the literature on organizational theory and research. The historical perspectives relating to structural characteristics of the organization will be described in the first section and the second section will focus on research related to dimensions of organizational structure. Special emphasis will be given to the characteristics of centralization, formalization and size.

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PART II: Literature on Organizations

Section 1: Historical Perspectives on Structure

The study of organizations and organizational behavior has only developed over the past thirty years as a distinct field of scientific inquiry meriting a significant space in the sociological literature. Organizational theory has emerged from this literature as the set of concepts and relationships which have been postulated to describe or predict behavior in the organizational setting. It is primarily concerned, not with individual behavior, but with the collective behavior of individuals in social units under a defined structure in a given environment and in pursuit of specific goals. A brief review of the development of organizational theory is presented which draws heavily from Scott's (1981) typology of theoretical models. This historical review provides an overall perspective through which research on organizational structure may be viewed.

The Classical Rational System Theorists

The early research in organizations concentrated on specific characteristics of certain organizational types (e.g. research on factory labor unions by Whyte, 1946) and later turned to emphasis on productivity and "scientific management" (Taylor, 1911, 1947). Taylor's systematic study of the workplace resulted in the development of principles for managing work based on notions of structure and compliance. Though highly criticized by subsequent researchers, Taylor and the early theorists laid a conceptual foundation in the development of general administrative principles (Barnard, 1938; Fayol, 1919/1949; Gulick &

Urwick, 1937; Mooney & Reiley, 1939). The emphasis in these efforts, however, was on maximizing productivity with no real attempt to describe generic organizational types and structures.

The translation into English of the writings of Max Weber (1906-1924/1946; 1924/1947) and the introduction of Weber's bureaucratic theory had a strong impact on views of organizational structure. Weber asserted that the ideal organization was characterized by certain formal structures which rendered it as more effective than less rationally contrived arrangements. He focused on authority relations, formalization and goals and described a bureaucracy as having: a hierarchy of authority; a division of labor; a system of impersonal rules and procedures; a system for selection and promotion based on technical competence; separation of personal and official property; and a view of employment as a career by participants.

Based on Weber's conceptions of the ideal organization, a number of researchers embarked on empirical research dealing with various aspects of diverse types of organizations (Blau, 1955, 1957, 1968; Gouldner, 1954; Merton, 1963; Simon, 1945/1957). Under the rational perspective, organizations were viewed as closed systems where structure served as a fundamental vechicle through which organizations achieved bounded rationality.

A more complex perspective on organizational management with concepts rooted in social psychology were evidenced in the work of Mary Parker Follett (1924; 1925/1941). She discussed the principle of integration, which entailed collaboration without the need for domination, and focused on the shared distribution of power as a central structure in a socially conscious organization. Though not widely discussed in the literature, Follett's work reflects a philosophical

stance apart from those of her contemporaries and stands as a precursor of the natural system perspective to follow.

The Natural System Theorists

The rational system perspective came under severe criticism with the advent of the human relations movement and the work of Elton Mayo (1945) which heavily influenced organizational thought in the second quarter of the century. Scott (1981) has classified the human relations movement as one of three major schools of thought under the natural systems approach. Scott has further identified elements common to the natural system perspective as (a) an acknowledgement of informal structure, (b) an emphasis on operative goals versus stated goals, and (c) an underlying structural-functional model of analysis.

The importance of informal structure was highlighted in series of famous studies carried out at the Hawthorne plant of the Western Electric Company in the late 1920's and early 1930's (Mayo, 1945; Roethlisberger & Dickson, 1930). These experiments were originally designed under the rational system view to determine optimum illumination levels for assembly workers. The results raised questions about the traditional assumptions of worker motivation based solely on economic factors.

The Hawthorne studies served as a catalyst for the development of more complex models of socio-psychological motivation based on multiple factors. The classical notions of structure were severely scrutinized and increasing skepticism about the rationality of heavily formal systems led to acknowledgement of informal norms and interactions. In addition, the "Hawthorne Effect" was established as a potential source of error in measuring human behavior due to the factors of novelty, awareness of participant status, experimental feedback, and attention from observers.

The second aspect of the classical view which came into question dealt with the issue of goals. The process by which organizations develop operative goals versus stated goals was analyzed by Michels (1915/1949) in the development of the "Iron Law of Oligarchy". His account of changes within the socialist party in Germany prior to World War I pointed out the ways in which power shifts within the organization can result in concomitant shifts in the goal structure, where the means become the end. Under this conception the organization can be viewed as a system concerned with self-maintenance to the point where goals may be distorted or ignored in an effort to survive (Gouldner, 1959).

The third element which characterizes schools of thought under the natural system perspective is the underlying structural-functional model of analysis. Influences from the field of the social anthropology (e.g., Malinowski, 1939) led to the structual-functional model where it is assumed that form follows function. Structural-functionalism assumes that a structural element meets a functional need of the system and thus can be explained in terms of its consequences. However, varying degrees of differentiation and overlapping of structures within a given system may make linkages between form and function impossible to define. Further complexities are introduced when the focus is shifted to the issue of origins which is not adequately addressed under this model of analysis.

One of the most complex of the natural system models was developed by Talcott Parsons (1951, 1960) to describe how social systems function through: adaptation, goal-attainment, integration and latency (pattern maintenance). This general social system model was not the product of direct research, but rather a lifelong effort to conceptualize and analyze diverse types of groups. Parsons acknowledged varying levels of

analysis in the model which he termed as the social-psychological (micro), the structural (meso) and the ecological (macro) levels. He believed that structural differentiation was related to the requirements of a given function and that priority on goal-attainment was the characteristic that distinguished organizations from other social arrangements.

Another model which shares characteristics with the natural systems approach and which has served as a guide for a number of later researchers (Clark, 1956; Messinger, 1955; Perrow, 1961, 1967, 1970, 1979; Zald & Denton, 1963) is the institutional model of organization developed by Selznick (1948, 1949). Selznick's most notable empirical work involved an indepth investigation of the governmental agency (TVA) established in the 1930's to provide support for the flood ravaged Tennessee Valley. He asserted that over time each organization develops a unique character structure which is related to the nonrational, nonformal aspects of functioning and that the need for self-maintenance becomes the overriding function of all systems. He further noted that organizational structure adapts and changes to meet environmental needs and to insure its survival. The strategy of "cooptation", participation in decision-making by those external to the system, is described as a way of obtaining environmental support and at the same time as one of the ways that organizational goals are diverted in an effort to guarantee survival.

The natural system theorists provided new ways of viewing organizational behavior as the product of both individual and organizational influences. In the mechanistic view of the classical theorists, workers were motivated purely through economic incentives. Organizational structure was designed for maximum efficiency, and it was

assumed that worker cooperation would follow. In the natural system perspective, workers were viewed as responding to multiple incentives. The focus on organizational structure shifted to motivating workers and improving morale. It was assumed that cooperation and compliance would follow with the development of more complex theories to predict how organizations could be structured to increase motivation and job satisfaction.

Two of the most notable writers to deal with issues of compliance and decision-making were Chester Barnard (1938) and Herbert Simon (1945, 1957). Barnard pioneered notions of voluntary compliance based an individual's "zone of indifference" and organizational incentive systems based on a variety of inducements. Likewise, Simon (1945, 1957) recognized the importance of both material and nonmaterial incentives and advocated the development of internalized compliance over imposed authority as a superior means for gaining cooperation. Both of these theorists discussed communication patterns in relationship to the total system, and Simon provided a rationale for decentralized decision-making as a preferred organizational structure under conditions where information accessibility is limited by time or proximity.

Other researchers, working independently and drawing from the implications for informal group process derived from the human relations school, developed separate branches of research. Examples of these research efforts include: McGregor's (1960) development of Theory X and Theory Y as philosophical conceptions of human behavior; Likert's (1961) development of the "linking pin" model of supervision; research on leadership traits by Stogdill & Coons (1957); Maslow's (1954) hierarchy of needs; Herzberg's (1966) two-factor theory of motivation; and the compliance theory of Katz & Kahn (1966).

The natural systems theorists stressed the commonalities that exist between organizations and other types of social systems. The relationship of the environment to the internal organizational arrangements was generally ignored by these theorists, with Parsons (1960) and Katz & Kahn (1966) as the notable exceptions. The rapid changes brought about by knowledge growth and technological advances in science, transportation, communication and industry set the stage for the open systems perspective.

The Open Systems Theorists

The open systems perspective assumes that in order to understand individual behavior, group behavior or organizational structure as it exists in an organizational setting, one must also consider the context or the environmental setting in which that behavior occurs. The importance of environmental variables is not new to the social science literature. Weber (1924/1947) discussed the rise of capitalism and its relationship to economic development and religious values in the period following the Protestant Reformation. Katz & Kahn (1966) noted the importance of the open systems view in their explorations of the social psychology of organizations. Pfeffer & Salancik (1978) argue, however, that much of the writing on open systems theory is incomplete and fails to connect functional aspects of organizations with environmental context.

The orgins of the the open systems perspective as a theoretical area of pursuit has been most closely associated with the biologist Ludwig von Bertalanffy (1956). In his development of a general systems theory, he noted that systems in many disciplines are characterized by elements

which are related in an interdependent fashion. The degree to which elements within the system are bound together varies according to system type. Biological organisms are examples of tightly bound, highly dependent systems, whereas, social organizations are examples of loosely coupled systems with flexible structures and independently functioning parts (Buckley, 1967). A typology of systems according to complexity level has been constructed by Boulding (1956), and he emphasizes that many of the theoretical models dealing with organizations are rooted in the lower eschelons of this typology.

Scott (1981) has suggested that the models to describe organizations underwent a major shift in the early 1960's as the open systems notion finally made its way into theoretical perspectives. Additionally, he identifies a re-emergence of rational system notions in the organizational work of the 1960's and 1970's. He has typed this category as the Rational, Open Systems Models and further differentiated two subtypes within the group.

In the first subtype, studies primarily focused on formal structures of the organization in relationship to numerous environmental variables. The systems are viewed as open and thus subject to environmental influences (independent variables) and are viewed as rationally designed to efficiently achieve goals through structural arrangements (dependent variables). The units for analysis for these studies were organizations, rather than individuals, and the environmental variables most often examined were size (demand), technology and uncertainty. Scott provides examples of this subtype in the studies of Udy (1959), Woodward (1965), Pugh and colleagues (Pugh, Hickson, Hinings & Turner, 1968, 1969), and Blau (1970, 1974).

Scott's second subtype is characterized by pragmatic studies which
focus on improving system design by matching organizational structure to
demands of a given environment. This branch of research has been
referred to as contingency theory and is exemplified in the work of
Galbraith (1973), Swinth (1974) and Lawrence and Lorsch (1967, 1969).
This view stresses the relationship between environmental uncertainty and
the amount of information which the organization must process to adapt to
environmental demands. Scott states:

> "Various structural arrangements, including rules, hierarchy,
> and decentralization, may be viewed as mechanisms determining
> the information processing capacity of the system. The design
> challenge is to select a structural arrangement appropriate for
> the information processing requirements of the tasks to be
> performed." (Scott, 1981, p. 115)

The two subtypes suggest that causal links between environmental
variables and internal structural characteristics of the organization
exist but that the direction of determination is unclear. Under Subtype
I, structural characteristics are viewed as dependent variables,
determined by environmental influences. Under Subtype II, the
contingency notion suggests that a given set of environmental influences
are available to provide information to the organization such that
structural arrangements may be selected to maximize its adaption
capacity. This conception could suggest a reciprocal arrangement where
determination may be mutually shared between the organizational and
environmental levels.

In an attempt to combine notions of rationality with the open
systems perspective, Thompson (1967) proposed that: (a) organizations
operate at different levels (the technologiocal level, the managerial
level and the institutional level); (b) organizations seek to buffer

their core technologies from environmental influences and thus, the rational systems perspective is most applicable at this level; and (c) organizations are open systems and rely on environmental influences at the institutional level and thus, the natural systems perspective is most applicable at this level. Thompson argues that within the organization various types of technology may exist and he distinguishes three distinct technology-types based on the inputs and outputs required.

Etzioni (1964) has argued that the rational and natural perspectives are both encompassed within a structuralist model which centers on the issues of power and authority. He has developed a typology of organizations based on compliance which draws on some of the basic notions of Marx (1844/1972) and Weber (1906-1924/1946). Etzioni contends that the interests of managers and workers are inherently in conflict and thus, the issue of control is central to an understanding of how organizations function. The distribution of power and the bases upon which power is viewed as legitimate relate to both formal and informal structure as well as group interaction, reward systems and organizational interaction with the environment.

The rational, open systems models dominated research efforts in the 1960's, but the assumptions of rationality have been challenged by researchers in the 1970's and 1980's. The shift to encompass non-rational aspects of organizational functioning under the open systems perspective has created a new generation of theorists and a new perspective on the relationships between environment, organizational structure, and human behavior.

The Open Natural System Theorists

The theoretical perspectives which have characterized the literature of the 1970's and 1980's have placed a heavy emphasis on the influence of environments on both the types and the structural forms of organizations which populate them. Aldrich & Pfeffer (1976) have identified two subtypes within the environmental approaches: Subtype I - the natural selection model and, Subtype II - the resource dependence model.

Subtype I is derived from Darwin's (1859) model of natural selection which was originally applied to biological systems. When applied to social systems, the model suggests that organizations which are most adaptable--provide the closest fit--to the conditions and requirements imposed by the environment will be most likely to survive. This perspective is evident in the earlier writings of Hawley (1950) and Campbell (1969) and more recently in the work of Hannan & Freeman (1977) and Aldrich (1979). This approach requires a classification system for both environmental types and organizational forms, comparable to species differentiation for a geographical area in a biological system, and a method for defining the boundaries of a somewhat fluid system (Aldrich, 1979; Freeman, 1978; Warriner, 1979).

Subtype II is described as the resource dependence model and it suggests a somewhat more active role for organizations in their maintenance and survival. In contrast to the image of environmentally "selected" organizations, this model views the organization as capable of scanning the environment, assessing environmental demands, and incorporating necessary adaption mechanisms to reduce dependence, increase power and insure survival. This approach has been manifested in the literature under a variety of terminologies (Jacobs, 1974; Pfeffer & Salancik, 1978; Thompson, 1967, Wamsley & Zald, 1973, Zald, 1970).

Hannan & Freeman (1977) have discussed some of the limitations imposed on organizations from both internal and external sources which hinder their ability to adapt and which result in a high degree of structural inertia (Burns & Stalker, 1961; Stinchcombe, 1965). Speaking from an ecological perspective, they argue that these pressures lower an organizations's adaptive flexibility and provide support for the natural selection model to populations of organizations. Further, they give consideration to influences on organizational structure in the environmental variables of: (a) competition, as a function of limited resources, and (b) size, as a function of environmental demand.

Coming from a much more micro-analytically based open systems perspective, Karl Weick (1969, 1976) has focused on aspects of organizing which "prove intractable to analysis through rational assumptions" (1976, p. 218). He describes loose coupling as a functional relationship between social organizations and their environments which increases the probability of organizational survival.

Further, Weick defines enactment as an organizational mechanism for filtering information from the environment which is then employed in constructing an image of environmental reality to which the organization then adapts. Subjective judgment is thus given in retrospect and meaning is given to action only after it has occured. In this sense, organizing may be viewed as a system in which the actors play an active part in creating, selecting and retaining information about the environment. The survival of the system is dependent upon the degree to which the structures of the organization are capable of allowing variety in information to be absorbed into the system and at the same time capable of organizing and reducing this variety through rules and procedures such that adaption capability is maximized (Weick, 1969, 1979).

Meyer & Rowan (1977), in a similar vein, suggest that organizations are created and operate on a set of rationalized myths which influence organizational form. They state that organizations which exist in highly institutionalized and complex environments must incorporate these myths into their structures in order to legitimize their activities and enhance their ability to survive. This tendency for isomorphism with the environment could be rationally related to the need to reduce uncertainty in exchanges with the environment (Aiken & Hage, 1968; Thompson, 1967), or more naturally related to the enactment of rationalized conceptions of socially constucted reality (Berger & Luckmann, 1967).

The concepts included in the open systems perspective, when combined with concepts encompassed in the natural models of organizing, create a complex picture of the influences on organizational structure. At the macro-analytic level, further research is complicated by a number of factors. The complexity inherent within the perspective related to subjective definitions of both organizational and environmental reality have yet to be described in a comprehensive theoretical model. In addition, attempting the measurement of loosely coupled elements within organizationally enacted boundaries bears resemblance to the application of a tailor's measuring tape to the waist of an ameoba. It would seem that much thought needs yet to be given to this branch of research.

Summary

The typology developed by Scott provides a conceptual locus for studies of organizational structure. It places this conceptual locus into a general time frame and broadens the conceptual scenery for a given research study. The notions of closed systems and rational action bear not only on structure but also on function. Likewise, contrasting notions of open boundaries and myth-management as mechansims for a primary goal of survival bear heavily on the question of functionality.

The theoretical perspectives which have been described illustrate the importance of structural characteristics in the organizational literature. At the macro-analytic level a few researchers have attempted to assess dimensions of organizational structure as dependent variables in relation to aspects of the environment. At the meso-analytic level a number of researchers have investigated dimensions of organizational structure as independent variables in relationship to a variety of dependent variables. Most of these meso-level studies assume a rational basis for action and acknowledge the influence of environmental variables as beyond the their scope.

Section 2: Research on Organizational Structure

The sheer volume of literature which relates to organizational structure and the inherent complexities introduced by both methodological and theoretical inconsistencies limit the extensiveness of this review. The studies presented highlight methodological and theoretical differences and offer a basis for examination of centralization, formalization and size as relevant organizational characteristics. A definition of organizational structure and a brief overview of the three organizational characteristics of interest precede the discussion of the research.

Organizational Structure Defined

Organizational structure has been defined by Blau (1974) as, "the distributions, along various lines, of people among social positions that influence the role relations among these people" (p.12). While this is not a unanimously agreed upon definition in the literature, it does suggest a division of labor and the need for mechanisms to coordinate and control efforts aimed at organizational goal attainment.

Three Organizational Characteristics

Centralization

Centralization has been defined as the distribution of power in the organization. Hage (1980) defines it as "the level and variety of participation in strategic decisions by groups relative to the number of groups in the organization" (p. 65). This definition emphasizes the variable nature of power as an organizational attribute across departments or positions. Thus, while one unit may be highly

centralized, another unit in the same organization may be highly decentralized. Centralization has been measured through objective assessments of the locus of authority for decison-making in the hierarchy (Pugh et al., 1968) and by subjective measures relying on perceptions of respondents in the organization (Aiken & Hage, 1968).

One important point to be made here is the relationship between power and dependency. Emerson (1962) has emphasized that, "The power of A over B is equal to, and based upon, the dependence of B upon A" (p. 33). This dependence is influenced by the importance that B places on the resources or goals controlled by A and the availability of these resources or goals in the environment (outside the A-B relationship). Thus, interdependencies and shared resources reflect aspects of power relationships in the organization.

Formalization

Formalization has been defined as the extent to which roles and relationships are specified by rules and procedures and thus, are independent from the personalities of the incumbents who serve as occupants of positions in the organization. Resting on assumptions of rationality, formalization serves to make visible the proposed relationships between positions and thus serves as a basis for control (Clegg & Dunkerley, 1980). Hall (1982) has suggested that the degree of formalization also carries a political meaning in that it reflects an underlying philosophy about organizational workers.

One of the most problematic aspects of research on this characteristic is the variation in the way it has been measured. Some researchers have measured formalization with objective measures in which "written" rules are taken as indicators of formal structure (Pugh et al.,

1968). Others, however, have measured formalization using more subjective survey approaches (Aiken & Hage, 1968) which recognize the discrepancies which may exist between written rules and the actual rules as they are applied.

Size

The size factor has been examined by a few researchers as a dimension of organizational structure (Aldrich, 1972; Hall & Tittle, 1966), but most investigators have treated it as a blocking variable or an environmental variable indicative of demand (Blau & Schoenherr, 1971; Pugh et al., 1969). It has been measured using different indicators, such as physical capacity (number of beds), inputs or outputs (number of clients), discretionary resources (net assets), with the most common measure being that of the number of participants (Kimberly, 1976).

Studies of Organizational Structure

The research which has been conducted on organizational structures is basically of two types. In some studies the linkages between environmental factors and organizational structure have been examined with dimensions of structure as the dependent variables. In other studies, structural characteristics have been examined as determinants of individual behavior with dimensions of organizational structure as the independent variables. The characteristics which have been researched most extensively include centralization, formalization, complexity, technology, and size.

In a series of studies conducted by Pugh and his associates at the University of Aston (Pugh, Hickson, Hinings, MacDonald, Turner & Lupton, 1963; Pugh et al, 1968, 1969), sets of data were collected from a large sample of 52 diverse work organizations in the Birmingham, England area in the mid 1960's. The research team developed objective scales to assess five dimensions of organizational structure: specialization, standardization, configuration, formalization, and centralization. Three underlying contextual factors, structuring of activities, concentration of authority and line control of work, were identified as independent variables with organizations serving as the unit of analysis.

In subsequent analyses by the Aston group (Pugh, Hickson & Hinings, 1969; Hickson, Pugh & Pheysey, 1969; Inkson, Pugh & Hickson, 1970), the data were further analyzed with contextual factors as independent and structural variables as dependent. Size was included as a contextual element and was assessed with three different objective indicators. Technology, as another contextual element, was assessed with a combination of scales to measure workflow integration. Results from these studies showed size to be strongly correlated with formalization and standardization and negatively correlated with centralization. Technology, on the other hand, showed only modest correlations to structural factors.

Findings by other researchers where the factors of size and technology were treated as environmental variables have been inconsistent. General support for the Aston findings were reported in replication studies by Child (1972, 1973) and Grinyer & Yasai-Ardekani (1980). Aldrich (1972) reanalyzed the Aston data and argued that technology was the primary determinant of structure and that size should be viewed as a dependent variable. Other researchers have also found

technology to be a better predictor of organizational structure than size (Thompson, 1967; Woodward, 1965). More recently, researchers using data from Japanese factories have argued that the importance of size and technology as influences on structure may vary depending on the kinds of tasks performed by the organization (Marsh & Mannari, 1981; Ouchi, 1977; Ouchi & Jaeger, 1978).

Hall, Haas & Johnson (1967) in their study of 75 diverse organizations found very weak relationships between organizational size and the structural characteristics of complexity and formalization. Size, as the independent variable, was measured using the total number of paid employees as the indicator. Formalization, as one of the two dependent variables, was measured with five indicators which focused heavily on written documentation. Categorical rankings were established for organizations on each of the variables and in some cases subjective classifications were made by the researchers. The authors concluded that neither complexity nor formalization were related to size and increases in organizational size did not lead to greater emphasis on formalized control mechanisms.

Blau and his colleagues (Blau, 1968; 1970; Blau & Schoenherr, 1971; Klatzky, 1970) studied state employment security agencies and reported strong positive associations between size and structure at both the agency and state levels. Differentiation was indicated by the number of jobs and levels within an organization and written personnel regulations were used as objective indicators of formalization. Size was treated as a contextual variable and number of employees was used as the indicator. Blau & Schoenherr explained their findings by suggesting that formalization with limited scope of discretion is actually an alternative to centralization in exercising social control. This view is supported

by Child (1972) and further elaborated on by Grinyer & Yasai-Ardekani (1980) in their discussions of professional qualifications in bureaucratic organizations.

Very different strategies of assessment were employed by Aiken & Hage (1968) in their study of organizational structural characteristics and intra-organizational interdependence. These researchers collected data from 16 social welfare agencies in a large midwestern metropolis in three waves (1964, 1967, 1970). Subjective scales were developed to measure individual perceptions of structural characteristics and scores were aggregated across positions. Means for each social position were then computed into an average to derive an organizational score. Centralization and formalization were measured with Likert-type scales using multiple indicators. They found that organizational interdependence, as evidenced by a large number of joint programs, was related to complexity, innovation and internal communication.

In a related study, Hage, Aiken & Marrett (1971) analyzed the data from the 16 social welfare agencies using the structural characteristics of centralization, formalization and complexity as independent variables and various measures of communication as the dependent variables. They found that centralization showed a strong positive relationship to communication frequency with the major flow of communication limited to horizontal interaction between individuals of equal status from varied departments.

Organizational structures and their relationship to three dependent variables were examined in a study of educational organizations by Miskel, Fevurly and Stewart (1979). These researchers collected data from a sample of 114 schools using Likert-type questionnaires to assess the structural properties of centralization, formalization and

complexity. Size, as a demographic variable, was measured as the number of full-time equivalent teachers with schools as the unit of analysis. The dependent variables for this study were perceived school effectiveness, loyalty and job satisfaction as measured by subjective Likert-type scales. Simple aggregation procedures were used to derive the school score for the faculty level. Responses for the administrative level in these schools were not collected. The results from this study were somewhat inconsistent but suggested that schools which were perceived as more effective were characterized with less-centralized decision-making and higher degrees of formalization.

Limitations of the Literature Review

This review has been limited to a set of representative studies due to methodological and theoretical complexities in the literature on organizational structure. First, structural characteristics have been assessed with a variety of measures and with differences in the the types of data collected (i.e., nominal, ordinal, interval, ratio). Secondly, the data in some studies was taken from documents or objective records (Blau, 1968; Pugh et al., 1968) while other studies relied on data from subjective surveys (Aiken & Hage, 1968). Pennings (1973) found low intercorrelations between the objective and subjective measures of structural variables and suggested that different dimensions of structure were being assessed. Walton (1981) has cautioned against direct comparisons between studies with different types of structural measures.

Theoretical problems have also been noted in the varying definitions and assumptions applied to dimensions of organizational structure. Structural dimensions have been defined and operationalized with numerous indicators and applied to many different types of organizations. Under

these conditions, a structural characteristic may be assessed quite differently in organizations situated in very different environments at different points in time.

Theoretical complications have also been evidenced in the procedures employed to depict various levels of analysis. In some studies, simple or weighted aggregation procedures were employed to obtain a single measure for the entire organization (Hage & Aiken, 1967a, 1967b, 1967c; Hickson et al., 1969). Other researchers, in recognition of differences in structure across departments within an organization, have restricted their level of analysis to the department level (Khandwalla, 1974; Woodward, 1965).

Summary

The studies which have been discusssed illustrate both the theoretical and methodological differences which characterize research on organizational structures. These examples from the literature were selected to emphasize differences in methodological approach. The results from these and other studies tend to provide inconsistent findings which are spread across different levels of analysis and which rely on diverse measurement techniques. These studies do, however, provide a rationale for examination of the organizational characteristics of centralization, formalization and size as factors which bear a relationsip to behavior in the organizational setting.

Part III of this review provides a description of the conceptual framework for this study. It includes a summary of the major structural models of intergroup conflict and a description of the two-dimensional model of conflict behavior developed by Ruble & Thomas (1976). A conceptual framework derived from a combined perspective is presented as the basis for this study.

PART III: The Conceptual Framework

The models which have been developed to describe intergroup conflict and its outcomes place emphasis on various aspects of the conflict situation. Some place primary emphasis on the process of conflict, while others place primary emphasis on the structural characteristics of the organization and the individual characteristics which shape the conflict behavior. A synthesized description of these two general models is provided in the literature by Thomas (1976). He notes that although there are many commonalities in the various models from which strategies for conflict management are derived, a complex integrative model of organizational conflict has yet to be developed.

The conceptual framework for this study was based on a combined model for viewing intergroup conflict in the organizational setting and is presented in three sections. In section one, three major models of intergroup conflict which include aspects of organizational structure are briefly presented and summarized. In the second section, the two-dimensional model of conflict behavior of Ruble & Thomas (1976) is described. It does not include aspects of organizational structure in its design. In section three, a model for depicting intergroup conflict is prsented in which the organizational characteristics of centralization, formalization and size as aspects of structure are combined with the two-dimensional approach for viewing conflict management behavior.

Section 1: A Summary of the Structural Models

Pondy's Model

The Pondy (1967) model for describing the dynamics of intergroup conflict incorporates a series of interlocking episodes in the conflict process and has implications for intervention directly into a given conflict situation. These episodes are depicted as a sequence comprised of five distinct stages: (a) latent conflict (conditions), (b) perceived conflict (cognition), (c) felt conflict (affect), (d) manifest conflict (behavior), and (e) conflict aftermath (conditions). Additionally, Pondy identifies different classes of conflict phenomena within organizations but asserts that the conflict process underlying each of these types is essentially the same.

Pondy's model identifies the major sources of conflict to be (a) competition for scarce resources, (b) drives for autonomy, and (c) differences in subunit goals. The model acknowledges both individuals and the organizational context as contributors to the process. Within this framework, conflict is viewed as either functional or dysfunctional depending on its relationship to overall organizational effectiveness. Pondy asserts that although the potential for conflict may exist within the organizational setting, conflict will not emerge unless a decision or commitment to a gradual course of action is taken. Further, he notes that "An organization's success hinges to a great extent on its ability to set up and operate appropriate mechanisms for dealing with a variety of conflict phenomena" (p. 270).

Schmidt & Kochan's Model

The model of conflict developed by Schmidt & Kochan (1972) identifies three types of conflict and relates these to the conditions rooted in the organizational setting. It is based on the assumption that three conditions must exist as prerequisites to intergroup conflict. These include: (a) a perception of goal incompatibility; (b) shared resources; and (c) interdependent activities. Under this conceptualization, conflict is limited by definition to overt "blocking" behavior arising from deliberate action.

Given the three preconditions as necessary factors in the conflict process, three types of conflict are postulated. In type I conflict, blocking with regard to the sharing of resources is attempted. In type II conflict, blocking with regard to interdependencies and mutual task requirements is attempted. Type III conflict is present when blocking is attempted at both of these stages. The model assumes that parties must perceive that they have the ability to interfere and that there is motivation to engage in conflict due to perceptions of goal attainment limitations imposed by a competing subunit (goal incompatibility).

Walton & Dutton's Model

The general model of interdepartmental conflict developed by Walton & Dutton (1969) focuses on structures and relationships in the organizational context and relates these to strategies and consequences in dealing with intergroup conflict. It includes five sets of variables which are postulated as having a direct relationship to lateral transactions between subunits within the organization. These variable sets are identified as: (a) antecedents to conflict, (b) attributes of

the lateral relationship, (c) management of the interface, (d) consequences of the relationship, and (e) the responses of higher executives.

They describe nine types of antecedents as major sources of interunit conflict and note that although management of conflict is partially under the control of the participants, conflict potential is inherent within departmental relations. They describe these antecedent conditions as: mutual dependence, asymmetries, rewards, organizational differentiation, role dissatisfaction, ambiguities, common resources, communication obstacles, and personal characteristics. The authors state, "Manifest conflict results largely from factors which originate outside the particular lateral relationship under consideration and antedate the relationship," (p. 552).

Three attributes of the interdepartmental relationship are also considered under this model. The ways in which information is exchanged in making joint decisions, the structure of interactions and decision-making, and attitudes between subunits are examined and the lateral relationship is typed as either "integrative" or "distributive". In contrast to integrative relationships, which are typed as open, flexible and positive with manifestations of collaboration, distributive relationships are characterized by distorted information flow, rigid structure and negative attitudes with manifestations of conflict. The theory assumes that the lateral relationship is first influenced by the antecedent conditions which, in turn, effect the flow of information, the interaction structure and the interunit trust.

The next component in the Walton & Dutton model is referred to as management of the interface and means strategies used by the organization for dealing with intergroup conflict. Conflict management strategies are

most effective when attention devoted to them most closely corresponds to the degree of differentiation between departments (Lawrence & Lorsch, 1967). Lawrence and Lorsch also found that the type of conflict management strategy employed (e.g. forcing, smoothing, confronting) was related to the degree of interunit cooperation and overall organizational performance.

The consequences of intergroup conflict are described as competition, bargaining, information distortion, appeals to superiors, decreasing interaction between units, and low trust. Walton & Dutton note that while some of these consequences usually result in negative effects for the organization, others may actually have positive results depending on the personalities of the individuals involved and the type of conflict management strategies employed.

The response patterns of superiors to manifestations of conflict and low performance is another important component which can either reinforce or diminish conflict intensity. The recursive nature of this element acts as a feedback loop which can contribute as an additional factor to the antecedent conditions leading to conflict continuation. Walton & Dutton further note that this component is perhaps the most problematic in developing a predictive model for intergroup conflict behavior. The authors acknowledge the large number of potential determinants for conflict and conflict-reinforcement which are rooted both in the contextual and structural dimensions of the organization and stress the need for sophistication of administrative response in conflict management.

Model Summary

The three major models which have been presented share a number of commonalities. All three include conditions within the structure of the organization as sources of conflict. A summary of these elements for the three models is presented in Table 3:

Table 3
Summary: Structural Sources of Conflict in Three Models

MODELS	Pondy	Schmidt & Kochan	Walton & Dutton
SOURCES OF CONFLICT			
Differentiation			
Differing goals	x	x	x
Power			
Drive for Autonomy	x		
Asymmetrical Power			x
Interdependencies		x	x
Shared Resources	x	x	x
Mutual Task Dependence			x
Reward Systems			x
Rules			
Ambiguities			x
Communication Problems			x
Intergroup Differences			
Role Dissatisfaction			x

This summary suggests that the elements from the three models can be related to structural differentiation, the power distribution in the organization, the rules and procedures to deal with uncertainty as well as the intergroup differences which characterize the individuals who work in the organization.

Section 2: The Two-Dimensional Model of Ruble & Thomas

In contrast to the models summarized in the previous section, the model of intergroup conflict described by Ruble & Thomas (1976) focuses on behavior and its consequences in a conflict situation. It is a revision of an earlier model developed by Blake & Mouton (1964) which identifies two relevant dimensions in the analysis of conflict behavior.

Thomas (1976) contends that a unidimensional "cooperation vs. competition" approach to the study of conflict behavior is inadequate for reflecting the complexities involved in human perception. He notes that limited conceptualizations of a conflict issue as a "win-lose" situation have been criticized (Blake & Mouton, 1964; Blake et al., 1964; Hall, 1969) in favor of a two-dimensional model which encompasses both evaluative and potency (dynamism) distinctions.

Based on semantic differential research (Osgood, Suci & Tannenbaum, 1957), the model assumes that individuals tend to attach both evaluative (good vs. bad) and dynamic (active vs. passive) connotations to assessments of conflict behavior. The two analytically independent dimensions are identified as: (a) assertiveness, defined as a party's attempt to satisfy one's own concerns; and (b) cooperativeness, a party's attempt to satisfy the concerns of the other party.

This two-dimensional model is used to identify five conflict management modes: avoiding (unassertive, uncooperative), accommodating (unassertive, cooperative), competing (assertive, uncooperative), collaborating (assertive, cooperative), and compromising (intermediate on both dimensions).

The two-dimensional model of Ruble and Thomas (1976) is presented in Figure 2:

Competing   Collaborating
                                                  ●
●

Assertive

Assertiveness

                          Compromising
                               ●

Unassertive

Avoiding   Accommodating
●   ●
Uncooperative   Cooperative
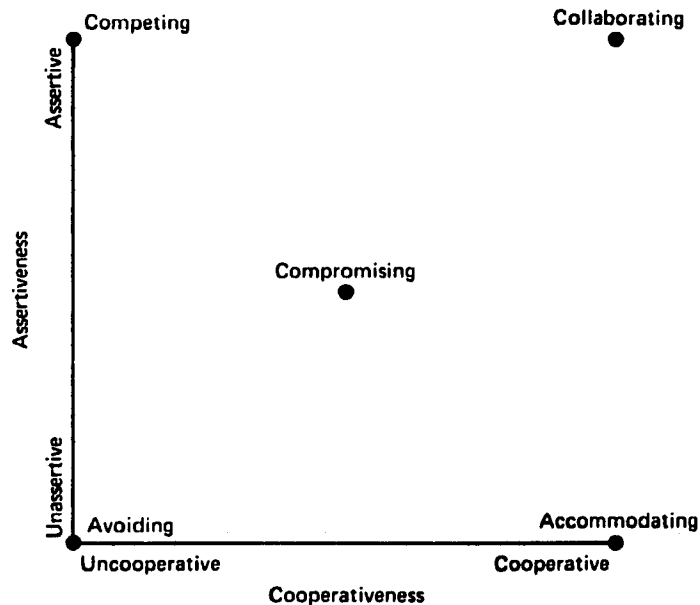
Cooperativeness

Figure 2. The two-dimensional model of conflict behavior.
Ruble & Thomas, 1976.

One of the important assumptions of this model is the preference for collaboration (assertive, cooperative) as a dominant conflict management strategy. This mode has been related to a number of positive organizational outcomes by researchers using various terminologies (Blake et al., 1964; Follett, 1925/1941; Lawrence & Lorsch, 1967; Thomas, 1976; Walton & McKersie, 1965).

Support for the model has been offered by several studies. Two studies conducted by Ruble and Thomas (1976) using different research designs have provided support for the statistical independence of both a cooperative dimension and an assertiveness dimension with assessments of conflict behavior. In the first study, 150 subjects worked in dyads and

rated the conflict management behavior of the other party and also responded to a semantic differential. In the second study, 65 subjects completed a semantic differential in response to behavior of a generalized other. Consistent results supporting the two-dimensional model were obtained. Additionally, research conducted in the organizational context (Renwick, 1972) and experimental research conducted in the laboratory (Cosier & Ruble, 1981) have provided support for the model.

Thomas and Pondy (1977) have extended the basic notions underlying the two-dimensional model to include reciprocal perceptions between parties in a conflict situation. They refer to their "intent" model as groundwork for a theory of conflict management among principal parties. They focus on the subjective meanings which parties attach to the behavior of the "other" and the influence of bias in perception of the "intent of other". Rooted in attribution theory, this line of research focuses on individual perceptions and the relationship of these perceptions to ongoing conflict management behavior. Thomas and Pondy discuss elements of the model and the role of time lag in effective conflict management.

The two-dimensional model has not, however, been evaluated in conjunction with important structural attributes more closely associated with the organizational level of analysis. The conceptual framework presented in the section to follow will attempt to combine perspectives and describe the rationale upon which this study was based.

Section 3: A Combined Perspective

The conceptual framework which served as the basis for this research study was derived from a combined perspective which links dimensions of organizational structure to the two-dimensional model of conflict behavior of Ruble and Thomas (1976). The major hypothesis of the study predicted that a relationship would exist between the structural characteristics of an organization and the modes of conflict management employed by administrators in those organizations. The combined perspective is described as a multi-level model and is based on eight major assumptions which have been derived from the literature on conflict and organizational structure. These assumptions provided the basis for the conclusion that a relationship would exist between the modes of conflict management employed by individuals at a given level within an organization and perceptions of structural characteristics of the organization at that level. These underlying assumptions are presented in Table 4.

The overall combined perspective incorporates the terminology employed by Hage (1980) in identifying three distinct levels of analysis in the assessment of human behavior. At the micro-analytic level individuals serve as the unit of analysis and characteristics most closely associated with psychological variables are examined. Individual conflict management modes are examples of behavior at this level. At the meso-analytic level organizations or sub-groups serve as the units of analysis. Structural characteristics of an organization are examples of sociological variables identified at this level.

Table 4

Assumptions Underlying the Combined Model of Conflict Behavior

1. Conflict is inherent within the structure of an organization (Hall, 1982; Schmidt & Kochan, 1972; Walton & Dutton, 1969).

2. The degree to which conflict is functional to the organization is dependent upon its relationship to organizational effectiveness (Lawrence & Lorsch, 1967; Robbins, 1983).

3. Individuals tend to employ a "primary mode" of conflict management (Lawrence & Lorsch, 1967; Renwick, 1975a).

4. Parties involved in a conflict situation attach both evaluative and dynamic connotations to assessments of conflict behavior (Blake & Mouton, 1964; Ruble & Thomas, 1976; Thomas, 1973).

5. Employment of collaboration (high on assertiveness and high on cooperativeness) as a primary mode of conflict management in the organizational setting is most closely related to long-term organizational effectiveness (Blake, & Mouton, 1964; Lawrence & Lorsch, 1967; Renwick, 1972).

6. Organizations are loosely-coupled symbol processing systems which influence and are influenced by the environments and perceptions of the environment in which they exist (Meyer & Rowan, 1977; Scott, 1981, Weick, 1976).

7. Organizational structural characteristics in loosely-coupled systems vary at different levels and locations within the organization (Aiken & Hage, 1968; Thompson, 1967).

8. Structrual characteristics of the organization exert a greater degree of influence on individual behavior in the organization than any single individual characteristic (Kanter, 1977).

At the macro-analytic level, sociological characteristics most closely associated with environmental or contextual variables are included as influences which exert significant effects on behavior at the individual level. Research at the macro-analytic level might explore the relationship of competitive labor markets or societal attitudes on different populations or sub-populations of organizations. Thus, a study of the relationship of community attitudes (environmental variables) to public school measures of effectiveness (a sub-population of organizations) would be an example of research at the macro-analytic level of analysis.

This multi-level model for envisioning conflict management behavior in the organizational setting assumes a rational basis for action given differential capacities to process information from the environment at different levels and locations within the organization. The model further assumes that reciprocity of influence exists both between and within levels. It does not assume however, that the multiple factors at both the macro and meso-analytic levels exert equal influence on behavior. The model gives preference to collaborative interaction as a primary mode of conflict management behavior for all levels. A visual depiction of this multi-level model is presented in Figure 3.

```
                                        THE MACRO-ANALYTIC LEVEL
                                        (Environments of Organizations)

(Populations of Organizations) /‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾/¦
(Sub-pops of Organizations)  /‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾/¦¦
                             ¦        Environmental Variables    ¦¦¦
                             ¦                                   ¦¦¦
                             ¦     (i.e. societal attitudes      ¦¦¦
                             ¦      or economic conditions)      ¦¦¦
                             ¦                                   ¦¦¦
                  THE MESO-ANALYTIC LEVEL (Organizations)        ¦¦/
                             ¦                                   ¦/
          (Groups) /‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾/¦‾‾‾‾‾‾‾‾‾‾/
       (Sub-groups)/‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾/¦¦
                   ¦     Organizational   Variables    ¦¦¦
                   ¦                                   ¦¦¦
                   ¦   (i.e. structural or functional  ¦¦¦
                   ¦         characteristics of orgs.) ¦¦¦
                   ¦                                   ¦¦¦
       THE MICRO-ANALYTIC LEVEL   (Individuals)        ¦¦/
   ‾‾‾‾‾‾‾‾‾‾‾‾‾¦‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾/
   ¦                        ¦
   ¦   Individual Variables ¦
   ¦                        ¦
   ¦  (i.e. con. man. modes)¦
   ¦_____¦
```

Figure 3. A multi-level model for envisioning influences on
           conflict management in the organizational setting

This multi-level perspective provided the foundation for the conceptual framework which was formulated for the present study. The three organizational characteristics of centralization, formalization and size were identified as important variables in the organizational literature. As noted previously, a number of researchers have examined the size factor in business and industrial organizations as an independent variable at the macro-analytic level indicative of demand (Blau & Schoenherr, 1971; Pugh et al., 1969). However, other researchers have argued that size is more appropriately related to the meso-analytic level of analysis as a structural characteristic (Aldrich, 1972). To complicate matters further, research in Japanese factories has suggested that the importance of size may vary depending on the type of organizations involved (Marsh & Mannari, 1981; Ouchi, 1977). For the present study, size was deemed to be more closely related to the meso-analytic level and the three variables of centralization, formalization and size of district were viewed as organizational structural characteristics at the meso-analytic level of analysis.

The literature on intergroup conflict identified the five conflict management modes contained in two dimensional model of conflict behavior (Ruble & Thomas, 1976) as important variables at the micro-analytic level. This literature also suggested the importance of organizational characteristics as contributors to conflict but did not offer a model which combined organizational structures with the five conflict management modes.

The conceptual framework which served as the basis for this study includes only the meso and micro levels of analysis. It also acknowledges three sub-levels contained within the meso-analytic level. These sub-groups are identified as the institutional level, the managerial level and the technological level using terminology associated with Parsons (1960). The present study examined dimensions of structure at the managerial level using individual perceptions as estimates of organizational characteristics at that level. The framework assumes a preference for collaboration as a primary conflict management mode at each of the three meso-analytic sub-levels. A visual depiction of this model is presented in Figure 4.

Dimensions of Structure

```
MESO-ANALYTIC          /   Institutional - top admin   /|
LEVEL OF ANALYSIS      /  Managerial -  middle admin  /  |
(Organizations)        / Technological - staff      /    |
(Sub-groups)           |                             |    |
                       |                             |    |
                       |   1. Centralization         |    |
                       |   2. Formalization          |    |
                       |   3. Size                   |    |
                       |                             |    |
Conflict Management    |                             |    |
     Behavior          |                             |    |
              |_____|_____                     |    |
   /_____/|   MICRO-ANALYTIC (Individuals)
   |                         ||   LEVEL OF ANALYSIS
   | Competing   Collaborating ||_____|/
   |                         ||
   |     Compromising        ||  (Dimension 2: Assertiveness)
   |                         ||
   | Avoiding   Accommodating ||
   |_____|/
```

(Dimension 1: Cooperativeness)

Figure 4. The conceptual framework: A combined perspective

Summary

This review of the literature has provided a historical perspective on conflict in the organizational setting and described the major sources of conflict which are rooted in the structural characteristics of the organization. Pertinent research studies on intergroup conflict have been presented providing a rationale for examination of a two-dimensional model of conflict behavior in combination with structural characteristics associated with the meso-analytic level of analysis.

The discussion has also provided a review of the historical perspectives on organizational structure which draws heavily from a typology developed by Scott (1981). Research studies on organizational structure were presented with emphasis on methodological and theoretical differences in approach. A combined perspective which provided the basis for the conceptual framework of this study has been described. The methodology which was adopted for examination in this study is presented in Chapter III.

CHAPTER III

METHODOLOGY

This chapter presents a description of the methodology for this study. It includes statements of the major hypothesis and the four sub-hypotheses tested and gives a description of the general research design. The population of interest is defined and the operational procedures employed for identification and data collection are presented. The instrumentation is reviewed and the reliability and validity estimates for these measures are discussed. The chapter closes with a description of the statistical model employed in the data analysis.

The Major Research Question and Hypotheses

The purpose of this study was to identify and describe the relationship between the modes of conflict management employed by special education administrators and the structural characteristics of the organizations in which they work. As pointed out in Chapter II, research on conflict has suggested that certain structural characteristics of the organization may influence the behavioral outcomes of conflict relationships. The literature also suggests that reliance on collaboration, as a primary conflict management mode, is more closely related to long-term organizational effectiveness than primary reliance on other conflict management strategies.

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The major research question addressed in this study was whether a relationship exists between the structural characteristics of an organization and the modes of conflict management employed by special education administrators. It was predicted that structural characteristics would be related to modes of conflict management employed by special education administrators.

The major premise is presented below:

MAJOR HYPOTHESIS : There is a relationship between the structural characteristics of an organization and the modes of conflict management employed by special education administrators.

It was further hypothesized that district type (intermediate and local) and job position (director and supervisor) might influence conflict management behavior. Supplemental analyses were conducted to control for these variables. Four sub-hypotheses were formulated and are stated below:

SUB-HYPOTHESIS 1 : There is a relationship between the structural characteristics of an organization and the modes of conflict management employed by intermediate directors of special education.

SUB-HYPOTHESIS 2 : There is a relationship between the structural characteristics of an organization and the modes of conflict management employed by local directors of special education.

SUB-HYPOTHESIS 3 : There is a relationship between the structural characteristics of an organization and the modes of conflict management employed by intermediate supervisors of special education.

SUB-HYPOTHESIS 4 : There is a relationship between the structural characteristics of an organization and the modes of conflict management employed by local supervisors of special education.

The Design of the Study

The general approach for this research employed a cross-sectional survey design (Babbie, 1973). Survey packets were mailed to all individuals in the population and the information was analyzed using the Statistical Package for the Social Sciences (SPSS). The major hypothesis and the four sub-hypotheses were tested using canonical correlation analysis (CA). This multivariate procedure was selected because it is a powerful technique for assessing complex interrelationships between variables. The constructs examined as the independent variables were the three structural characteristics of centralization, formalization, and size of district. The dependent variables were the modes of conflict management employed by special education administrators.

The Population of Interest

The population of interest for this research was broadly identified as "administrators of special education". For the purposes of this study, the population was delimited and defined as individuals reimbursed through the State of Michigan as Directors or Supervisors of Special Education serving in local or intermediate school districts for the 1982-83 school year.

It was originally planned that the population members would be identified through data collected by the Teacher Certification Services Unit of the Michigan Department of Education. Available figures indicated that a total of 441 individuals (212 directors and 229 supervisors) comprised the population of interest in the 1981-82 school year. It was later determined that although population totals for

directors and supervisors reimbursed through the State are routinely recorded by the Unit, names of individuals in this population frame were not available.

A listing of the population members was obtained from a document published by the Statewide Communication and Dissemination System (SCADS) entitled SPECIAL EDUCATION ADMINISTRATORS IN MICHIGAN, 1982-83 EDITION. A total of 462 names were identified under various titles as potential members of the population and the mailing was sent on March 8, 1983.

On March 30th a subsequent mailing was made to 44 additional individuals not included in the original mailing. These names were gathered from a document entitled: 1982-83 SPECIAL SERVICES DIRECTORY as compiled and distributed by the WAYNE COUNTY INTERMEDIATE SCHOOL DISTRICT. These administrators were primarily local supervisors serving in the Detroit area who were not listed in the SCADS document.

Together a grand total of 506 individuals were asked to respond to the survey as potential members of the population. Four packets were returned with statements indicating that the individuals were no longer employed as special education administrators in the district (i.e. administrative cutbacks, death). These four names were dropped, leaving a total of 502 individuals in the population frame. Usable responses were received from 407 of these individuals for an overall response rate of 81%. Subsequent analyses were based on the information provided by these 407 respondents.

It was deemed plausible that the three-week differential in the mailing dates for these two groups might have an impact on the response rate, thus introducing bias into the study. To assess this possibility, a record of the response order was kept for all respondents. It was noted that 31 of the 44 individuals from the second mailing participated

in the study for a response rate of 75% for that subgroup. This response rate was taken to indicate that no significant differences existed between subgroups due to the effects of history.

Instrumentation

Subjective measures for both the independent and dependent variables were selected for this study. The independent variables were identified as the structural characteristics of centralization, formalization and size of district. The subjective perceptions of these organizational structures as they were perceived by the individual respondents constituted assessment of these characteristics. The dependent variables were identified as the five modes of conflict management employed by special education administrators. Subjective self-reports of "typical behavior" constituted assessment of the five conflict management modes.

The selection of subjective measures for all variables in this study was made to avoid theoretical and methodological problems in making comparisons between fundamentally different measures. The literature on organizational characteristics has shown that although some studies have relied on objective measures of structure (Pugh et al., 1969), others have relied on subjective measures of these same structures (Aiken & Hage, 1968). Comparative analyses by other researchers have shown consistently low intercorrelations between the two different types of measures (Pennings, 1973; Walton, 1981).

Similarly, the literature on intergroup conflict has shown that most studies on intergroup conflict management rely on self-assessment measures. Findings from studies where assessments by "others" were employed have shown that differential perceptions related to power

differences or attributions of intent may have influenced the results (Howat & London, 1980, Thomas & Schmidt, 1976).

The selection of subjective versus objective measures for the variables of interest to this study was both conscious and cautious. It was based on the need for consistency of approach and an interest in internal perception and cognition in relationship to conflict management behavior. The instruments which were identified for the study were derived from the literature and have been used in previous research. These measures were selected as appropriate and relatively free from social desirability as a response bias (Kilmann & Thomas, 1977).

The following sections present descriptions of the instrumentation used in this study. Reliability and validity for these measures are dscussed in the sections which follow.

Centralization

Measurement of the structural characteristic of centralization was accomplished with a nine-item scale developed by Aiken & Hage (1967). The scale included two sub-constructs as indicators of the degree of centralization: a) Participation in Decision-Making, and b) Hierarchy of Authority. The four items under the Participation in Decision-Making were rated on a five-point Likert scale ranging from "never" to "always". The five items under Hierarchy of Authority were rated on a four-point Likert scale ranging from "definitely false" to "definitely true". This instrument was originally used in the 1960's with social service agencies. Minor word changes were incorporated into this scale to make it more appropriate for an educational organization (e.g. reference to "superior" in place of "supervisor") and to avoid gender specific references (e.g. reference to "him/her" in place of "him").

Formalization

The formalization scale was also developed by Aiken & Hage (1966, 1968) and consisted of three sub-constructs as indicators of this structural dimension: a) Job Autonomy, b) Rule Observation, and c) Job Specificity. A total of thirteen items were included (5 items for Job Autonomy, 2 items for Rule Observation, and 6 items for Job Specificity). All items in this scale were rated on a four-point Likert scale ranging from "definitely false" to "definitely true". Minor modifications were made in this scale based on recommendations offered in the literature (Dewar, Whetten, & Boje, 1980) and to adapt it for use in an educational organization (e.g. reference to "district" instead of "the organization" and consistent reference to self rather than "people" or "everyone").

Size of District

Measurement of size of district was a single question asking respondents for the number of professional personnel employed by the district. As Scott has noted (1981), most studies of the relationship between size and structure have used number of participants as the indicator because it tends to reflect both capacity and actual level of performance. The method for assessing size of district for this study was selected because it is most closely related to the concepts of centralization and formalization than other possible indicators of this construct and it is less complicated by boundary issues (Kimberly, 1976).

The rationale for defining size of district as a structural characteristic rather than an environmental variable was based on two major factors. First, as noted in Chapter II, although size has been most typically regarded as a contextual variable rooted in the

environment (Scott, 1981), some researchers have reasoned that size should more appropriately be regarded as a structural property of the organization (Aldrich, 1972; Hall & Tittle, 1966). Secondly, the argument that size is a contextual variable measuring demand for an organization's services or products can be logically reversed to suggest that demand (driven by a number of factors) may be more appropriately defined as the environmental variable with size as the organizational result. For example, legislative factors and societal attitudes may more accurately reflect the concept of demand at the macro-analytic level and from this perspective, size would be viewed as a dependent variable. However, at the meso-analytic level size may be viewed as an influence on individual behavior in the organization. Form this perspective, size would be viewed as an independent variable with behavior at the individual level as the dependent variable. It was this line of reasoning which served as the basis for defining size as a structural characteristic for the present study.

Modes of Conflict Management

The measure identified for assessment of the modes of conflict management employed by special education administrators was the Thomas-Kilmann MODE instrument (XICOM Inc., 1974). The MODE instrument consists of 30 forced choice items comprised of an "A" and a "B" statement. Each statement represents one of the five possible conflict management modes: competing, collaborating, compromising, accommodating and avoiding. Minor modifications in the original format were made to eliminate gender specific references.

The MODE instrument was designed as an ipsative scale relying on forced choices. Respondents were instructed to choose the statement from

the "A-B" pair which most accurately reflects their typical mode of behavior in situations where their wishes differ from those of another party. The ipsative nature of the scale renders the five scores as dependent. The instrument was designed to force respondents to select one mode over another in a given pair where each has a comparable degree of social desirability (Kilmann & Thomas, 1977).

The instrument is scored simply by totaling the number of responses for each conflict management mode as listed in the scoring key. Responses under each conflict management mode are varied over items such that six first choice (A) responses and six second choice (B) responses are possible. This design controls for the possibility of a response set preference for either "A" or "B" over the thirty items. Scores are obtained for each of the five modes, but the total score is always limited to 30, the total number of items. Possible scores for each of the conflict management modes range from 0 to 12 with an expected score of 6 for each of the five modes.

Reliability and Validity

The reliability of a measure is generally identified as the degree of consistency or dependability of that measure. Reliability procedures can provide estimates for the stability between two administrations of a measure (test-retest reliability) or estimates of equivalence between two forms of a measure. Reliability procedures for a single administration of an instrument typically address the internal consistency of the scale, the degree of relationship between items in the measure.

Validity, on the other hand, is generally defined as the degree to which the instrument measures what it was designed to measure. For perceptual scales designed to assess abstract theoretical constructs, the validity of the instrument is the degree to which it is able to identify varying degrees of the construct in question and relate it to the underlying theory. The external validation of the instrument by some outside evaluation procedure is generally considered to be the most rigorous procedure for determining validity estimates for measures of this type.

The Aiken & Hage Scales

Internal consistency reliability estimates for both the Aiken & Hage scales of centralization and formalization were conducted with the aid of the RELIABILITY procedure developed for SPSS through Michigan State University Computer Laboratory (SPSS-6000 Supplement, 1981, pp. 12 - 23). This procedure utilizes Cronbach's coefficient alpha as a measure of internal consistency and provides an estimate of error due to variation in response.

The reliability coefficients obtained for this study were obtained using the individual as the unit of analysis and estimates were in the very good range (α = .70 to .85) for both the centralization and formalization scales. For the nine items included in the centralization scale, a standardized item alpha of .83 was obtained. For the thirteen items included in the formalization scale a standardized item alpha of .75 was obtained.

These findings were generally consistent with reliability findings reported by Dewar et al., (1980) in their examination of Aiken & Hage Scales. These researchers examined the original data collected by Hage & Aiken in 1964, 1967, and 1970 from 16 social service organizations and an additional data set collected by Whetten (1974) from 72 manpower organizations. The organization was used as the unit of analysis in these studies and reliability and validilty estimates were sought for perceptions of these characteristics for organizations, rather than individuals. For this reason they examined each subscale and argued that because the subscales had relatively small numbers of items (i.e., items ranged from 2 for Rule Observation to 6 for Job Specificity), the sensitivity to variation would be increased and yield conservative estimates of reliability. Reliability coefficients for the Aiken & Hage data ranged from very good (α= .70 to .85) to excellent (α> .85). For the manpower data reliabilities were consistently lower but adequate, with the exception of the Job Specificity subscale (α = .45).

The validity of the Aiken & Hage scales was also examined by Dewar et al., (1980). The researchers calculated the median correlation for all items within a given subconstruct (the interitem correlation) and the median correlation between all items measuring a given subconstruct and all other subconstructs (the off-diagonal correlation). Because the

number of items in the scales varied from two to six, adjustments were made to standardize to a six-item scale (Ferguson, 1966). The interitem correlations were used to determine estimates of convergent validity and the off-diagonal correlations were used to determine estimates of discriminant validity. Items within a scale are traditionally viewed as having adequate convergent and discriminant validity if the median interitem correlation is greater than the median off-diagonal correlation. With regard to these scales, the researchers state:

"Theoretically, some of these constructs and subconstructs are expected to be associated, and this should increase the off-diagonal coefficients relative to the interitem ones. In such cases, there are no clear-cut empirical criteria for assessing convergent and discriminant validity. The best one can do is examine the face validity of these items, which should give some clues as to whether items appear to have been mislabeled and should probably be placed in other scales or should be omitted altogether." (Dewar et al., 1980, p. 123)

Based on their findings, Dewar et al., (1980) concluded that the centralization measures were both reliable and valid, but the formalization subscales did not appear to have high degrees of convergent and discriminant validity when placed under the scrutiny of statistical examination. The researchers offered suggestions for improvement (i.e., consistent reference to self rather than "people" or "everyone" and relabeling of the subscale "job codification" to "job autonomy"). These recommended changes were incorporated for the present study.

Validity can be assessed in a number of ways depending on the type of instrument involved and the degree of statistical sophistication required for adequate validity verification. The small number of items for the subscales included in these measures render validity estimations

based on adjusted statistical calculations as highly questionable. Given these conditions, reliance on evaluation by a panel of judges was selected as the most reasonable method for assessing the validity for these measures. The face validity of each of the items in the Aiken & Hage Scales was rated by four judges on a Likert-type scale ranging from "strongly agree" (+2) to "strongly disagree" (-2). The findings of the panel indicated strong support for the face validity of the measures with ratings of 1.97 for the Centralization scale and 1.48 for the Formalization scale. The findings are reported in Appendix E.

The Thomas-Kilmann MODE Instrument

The Thomas-Kilmann MODE Instrument (XICOM Inc., 1974) has been described as a forced-choice ipsative scale which was designed to assess the five conflict management modes identified as reflectors of intergroup conflict behavior. The instrument is comprised of 60 statements arranged in 30 (A-B) pairs. Each statement is keyed under one of the five conflict management modes. Individuals respond to each pair by picking one of the two statements. For example, an item might offer an "A" choice which represents the "competing" mode and a "B" choice which represents the "accommodating" mode. The essential characteristic of an ipsative scale is that by choosing one of the statements (e.g., an "A" response representing the "competing" mode), the respondent is simultaneously rejecting the other statement (e.g., the "B" response representing the "accommodating" mode).

The instrument is ipsative and it was constructed so that the total score is always 30 when summed across the five subscales. This ipsative characteristic renders the five subscale scores as linearly dependent; thus if four of the subscale scores were known, the fifth could be

derived and in this sense is not free to vary. In addition, a high score on any one mode automatically lowers the number of points possible on the other modes. Interpretations of these scales are limited to intraindividual comparison for component subscales. For example, two individuals receiving an equal score on a given subscale cannot be said to be equal in terms of how they respond because the scores are not absolute and do not reflect the intensity of feeling attached to the choices.

Establishing reliability and validity estimates for ipsative instruments is very difficult (Mehrens & Lehmann, 1984). The limitations imposed by the very nature of the instrument design restrict the kinds of interpretations which can be made. The development of forced choice scales came about because of dissatisfaction with the more traditional scales which were unable to avoid neutral responses and adequately control for social desirability as a response bias (Zavala, 1965). Additionally, the more traditional measures allow for response to be high (or low) on many or all of the subscales. The forced choice measure is perceived by some researchers as more realistic (valid) because it more closely parallels real-life situations where difficult choices must be made.

Reliability estimates obtained in this study for each of the five conflict management modes were calculated for the five subscales contained within the measure. Internal consistency reliability estimates using the SPSS RELIABILITY procedure to calculate Cronbach's coefficient alpha were obtained for each of the five modes (12 items each). Reliabilities were in the low to moderate range with a mean of .50. These findings were somewhat lower than previously reported alpha

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coefficients reported by the authors (Kilmann & Thomas, 1977) in their

studies with graduate students from the University of Pittsburgh. Table

5 presents a comparison of the internal consistency reliability estimates

for both studies.

Table 5
Internal Consistencies for the Thomas-Kilmann MODE Instrument:
A Comparison of Two Studies

Modes	Present Study (N = 407)	Thomas-Kilmann Study (N = 86)
Competing	.68	.71
Collaborating	.46	.65
Compromising	.48	.58
Avoiding	.45	.62
Accommodating	.43	.43
MEAN	.50	.60

These reliability estimates would typically be regarded as in the fair to poor range indicating that the MODE instrument does not statistically show an adequate degree of internal consistency. These findings may, in fact, indicate that the measure is less than adequate as an internally consistent tool or they may be more closely related to the ipsative nature of a scale and the small number of items per subscale. With both of these possibilities in mind, one would not expect by random chance alone to find a relationship between organizational structural characteristics and modes of conflict management as measured by this study unless the constructs of interest were reliably assessed. At first glance, this argument may seem tautological in that it suggests a circular logic. However, if one assumes that assessment of conflict mangement modes is not dependable (reliable) with the MODE Instrument and thus subject to a high degree of variation, then there would be no reason to assume that the predicted relationship for this study would be found. In summary, the limitations imposed by the design of the MODE instrument suggest that traditional reliability estimates may be inappropriate for adequate evaluation of the internal consistency of the scale.

Two major validity issues related to the MODE Instrument have been discussed in the literature. Kilmann & Thomas (1977) report extensive examination of the substantive validity of the MODE Instrument and describe the stepwise procedures which were employed in the design of this scale. The authors present comparative data on three other conflict instruments with emphasis on social desirability as a "built-in" response bias. The authors have argued in support of the MODE Instrument as a more valid measure of conflict management behavior.

In their description of the instrument construction, Kilmann & Thomas (1977) discuss the structural validity of the instrument format.

The underlying theory upon which the instrument was based suggests that the five modes are mutually exclusive and exhaustive. According to Radcliffe (1970), the average intercorrelation of scores on an ipsative scale should be equal to $-1/(n-1)$ where n equals the total number of scales. The average intercorrelation for the MODE Instrument was purposefully designed to assure an average intercorrelation of $-.25$ between modes. Kilmann & Thomas argue that assessment of the relative frequency (proportional amount), rather than the absolute frequency (total amount) of mode reliance is consistent with the validity requirements of the theoretical foundation.

Statistically derived reliability estimates for the MODE instrument have been presented and possible explanations for the moderate findings have been discussed. Statistical interpretations of construct validity were not included in the design of this study because of the moderate reliability estimates obtained and the limitations imposed by the ipsative nature of the scale.

Evaluation by a panel of four judges was included as an additional method for assessing the face validity of the instrument. Each of the twelve items on the five subscales were rated with a Likert-type scale ranging from "strongly agree" (+2) to "strongly disagree" (-2). The face validity rating for the instrument as a whole was in the strongly agree to agree range (1.24) with the lowest subscale rating for the competing mode (.84). The findings are reported in Appendix E and lend support to the face validity of the items for the five modes assessed by the MODE instrument.

Procedures for Data Collection

The data collection process was accomplished by mailing packets to all individuals identified in the population. These packets included:

1) a cover letter describing the scope and purpose of the study
2) a demographic data sheet including a question on district size
3) the Aiken & Hage Scales of Centralization and Formalization
4) the Thomas-Kilmann MODE instrument
5) a post-paid pre-addressed envelope for data return

The first mailing was made on March 8, 1983 to 462 individuals with a second mailing to an additional 44 individuals on March 30, 1983. Follow-up procedures with the non-respondents were carried out by mailing post-card reminders approximately two weeks after the initial mailing procedure. Follow-up phone calls were conducted with a simple random sample of ten (10) continued non-respondents to assess the potential for bias in the non-responding sample. Responses from these individuals were documented with no evidence of confounding through bias in the non-responding group.

Coding Procedures

The data for this study were analyzed with procedures available through the computer program SPSS, Statistical Package for the Social Sciences (Nie et al., 1975). Missing data were coded as dummy variables using flag procedures for demographic information and for data on the Aiken & Hage Scales. In instances where significant amounts of data were not supplied, the cases were dropped and treated as non-respondents.

Missing values from the Thomas-Kilmann MODE instrument were assigned to raw data using a random number table. This procedure was selected because of the ipsative nature of the instrument and because missing

values were extremely few (27 out of a total number of 15,210 items). Missing values were assigned to 19 individuals with a maximum of three per case using "IF" statements in the program file.

The Statistical Model

The statistical model selected for data analysis in this study was canonical correlation analysis (CA). CA is one of a family of multivariate models designed to assess multiple variables which interact in complex ways. CA is a method for assessing two sets of multiple variables and deriving linear combinations from each of the sets such that the correlation (R_c) between the linear combinations is maximized (Finn, 1974). For this study, the three organizational structural characteristics of centralization, formalization and size of district constituted the variables of the first set. The variables of the second set were four of the five conflict management modes identified in the Ruble & Thomas model of conflict behavior.

In the Ruble & Thomas model, five conflict management modes were identified: (a) collaborating; (b) compromising; (c) competing; (d) accommodating; and (e) avoiding. However, the instrument used to assess these modes has been described as an ipsative measure in which the maximum number of points is set, rendering the five conflict management scores as linearly dependent. Under conditions where a linearly dependent relationship exists within a set of canonical variables, one of the variables must be deleted to conduct the analysis (Marasculo & Levin, 1983).

The conceptual framework suggested that the strategy of "collaborating" is most closely associated with long-term organizational effectiveness and that a strategy of "avoiding" as a dominant conlflict management mode would be least beneficial for long-term organizational effectiveness. Thus, the four modes of collaborating, compromising, competing and accommodating were designated as the variables of the second set.

CA was used to establish weights defining the linear functions for each set of variables. For example, weights defining the variables of the first set could be depicted as .07 for centralization, .88 for formalization and -.24 for size. This linear combination of variables would be the first canonical variate from the first set and it could be paired with a linear combination of the four variables from the first canonical variate of the second set. CA generates combinations of many such pairs and derives linear combinations from each set in such a way that the correlation between the two linear combinations accounts for the maximum amount of the relationship between the two sets.

The maximum number of canonical correlations for a data set is equal to the number of variables in the smaller set (in this case three). Successive pairs may be generated so that the first set of variates is uncorrelated with the second set of canonical variates. The canonical correlation for each set of canonical variates is tested for departure from zero using Wilk's Lambda (Λ). This test statistic is transformed to approximate the chi-square distribution and a significance level of .05 was selected to estimate the probability that the correlation occured simply by chance.

The square of the canonical correlation (R^2_c) between a set of canonical variates (equivalent to the eigenvalue) is an estimate of the

shared variation between the two linear combinations of the composite variables. A number of researchers (Cooley & Lohnes, 1971; Pedhazur, 1981) have suggested that if the proportion of shared variance (R_c^2) for a pair of canonical variates is estimated to be less than .10, the finding should be treated as not meaningful.

Where CA establishes a canonical correlation of significance, standardized weights for the multiple variables from the set of canonical variates are generated. Tatsuoka (1971) notes that these standardized weights should be used to make meaningful comparisons in the interpretational process (See NOTE). The standardized coefficients are obtained from the raw-score weights for the canonical variates by multiplying each element by the standard deviation of the corresponding variable. The standardized coefficients for significant canonical correlations are printed as part of the SPSS output for the CANCORR program.

NOTE: Pedhazur (1982) has argued that underlying structure coefficients are sometimes preferable to standardized coefficients for interpretational purposes. Structure coefficients are defined as the correlations of the original variables and the canonical variates. These underlying structure coefficients may be obtained by multiplying the correlation matrix for the canonical variate times the standardized weights of the canonical variate. For the interested reader, an indepth theoretical discussion is presented by Pedhazur for the interpretation of structure coefficients.

In the example given in this discussion, a standardized coefficient of .88 for formalization would reflect the relative contribution of that variable to the linear composite. The standardized coefficients may be either plus or minus and vary from zero to one. The signs merely indicate the direction of the relationship. As a general rule of thumb, weights of .30 or less are not treated as meaningful (Pedhazur, 1982).

The coefficients reflect the relative importance of the variables in a given linear combination. In the example presented previously, the standardized coefficient of .88 for formalization reflects the relative contribution of that variable to the linear composite. The standardized weights are very similar to regression coefficients (Beta weights) in multiple regression. In actually, multiple regression is a special case of CA where the set of variables for one set of variates is reduced to one.

Summary

This chapter has presented the overall design and operational procedures which were employed for this study. The major hypothesis and the four sub-hyppotheses have been stated and the population has been identified. The rationale for assessment of the constructs has been presented and the instrumentation has been described. A description of reliability and validity has been included and limitations have been discussed. The coding procedures have been reviewed and the statistical model selected for this study has been described. The following chapter will present the results of this investigation.

CHAPTER IV

ANALYSIS

Introduction

Chapter IV provides a summary of the results from this investigation. It presents the descriptive statistics for this study and reports the results of the tests for the major hypothesis and the four sub-hypotheses.

Descriptive Statistics

Response Rate

The subjects for this study were defined as the population of administrators of special education serving in local or intermediate school districts in Michigan for the 1982-83 school year. Mailings were distributed to 462 potential members of the population and 44 additional individuals were later identified and included in a second mailing. A combined total of 506 individuals were identified and responses were solicited from all potential members of the population of interest.

A total of 502 individuals were included in the survey group. Of these, 407 valid responses were returned for an overall response rate of 81%. It should also be noted that three (3) packets were returned with incomplete data and two (2) others were returned with letters explaining the philosophical reasons for not responding. These cases were not included in the overall response rate.

Respondents

     The descriptive data for this study were obtained through use of the SPSS subprogram FREQUENCIES. Descriptive information on the 407 respondents is presented in Table 6. Of the 407 respondents, 166 reported state reimbursment for their positions as Directors and 183 reported state reimbursement as Supervisors. A total of 342 administrators, 84% of the respondents, reported reimbursement as either Directors or Supervisors and affiliation with either intermediate or local school districts. These 342 administrators were thus defined as the responding population of interest.

     In Chapter III it was noted that follow-up procedures were conducted to assess for possible differences between the respondents and the non-respondents. Follow-up phone calls were made to a simple random sample of ten of the non-respondents to determine if there was any systematic difference between the two groups caused by an extraneous variable. Of these ten, one was on extended medical leave, one was no longer employed, and four indicated that they had not received the packet. The remaining four indicated that they did not respond because they believed that the information sought was not appropriate for the functions they served (i.e., one was an attorney for a large urban district who was reimbursed as a Supervisor; three others indicated that they were consultants and did not supervise other individuals). The responses provided by these individuals did not provide a basis for speculation that significant differences existed between the respondents and the non-respondents.

Table 6

Descriptive Statistics on the Respondents (N = 407)

GENDER (V4)		RACE (V5)		DISTYPE (V8)		REIMB (V9)	
Male	273	White	379	ISD	164	Dir	166
Female	133	Black	22	Local	232	Supv	183
Missing	1	Other	3	Other	9	Neither	55
		Missing	3	Missing	2	Missing	3

AGE (V6)		EDUC (V7)		TITLE (V10)		ADM RESP (V11)	
Under 31	6	BA	2	Asst Supt	24	Full	343
31 - 35	61	MA	47	Dir	144	High	21
36 - 40	83	MA+15	74	Asst Dir	14	Half	13
41 - 45	90	MA+30	136	Supv	123	Low	26
46 - 50	64	EdS	88	Coord	35	None	2
51 - 55	63	Doct	57	Other	65	Missing	2
56+	36	Missing	3	Missing	2		
Missing	4						

Directors and Supervisors

A total of 349 administrators were identified as Directors or Supervisors through self-reported reimbursement status. Seven of these cases were dropped because district type was reported as other than intermediate or local (i.e. "neither" was checked or both ISD and Local were checked). Descriptive statistics for the remaining 342 administrators are presented in Table 7 and breakdowns by subgroup are presented in Table 8. The general pattern presented for the 342 individuals identified as the responding population of interest was very similar to that of the respondents as a whole.

Table 7

Descriptive Statistics: Directors & Supervisors (N = 342)

GENDER (V4)		RACE (V5)		DISTYPE (V8)		REIMB (V9)	
Male	228	White	319	ISD	150	Dir	160*
Female	114	Black	19	Local	192	Supv	182*
		Other	3				
		Missing	1				

AGE (V6)		EDUC (V7)		TITLE (V10)		ADM RESP (V11)	
Under 31	4	BA	1	Asst Supt	18	Full	317
31 - 35	51	MA	36	Dir	132	High	12
36 - 40	69	MA+15	64	Asst Dir	13	Half	8
41 - 45	76	MA+30	117	Supv	120	Low	4
46 - 50	54	EdS	78	Coord	15	None	1
51 - 55	57	Doct	46	Other	44		
56+	30						
Missing	1						

* Totals reflect only those administrators reporting
  ISD or Local as Distype (V8)

Breakdowns for the four subgroups identified as ISD Directors, Local Directors, ISD Supervisors and Local Supervisors are presented in Table 8 and reveal some differences by subgroup. The overall representation for gender was 67% male and 33% female. Representation by gender was skewed within the subgroups, however, with female representation highest at the Local Supervisor level (45%) and lowest at the ISD Director level (20%). Minority representation was also highest at the Local Supervisor level (13%) and markedly lower for all other subgroups (1% for ISD Supervisors, 7% for Local Directors, and 3% for ISD Directors. Directors tended to be slightly older than Supervisors and tended to have higher educational levels.

Job titles for the four sub-groups were varied. For ISD Directors, 23% reported title as Assistant Superintendent suggesting a high degree of central office involvement. At the local level however, only 3% of the Local Directors reported this title. Supervisor was reported as the correct title for 74% of the respondents at the ISD level with 18% reporting "Other". At the local level, only 58% reported Supervisor as the correct title with 19% reporting "Other", 10% reporting Coordinator and 13% reporting as Director or Assistant Director. This pattern suggests that roles for Supervisors may be more varied at the local level.

The majority of administrators from all subgroups reported full-time administrative responsibility. Years in the present position averaged 7.7 years and total number of years of administrative experience averaged 10.6 years with the highest means reported for ISD Directors, followed by Local Directors, Local Supervisors and ISD Supervisors.

Table 8

Descriptive Statistics on Administrators by Sub-group

N = 342	ISD DIR (n = 64)		LOCAL DIR (n = 96)		ISD SUPV (n = 86)		LOCAL SUPV (n = 96)	
GENDER								
Male	51	80%	73	76%	51	59%	53	55%
Female	13	20%	23	24%	35	41%	43	45%
RACE								
White	62	97%	89	93%	85	99%	83	87%
Black	2	3%	5	5%	1	1%	11	12%
Other	0	0%	2	2%	0	0%	1	1%
AGE								
Under 31	0	0%	0	0%	3	3%	1	1%
31-35	5	8%	14	14%	18	21%	14	15%
36-40	10	16%	18	19%	17	20%	24	25%
41-45	16	25%	20	21%	20	23%	20	21%
46-50	15	23%	18	19%	12	14%	9	9%
51-55	11	17%	15	16%	12	14%	19	20%
56+	7	11%	10	10%	4	5%	9	9%
EDUCATION								
BA	0	0%	0	0%	0	0%	1	1%
MA	2	3%	8	8%	12	14%	14	15%
MA+15	5	8%	10	10%	21	24%	28	29%
MA+30	33	52%	31	32%	28	33%	25	26%
EdS	14	22%	29	30%	17	20%	18	19%
Doct	10	16%	18	19%	8	9%	10	10%
TITLE								
A-supt	15	23%	3	3%	0	0%	0	0%
Dir	43	67%	80	83%	1	1%	8	8%
A-dir	3	5%	3	3%	2	2%	5	5%
Supv	0	0%	0	0%	64	74%	56	58%
Coord	0	0%	2	2%	4	5%	9	10%
Other	3	5%	8	9%	15	18%	18	19%
ADMIN RESPONSIBILITY								
Full	62	96%	88	92%	79	92%	88	92%
High	1	2%	5	5%	4	5%	2	2%
Half	1	2%	1	1%	2	2%	4	4%
Low	0	0%	2	2%	0	0%	2	2%
None	0	0%	0	0%	1	1%	0	0%
YEARS IN PRESENT POSITION								
Mean	9.1		8.5		6.5		7.2	
YEARS OF ADMINISTRATIVE EXPERIENCE								
Mean	13.6		11.9		8.4		9.5	

Descriptive statistics were also generated to determine means and standard deviations on variables of interest to the study for the four sub-groups. Groups were examined for differences by title and position for both organizational characteristics and conflict management modes. These findings are reported in Table 9. Means and standard deviations for the variables of centralization and formalization were computed from responses ranging in value from one to four with the exception of the Participation in Decision-making subscale which ranged from one to five. Subscales and items were recoded where appropriate so that a high score reflected a high degree of the given construct.

From the figures it can be seen that centralization was generally viewed as low for Directors with ISD Supervisors reporting the highest perceptions of this construct. The degree of formalization was perceived to be moderately high and consistent across the four sub-groups. Size was markedly different for intermediate and local districts with high standard deviations at the ISD level. These figures represent the skew in the population distribution produced by respondents from the Detroit area.

Scores on the five conflict management modes appear on the surface to be highly consistent across groups and across modes. The design of the instrument limits possible scores to a range from zero to twelve with an expected score of six for all subscales. The pattern presented by the figures shows "compromising" to be reported as the most frequently employed conflict management mode and "competing" to be reported least frequently as the dominant conflict management strategy.

Additional runs were conducted to assess differences by gender and number of years in administration. Males (n = 228) reported an average of 11.7 (s.d. = 5.7) years in administration while females (n = 114)

reported an average of 8.4 (s.d. = 5.2) years in administration. Differences by gender on reported frequency of conflict management modes were negligible.

Out of 342 administrators, a total of 314 individuals were included in the canonical correlation analysis. Missing values on the variable of reported size of district prevented inclusion of the 28 additional cases in the calculations. Outputs from the SPSS runs were examined to assess the possibility for systematic differences in the responses of these individuals. Based on the figures produced by each procedure, no basis was found for speculation that systematic differences existed between groups.

Table 9

Descriptive Statistics on Canonical Variables by Sub-group

N = 342	ISD DIR (n = 64)		LOCAL DIR (n = 96)		ISD SUPV (n = 86)		LOCAL SUPV (n = 96)	
var.	mean	s.d.	mean	s.d	mean	s.d.	mean	s.d.
Cent	1.4	.41	1.5	.42	1.9	.54	1.7	.51
Form	2.6	.33	2.6	.41	2.6	.42	2.6	.30
Size	82.	59.	450.	389.	97.	53.	1682.	2926.
Collab	6.9	2.1	6.4	2.2	6.6	2.0	6.7	2.7
Compro	7.6	2.1	7.6	2.2	7.8	2.3	7.8	2.0
Compete	4.4	2.7	4.3	2.7	3.9	2.7	4.2	2.7
Accom	4.9	2.3	5.1	2.1	5.2	2.0	5.0	2.0
Avoid	6.2	2.1	6.6	2.1	6.4	2.4	6.3	2.3

Tests of the Hypotheses

The Test of the Major Hypothesis

The major research question addressed in this study was whether a relationship exists between the structural characteristics of an organization and the modes of conflict management employed by special education administrators. It was predicted that structural characteristics would be related to modes of conflict management most typically used by these administrators.

Canonical correlation analysis (CA) was identified as the appropriate statistical model for assessing the degree of relationship between these two sets of random variables (Finn, 1974). All statistical tests were conducted with the Statistical Package for the Social Sciences (SPSS) program CANCORR (Nie et al., 1975) on the Cyber 750 at Michigan State University. CA was used to identify the standardized weights for the three variables in the first set, the organizational structural characteristics, and the standardized weights for the four variables in the second set, the conflict management modes, such that the squared canonical correlation (R_c^2) between the two sets of variates was maximized.

The appropriate test statistic for this study was identified as Wilk's Lambda (Λ) with degrees of freedom equal to twelve, the number of variables in the first set times the number of variables in the second set. The joint test for nullity of all canonical correlations was tested for departure from zero to reveal possible relationships between the two sets of variables.

The traditional research form where the null hypothesis is tested for departure from zero at the .05 level of significance was adopted to test the major hypothesis. Thus, for this study, the null hypothesis H was rejected with confidence only if the obtained test statistic exceeded the upper 95 percentile point on the distribution.

The major hypothesis for the study is restated here in the null form:

MAJOR HYPOTHESIS : There is no relationship between the structural characteristics of an organization and the modes of conflict management employed by administrators of special education.

Thus, H_0 and H_1 for the major hypothesis took the following form:

$$H_0: \quad R_c = 0$$
$$H_1: \quad R_c \neq 0$$

The test statistic was expressed as:

$$\Lambda_J = \prod_{i=J}^{s} (1 - \hat{R}_i^2)$$

The test statistic follows a chi-square distribution with pq degrees of freedom where p equals the number of variables in the first set and q equals the number of variables in the second set. With Bartlett's transformation, the distribution of the test statistic can be approximated.

Bartlett's Transformation is:

$$\chi^2 = -m \log_e \Lambda_1$$

where:

$$m = [N-1-(p+q+1)/2]$$

Findings for the Test of the Major Hypothesis

The findings from the test of the major hypothesis are presented in Table 10. The number of valid cases for this test was 314 (92% of the 342) due to missing values on the variable of reported district size. The table shows that a canonical correlation of .219, p = .03 was found for the first canonical variate. The obtained chi-square value of 22.6 was found to be significant with 12 degrees of freedom, suggesting that this finding did not occur by chance.

The standardized coefficients or canonical variates representing the relative importance of the variables in the linear combination are also reported. These standardized coefficients may be either plus or minus and typically vary from zero to one. The signs merely indicate the nature of the relationship between variables in the two sets. For interpretational purposes, algebraic signs may be reversed for all variables within a pair of canonical variates by multiplying each element by minus one. Interpretation is not altered by use of these reflected forms (Marasculo & Levin, 1983).

Table 10

Canonical Analysis of Centralization, Formalization and Reported Size of District (V15) with Modes of Conflict Management for Michigan Administrators of Special Education (N = 314)

Number	Squared Canonical Correlation	Canonical Correlation	Wilk's Lambda	Chi-Square	D.F.	Sig.
1	.04814	.219	.92945	22.612	12	.031*

St. Coef. for Canonical Var. of the Second Set		St. Coef. for Canonical Var. of the First Set	
Collaboration	.28	Centralization	-.99
Compromise	-.44	Formalization	.16
Competition	.00	Size (V15)	.26
Accommodation	-.83		
YIELDING		HIGH POWER	

* p < .05

The standardized coefficients present the pattern of relationship that was found between structural characteristics of an organization as measured by this study and the modes of conflict management reported by special administrators in these organizations. The variables which most directly influenced the finding for the first canonical variate were centralization (-.99) from the first set and accommodating (-.83) and compromising (-.44) from the second set. The signs indicate that the relationship between these variables is in the same direction (positive) so that the higher the centralization, the higher the expected degree of accommodating and compromising. Another way to express the relationship between variables can be shown in the reflected form as follows where $\hat{Y}$ equals the canonical variate for the second set and $\hat{X}$ equals the canonical variate for the first set and R equals the correlation between the two sets of variables:

$$\hat{Y} = -.28 \text{ Collab} + .44 \text{ Compro} - .00 \text{ Compete} + .83 \text{ Accom}$$

and:

$$\hat{X} = .99 \text{ Cent} - .16 \text{ Form} - .26 \text{ Size}$$

and:

$$R_c = .219$$

The interpretation of canonical correlation analysis is complicated and procedural steps suggested by Morash (1979) were employed in the process. First, the pattern of relationship between the two sets were examined to see which variables contributed most to the correlation between the two variates. Labels were then given to the pattern expressed by the variable weights for the two canonical variates. For

the relationship expressed in the canonical variates for the test of the major hypothesis, "HIGH POWER" (centralization) was strongly tied to a pattern of "YIELDING" (accommodating and compromising). These labels were selected as the common-sense terms which best represent the pattern depicted by the linear combination for this overall test.

As noted earlier, the squared canonical correlation (R_c^2) indicates the proportion of shared variation between the two canonical variates. As a rule of thumb, a number of statisticians (Cooley & Lohnes, 1971; Pedhazur, 1982) have suggested that if $R^2 < .10$, the finding may be treated as not meaningful. For this test, the squared canonical correlation was low ($R_c^2 = .048$) suggesting that although the test of the hypothesis achieved statistical significance, the meaningfulness of this finding is questionable.

Tests of the Sub-hypotheses

It was further speculated that differences by district type (intermediate and local) and job position (director and supervisor) might in some way act as influences on conflict management behavior. To test this speculation, sub-hypotheses were formulated for the four subgroups represented by these administrators: Intermediate (ISD) Directors; Local Directors; Intermediate (ISD) Supervisors; and Local Supervisors. The SPSS program CANCORR was used to generate the results for each of these tests. In the sections to follow, each sub-hypothesis is restated in the null form and the findings are discussed.

Findings for Sub-Hypothesis 1

Sub-Hypothesis 1 is restated here in the null form:

SUB-HYPOTHESIS 1: There is no relationship between the structural characteristics of an organization and the modes of conflict management employed by intermediate directors of special education.

The test of H_0 and H_1 took the following form:

$$H_0 : R_c = 0$$
$$H_1 : R_c \neq 0$$

The findings from the test of Sub-Hypothesis 1 are presented in Table 11. The number of valid cases for this test was 62 (97% of the 64 cases) due to missing values for two cases on the variable of reported size of district. The table shows that a canonical correlation of .388, p = .37 was found for the first canonical variate. The obtained chi-square of 13.00 was non-significant with 12 degrees of freedom, suggesting that this finding could have occured by chance.

Table 11

Canonical Analysis of Centralization, Formalization and Reported Size of District (V15) with Modes of Conflict Management for Michigan ISD Directors of Special Education (n = 62)

Number	Squared Canonical Correlation	Canonical Correlation	Wilk's Lambda	Chi-Square	D.F.	Sig.
1	.04814	.388	.79753	13.009	12	.368

St. Coef. for Canonical Var. of the Second Set		St. Coef. for Canonical Var. of the First Set	
Collaboration	-.48	Centralization	.81
Compromise	.58	Formalization	.51
Competition	-.43	Size (V15)	-.05
Accommodation	-.16		

Findings for Sub-Hypothesis 2

Sub-Hypothesis 2 is restated here in the null form:

SUB-HYPOTHESIS 2: There is no relationship between the structural characteristics of an organization and the modes of conflict management employed by local directors of special education.

The test for H_0 and H_1 took the following form:

$$H_0 : R_c = 0$$
$$H_1 : R_c \neq 0$$

The findings from the test of Sub-Hypothesis 2 are presented in Table 12. The number of valid cases for this test was 91 (95% of the 96 cases) due to missing values for five cases on the variable of reported size of district. The table shows that a canonical correlation of .345, p = .09 was found for the first canonical variate. The obtained chi-square of 18.85 was non-significant with 12 degrees of freedom, suggesting that this finding could have occured by chance in approximately one out of ten times.

Table 12

Canonical Analysis of Centralization, Formalization and Reported Size of District (V15) with Modes of Conflict Management for Michigan Local Directors of Special Education (N = 91)

Number	Squared Canonical Correlation	Canonical Correlation	Wilk's Lambda	Chi-Square	D.F.	Sig.
1	.11941	.346	.80418	18.851	12	.092

St. Coef. for Canonical Var. of the Second Set

Collaboration	.79
Compromise	.89
Competition	.13
Accommodation	.90

St. Coef. for Canonical Var. of the First Set

Centralization	.21
Formalization	.06
Size (V15)	-.99

Note: Standardized coefficients are presented in the reflected

form .

Findings for Sub-Hypothesis 3

Sub-Hypothesis 3 is re-stated here in the null form:

SUB-HYPOTHESIS 3: There is no relationship between the structural characteristics of an organization and the modes of conflict management employed by intermediate supervisors of special education.

The test for H_0 and H_1 took the following form:

$$H_0 : R_c = 0$$

$$H_1 : R_c \neq 0$$

The findings from the test of Sub-Hypothesis 3 are presented in Table 13. The number of valid cases for this test was 77 (90% of the 86 cases) due to missing values for nine cases on the variable of reported size of district. The table shows that a canonical correlation of .439, p = .007 was found for the first canonical variate. The obtained chi-square of 27.39 was significant with 12 degrees of freedom.

Examination of the standardized coefficients show the pattern of relationship between the two sets of variables for these ISD supervisors. The variables which most direcly influenced the finding in the first canonical variate were centralization (-.92) and formalization (.48) from the first set and collaborating (.72) and competing (.41) from the second set. The signs indicate that low centralization and moderate formalization together are related to patterns of conflict management characterized by high collaboration and moderate competition. These findings may be expressed mathematically to show the relationship where $\hat{Y}$

equals the canonical variate for the second set and $\hat{X}$ equals the

canonical variate for the first set and R equals the correlation between

the two sets of variables:

$$\hat{Y} = .72 \text{ Collab} + .00 \text{ Compro} + .41 \text{ Compete} - .32 \text{ Accom}$$

and:

$$\hat{X} = -.92 \text{ Cent} + .48 \text{ Form} + .33 \text{ Size}$$

and:

$$R_c = .439$$

The variable weights for the pattern in the first set of the first

canonical variate suggested the term "OPEN" with low centralization and

moderate formalization. The term "CONTRIBUTING" was selected to

represent the assertiveness dimension expressed by competing and high

collaborating in the second set of the first canonical variate. The

squared canonical correlation for the first canonical variate was greater

than .10 ($R_c^2 = .193$) suggesting that the findings were both statistically

significant and meaningful.

Table 13

Canonical Analysis of Centralization, Formalization and Reported Size of District with Modes of Conflict Management for Michigan ISD Supervisors of Special Education (n = 77)

Number	Squared Canonical Correlation	Canonical Correlation	Wilk's Lambda	Chi-Square	D.F.	Sig.
1	.19302	.439	.68537	27.390	12	.007**
2	.12626	.355	.84931	11.842	6	.066

St. Coef. for Canonical Var.
    of the Second Set

St. Coef. for Canonical Var.
    of the First Set

Variate:	1st	2nd		1st	2nd
Collaboration	.72	.54	Centralization	-.92	-.09
Compromise	.00	-.19	Formalization	.48	.36
Competition	.41	-.87	Size (V15)	.33	-.84
Accommodation	-.32	-.03			
	CONTRIBUTING	COOPERATIVE		OPEN	SMALL

** P < .01

Note: Standardized Coefficients are presented in their reflected form

Table 13 includes findings for the second pair of canonical variates. The chi-square value for the second canonical variate pair failed to reach a statistically significant level (p = .066), but the squared canonical correlation was .126, (R_c^2 > .10). Given that canonical correlation analysis is often difficult to interpret, the coefficients for second canonical variate should cautiously examined for interpretations of meaningfulness for this particular subgroup of administrators.

Examination of the standardized coefficients for the two sets in the second canonical variate show a different pattern of relationship for the composite variables. CA generates these linear combinations in such a way that the first and second canonical variates are independent and the number of possible canonical variates is limited to the number of variables in the smaller of the two sets (in this case three). The variables which most directly influenced the finding for the second canonical variate were size of district (-.83) in the first set and competing (-.87) and collaborating (.54) in the second set. The signs indicate that smaller district size is negatively associated with competing and positively correlated with collaborating. The terms "SMALL" was used to reflect the relative weight of reported size of district and the term "COOPERATING" was used to reflect collaborating and low competing.

Findings for Sub-Hypothesis 4

Sub-Hypothesis 4 is re-stated here in the null form:

SUB-HYPOTHESIS 4: There is no relationship between the structural characteristics of an organization and the modes of conflict management employed by local supervisors of special education.

The test for H_0 and H_1 took the following form:

$$H_0 : R_c = 0$$
$$H_1 : R_c \neq 0$$

The findings from the test of Sub-Hypothesis 4 are presented in Table 14. The number of valid cases for this test was 84 (88% of the 96 cases) due to missing values for twelve cases on the variable of reported size of district. The table shows that a canonical correlation of .318, p = .34 was found for the first canonical variate. The obtained chi-square of 13.36 was non-significant with 12 degrees of freedom suggesting that meaningful conclusions cannot be gathered from this finding.

Table 14

Canonical Analysis of Centralization, Formalization and Reported Size of
District (V15) with Modes of Conflict Management for Michigan Local
Supervisors of Special Education (n = 84)

Number	Squared Canonical Correlation	Canonical Correlation	Wilk's Lambda	Chi—Square	D.F.	Sig.
1	.10169	.318	.84533	13.358	12	.344

St. Coef. of Canonical Var. of the Second Set		St. Coef. for Canonical Var. of the First Set	
Collaboration	1.08	Centralization	.14
Compromise	-.05	Formalization	-.19
Competition	.20	Size (V15)	1.00
Accommodation	-.72		

Summary

This chapter has presented the findings and the descriptive statistics for this study. Tables were presented to describe characteristics of the respondents and descriptive information was also presented for the four subgroups of ISD Directors, Local Directors, ISD Supervisors and Local Supervisors. The major hypothesis and the four sub-hypotheses were reviewed and the findings for each test were discussed.

The test for the Major Hypothesis of this study was found to be statistically significant (p = .03). The finding suggested a relationship between organizational characteristics described as "HIGH POWER" to modes of conflict management characterized by high degrees of "YIELDING" (accommodating and compromising).

Tests of the four Sub-Hypotheses were mixed with a statistically significant finding for Sub-Hypothesis 3 (p = .007) and non-significant findings for the remaining Sub-Hypotheses. Interpretation of these findings suggested that the predicted relationship between organizational structural characteristics and modes of conflict management was inconsistent across the subgroups with ISD Supervisors reporting patterns between these variable sets which were very different from those reported by the other subgroups. The pattern of relationship for ISD Supervisors suggested that organizational structures characterized as "OPEN" (low centralization, moderately high formalization and moderate size) were most closely related to patterns of "CONTRIBUTING" (collaborating and competing).

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a summary of the study and includes a description of the general research design. The findings are reviewed and conclusions and implications are discussed. Two specific recommendations for personnel preparation in the area of special education administration are provided. Additionally recommendations in the area of policy are offered for consideration. The chapter closes with recommendations for further research with wider populations of administrators.

Summary

Purpose of the Study

The purpose of this study was to identify and describe the relationship between perceptions of conflict management strategies employed by special education administrators and perceptions of structural characteristics of the organizations in which they work. It was predicted that the patterns of conflict management reported as "most typical" by the administrators in this study would be related to their perceptions of organizational structure in the organizations where they were employed.

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Rationale

The role of the special education administrator has changed dramatically since the enactment of federal legislation in the mid-seventies. The legal requirements for procedural safeguards in special education programming and the rising concern for excellence in education have placed many demands on administrators. This problem has been exacerbated by a period of economic instability and a rising concern for excellence and accountability in education as a whole. Effective conflict management by special education leaders was viewed as a critical link to overall administrative leadership.

Previous research on conflict in the organizational setting has suggested that primary reliance on a collaborative approach to conflict management is more closely related to long-term organizational effectiveness than primary reliance on other conflict management strategies. Based on this assumption, investigation of the patterns of conflict management by special education administrators was viewed as an essential element for understanding and making recommendations for improvement in the delivery system designed to serve handicapped students.

Other research efforts conducted primarily in industrial organizations have suggested that structural characteristics of the organization may influence the behavioral outcomes of conflict relationships. Secondly, the literature has suggested that conflict is inherent within organizational structure and that organizational influences may in fact exert as much if not more influence on behavior than any single individual factor. Although previous research has suggested the existence of a relationship between structural characteristics and modes of conflict management employed by individuals

organization, formal attempts to establish this pattern are not evident in the literature. This study was an attempt to combine perspectives and offer a description of conflict management behavior which acknowledges organizational influences.

The Research Hypotheses

The major research question addressed in this study was whether a relationship exists between the structural characteristics of an organization and the modes of conflict management employed by special education administrators. It was predicted that the perceptions of the organizational characteristics of centralization, formalization and district size would show a relationship to the primary pattern of conflict management reported by administrators in these districts.

The major premise was as follows:

MAJOR HYPOTHESIS : There is a relationship between the structural characteristics of an organization and the modes of conflict management employed by special education administrators.

It was further hypothesized that district type (intermediate and local) and job position (director and supervisor) might influence conflict management behavior. Four sub-hypotheses were formulated to assess for possible differences in these four subgroups. The four subgroups were defined as Intermediate (ISD) Directors, Local Directors, Intermediate (ISD) Supervisors, and Local Supervisors.

The Design of the Study

The general approach for this research employed a cross-sectional survey design. Survey packets were mailed to all individuals in the population and the information was analyzed with the aid of the Statistical Package for the Social Sciences (SPSS). The major hypothesis and the four sub-hypotheses were tested using canonical correlation analysis (CA). The constructs examined as the independent variables were the three structural characteristics of centralization, formalization, and size of district. The dependent variables were four modes of conflict management described as collaborating, compromising, competing and accommodating.

The Population of Interest

The population of interest for this research was broadly identified as "administrators of special education". For the purposes of this study, the population was delimited and defined as individuals reimbursed through the State of Michigan as Directors or Supervisors of Special Education serving in local or intermediate school districts for the 1982-83 school year.

Data Collection

On March 8, 1983 packets containing the survey materials were sent to 462 individuals identified under various titles as potential members of the population. On March 30th a subsequent mailing was made to 44 additional individuals not included in the original mailing. A record of the response order was kept for all respondents because of the three-week differential in the mailing dates for these two groups. It was noted

that 31 of the 44 individuals from the second mailing participated in the study for a response rate of 75% for that subgroup. This response rate was taken to indicate that no significant differences existed between subgroups due to the effects of history.

A grand total of 506 individuals were asked to respond to the survey as potential members of the population. Four names were dropped as inappropriate leaving a total of 502 individuals in the frame. Usable responses were received from 407 of these individuals for an overall response rate of 81%. Subsequent analyses were conducted on the 342 directors and supervisors identified in these 407 respondents.

Instrumentation

Subjective measures for both the independent and dependent variables were selected for this study. The independent variables were identified as the structural characteristics of centralization, formalization and size of district. The subjective perceptions of these organizational structures as they were perceived by the individual respondents constituted assessment of these characteristics. The Aiken & Hage Scales of Centralization and Formalization were used to assess these constructs. Size was measured as a simple count reported by the respondents.

The dependent variables were identified as the modes of conflict management employed by special education administrators. The Thomas-Kilmann MODE Instrument (XICOM, Inc., 1974) was used to assess five different conflict management modes identified as: collaborating, compromising, competing, accommodating, and avoiding. The MODE instrument is an ipsative scale which attempts to control for social desirability as a response bias. The design renders the five mode scores as linearly dependent and thus, one had to be dropped to conduct the

statistical analysis. The conceptual framework suggested that a technique of "avoiding" as an dominant strategy for conflict management would be least beneficial for long-term organizational effectiveness, thus this mode was not included in the canonical correlation analysis.

Reliability and Validity of the Measures

Reliability estimates for the Aiken & Hage Scales were in the very good range with standardized item alphas of .83 for the Centralization Scale and and .75 for the Formalization Scale. Face validity estimates for these scales were conducted by a panel of judges where each item was rated on a Likert-type scale ranging from strongly agree (+2) to strongly disagree (-2). Validity ratings for the both of these scales were also very high with ratings of 1.97 for the Centralization Scale and 1.48 for the Formalization Scale.

Reliability estimates for the Thomas-Kilmann MODE Instrument were moderate to low with a mean of .50 across the five scales. The instrument was originally designed to reduce social desirability as a response bias and items were constructed to have equal appeal to the respondent. The ipsative nature of the scale and the small number of items per subscale bring to question the traditional reliability procedures for evaluation of this measure. The low reliability estimates place limitations on the implications which can be drawn from the findings.

Validity ratings for this instrument were evaluated by a panel of judges using a Likert-type scale similar to that used for the Aiken & Hage Scales. The face validity rating for the instrument as a whole was in the strongly agree to agree range (1.24) indicating support for the instrument as a valid measure. Interestingly the lowest validity rating

by the panel of judges was for the competing mode (.84) which showed the highest degree of reliability (.68).

Limitations

For the purposes of this study, the subjects were the Directors and Supervisors of Special Education in Michigan serving in local or intermediate school districts for the 1982-83 school year. From one perspective this group may be viewed as population and thus the information gathered in this study is statistically limited to the population parameters. From another perspective, this group of administrators represent one level of administration within an educational system. Extensions may be logically bridged to larger populations of school administrators and to middle level administrators in other types of organizations.

Limitations for this study are related to the unit of analysis, reliance on perceptual measures and low reliability estimates for the Thomas-Kilmann MODE Instrument. For this study, structural characteristics were assessed with the individual as the unit of analysis and the data were treated as measures of organizational structure at a specified level in the organization. Secondly, the survey information was restricted to subjective perceptions for both structural characteristics and conflict management behavior. These limitations do not invalidate the findings, but they do suggest that different findings might have been noted with objective measures of these same constructs.

Conclusions and Implications

The conclusions and recommendations for this study have been based on the findings for the Major Hypothesis and the Four Sub-Hypotheses for this study. A summary of these findings is presented in Table 15.

Table 15

Summary: Findings for the Tests of the Hypotheses

Hypothesis	N	Findings
Major: All Admin.	314	The null hypothesis was rejected, P = .03 R = .05 The relationship for the first cv related a structural pattern of "HIGH POWER" to a conflict management pattern of "YIELDING".
Sub 1: ISD Dir.	62	The null hypothesis was retained, p = .36
Sub 2: Local Dir.	91	The null hypothesis was retained, p = .09
Sub 3: ISD Sup.	77	The null hypothesis was rejected, p = .007 R = .19 The relationship for the first cv related a structural pattern termed as "OPEN" to a conflict management pattern of "CONTRIBUTING". The second cv was non-significant, p = .066.
Sub 4: Loc Sup.	84	The null hypothesis was retained, p = .34

Discussion of the Findings

The analysis of this study indicates that systematic differences in the data accounted for the finding for the Major Hypothesis. The predicted relationship was found to be statistically significant, but the low canonical correlation made the finding suspect in terms of its meaningfulness. The test for Sub-Hypothesis 3, however, showed a distinct pattern of relationship between structural characteristics and conflict management behavior for the subgroup of ISD Supervisors.

The pattern which was evidenced by the overall test related a structural pattern of high centralization (.99) to a conflict management pattern of high accommodating (.83) and moderate compromising (.44). These patterns were labeled as "HIGH POWER" and "YIELDING".

The pattern evidenced by the test for ISD Supervisors related a structural pattern marked by very low centralization (-.92), moderate formalization (.48) and moderate size (.33) to a conflict management pattern marked by high collaborating (.72) and moderate competing (.41) and a somewhat low degree of accommodating (-.32). The structural pattern was labeled as "OPEN" to reflect the potential for input and flexibility in a system marked by these structures. The conflict management pattern was labeled as "CONTRIBUTING" to reflect the assertiveness dimension depicted by high degrees of collaborating and competing.

Conclusions

The findings for this study supported the Major Hypothesis that there is a relationship between perceptions of organizational structure and perceptions of how organizational conflict is handled by Michigan administrators of special education. The findings also suggested that this pattern of relationship was most strongly evident for the subgroup of ISD Supervisors.

These findings raised further questions as to what differentiated the perceptions of ISD Supervisors from those of the other subgroups of administrators. Examination of the demographic data was undertaken to see if consistent differences could be noted in the variables measured.

A review of the data led to the conclusion that the degree of "loose coupling" at the ISD level for Supervisors of Special Education may have been different than the degree of attachment to the central system for Supervisors at the local level. This speculation was based on information regarding job titles, size of district and descriptive information on the variable of centralization. "Supervisor" was reported as the correct title for 74% of the administrators at the ISD level, but only 58% of the administrators at the local level reported "Supervisor" as the correct title. Thirteen percent (13%) of the Supervisors at the local level (13%) reported titles as "Director" or "Assistant Director" as compared to only three percent (3%) at the ISD level. This led to the conclusion that reimbursement status for Supervisors may not adequately reflect the actual role performed in the district.

It was further noted that most local Supervisors were employed in very large districts. The large standard deviation for reported size of

district indicated the skewing introduced by individuals from the Detroit area. This factor may have influenced the non-significant finding for Supervisors at the local level.

The variable of centralization was generally viewed as lower for Directors than for Supervisors with the highest level of centralization reported for ISD Supervisors. This finding suggested that Directors tended to see themselves as involved in decision-making and as holding fairly high degrees of authority for special education, whereas this was less true for Supervisors, especially at the ISD level. Thus, perceptions of organizational structure were related to perceptions of conflict management most markedly at middle administrative levels. This finding is consistent with previous research by Thomas & Schmidt (1976) in their survey with managers from business organizations.

The patterns of relationship between administrators' reported modes of conflict management and perceptions of organizational structure showed that where systems were viewed as highly centralized, administrators reported a pattern of conflict management marked by a high degree of accommodating and compromising. However, in systems marked by low centralization, moderate formalization and moderate size, administrators reported a pattern of conflict management marked by high degrees of collaboration and moderate competition.

The organizational literature has suggested that systems tend to be more effective over the long term when collaboration is evidenced as a primary conflict management strategy. The findings from this study would suggest that administrators' perceptions of organizational structure influence patterns of conflict management and therefore views of organizational structure are related to overall organizational effectiveness. With this as an assumption, a number of implications for

change can be drawn which relate to special education administration at a variety of levels.

Implications

The findings from this study have strategic implications for training and policy in the area of special education administration. These implications are based on the assumption that systems marked by high degrees of collaboration are most effective. Given this assumption, it seems reasonable to promote the development of systems characterized by organizational structures where collaboration is most prevalent.

The pattern of organizational structure defined by this study where collaboration was the dominant conflict management strategy was characterized by: (a) low centralization, (b) moderate formalization, and (c) moderate size. This pattern has been labeled as "open" to show that information flow and participation in decision-making are encouraged.

The implications for personnel preparation in special education administration are significant. Training programs need to establish mechanisms for teaching prospective administrators to value and employ decision-making and conflict management strategies which lead to greater collaboration. Secondly, administrators need to recognize the potential of organizational structures as influences on the behavior of individuals within the system. Training programs must focus on providing administrators with skills as change agents to improve the quality of the organizational system of service delivery (Havelock, 1973).

The findings also provide a basis for examination of organizational structure and policy at both state and federal levels. The system of

attitudes toward handicapped individuals and economic considerations which suggested that handicapped individuals were capable of greater contribution to society. The legislative mandates for service have resulted in the development of procedural systems which are highly formalized and which focus on compliance and due process. Thus, the organizational structures which characterize operations at state and federal levels are presently marked by high levels of centralization and formalization. As a result, the special education system has focused on the quantity of service, and only recently has attention begun to shift to an emphasis on the quality of service.

The combined perspective which served as the basis for this study suggests that levels within the system of service delivery have important impacts on other levels within the system. If the collaborative mode is preferable at all levels of administration, then an examination of structural characteristics at state and federal levels may provide direction for future efforts to improve the system of service delivery for handicapped youth.

The findings from this study suggest that changes to reduce the degree of formalization at all levels should be considered. High formalization has resulted in requirements for paperwork and procedure which focus individuals on the quantitive aspects of service delivery. Legislation to initiate special education services in this nation has resulted in mandatory compliance and shifting attitudes toward the education of the handicapped. A decrease in the requirements for mandatory compliance could lead to greater reliance on normative compliance and increasing emphasis on the quality of service delivery.

Recommendations

Personnel Preparation

Based on the implications drawn from this study, two major recommendations for training programs in special education administration have been formulated. The first is related to training in relation to organizational effectiveness. Personnel preparation programs in the area of special education administration should include skill development in the area of conflict management and decision-making. This may require a shift in methods, from the traditional lecture approach, to emphasis on simulation, internship and the development of mentoring models.

The second recommendation is related to training in relation to the process of change. Personnel preparation programs in the area of special education administration should include content on systems and organizational theory and provide participants with skills in system management. Applications might include system problem identification, strategy development, intervention and evaluation of effectiveness.

These programmatic recommendations reflect the need for leaders of vision. In this rapidly changing society, we must provide administrators with the knowledge and tools for meeting not only the letter of the law, but also the intent. In order to be effective, these individuals will need skills as problem-solvers and agents of change.

Policy Review

In the area of policy, the implications from this research study suggest that the quality of special educational service and its relationship to the structures which characterize the system of service delivery in special education need to be carefully reviewed. The

establishment of appropriate mechanisms (e.g., Requests for Proposals from the federal level or development of a National Task Force) are recommended to address this issue. It is further recommended that the process for review include participation by recognized leaders from the field and include direct service levels. These individuals should represent a cross-section of areas including: special education administration, rehabilitation, organizational sociology, conflict management and business and industry. This interdisciplinary approach to policy development should address areas of interagency cooperation, transition between systems and funding incentives for overall organizational effectiveness.

Future Research

The findings from this study have suggested that the relationship between organizational structure and modes of conflict management is most apparent at middle levels of management in systems where coupling between administrative levels is strongest. Further research with middle level administrators should be conducted to see if this pattern is consistent in other geographic locations and for regular education administrators within public educational systems. Research on other populations of organizations may reveal more about the influence of organizational structure on individual behavior in the system.

Secondly, the utility of the combined model for examination of conflict management behavior in the organizational setting should be investigated by other researchers. This combined model has the potential for explaining a variety of behaviors at the individual level. Efforts should address other variables (e.g., the degree of technology, the topic and source of conflict, time, etc.) as additional influences on the

process of conflict management. Factors at the environmental level should also to be identified and incorporated into the model.

Efforts to assess this combined model should incorporate objective measures, as well as subjective perceptions on the part of the respondents. Additionally, the development of strategies to assess ongoing conflict behavior in the organization could provide meaningful information about the factors which influence administrative behavior and organizational decision-making.

The complexities inherent within patterns of human behavior cannot be adequately assessed by simplistic methods which do not take into account the many factors which influence action. Support should be given to research efforts dealing with organizational conflict which attempt to assess both quantitative and qualitative aspects of behavior in a longitudinal design. Research in the area of organizational conflict management has important implications for individuals and organizations in a rapidly changing society. This research should be aimed at the development of strategies for positive change and evidence of organizational effectiveness.

APPENDICES

APPENDIX A

COVER LETTER

MICHIGAN STATE UNIVERSITY

COLLEGE OF EDUCATION · DEPARTMENT OF COUNSELING,   EAST LANSING · MICHIGAN · 48824-1034
EDUCATIONAL PSYCHOLOGY AND SPECIAL EDUCATION

In the Fall of 1981, the faculty in special education administration at Michigan
State University submitted a grant proposal to the federal government for support
of personnel preparation and research in special education administration. The
research component of this grant proposal specifically addressed the issue of
conflict management as one of the critical issues of concern to the field.

We realize that in these times of declining resources and increasing demands for
accountability and procedural safeguards, administrators are under a great deal of
pressure on a variety of levels. Under these conditions, conflict is an inevitable
part of organizational life. It is our belief that school districts vary in the
ways in which policies and procedures for dealing with problems are established and
carried out in the system. We are interested in understanding how special education
administrators deal with conflict in districts with very different organizational
characteristics.

Enclosed you will find a packet of materials which we would like you to fill out
and return at your earliest convenience. All materials have been coded with an
identifying number for computer analysis. Please be assured that your responses
will be treated as confidential information. For your convenience, we have also
included a post-paid return envelope.

We hope that you will take a few minutes from your busy schedule to respond to
these materials. The information that ONLY YOU can provide may help all of us in
the field to learn more about organizational settings in which conflict is most
effectively managed. By working together to become more effective, we can provide
the best possible education for those handicapped individuals whom we serve.

Dr. Charles E. Henley, MSU Prof.   Dr. Charles V. Mange, MSU Prof.

Patricia J. Kearly, Research Coordinator

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APPENDIX B

DEMOGRAPHIC SHEET

DEMOGRAPHIC DATA SHEET

DIRECTIONS: Please respond to the following items by circling the number which represents your response.

GENDER: 1 = male   2 = female   1   2

RACE: 1 = white 2 = black   3 = other   1   2   3

AGE: 1 = under 31   4 = 41 to 45   7 = 56 or over   1 2 3 4 5 6 7
           2 = 31 to 35   5 = 46 to 50
           3 = 36 to 40   6 = 51 to 55

HIGHEST EDUCATIONAL LEVEL:

    1 = Bachelors   4 = Masters Plus 30   1 2 3 4 5 6
    2 = Masters   5 = Ed Specialist
    3 = Masters Plus 15   6 = Doctorate

DISTRICT TYPE: 1 = intermediate   2 = local   3 = other   1   2   3

MY DISTRICT RECEIVES REIMBURSEMENT FOR MY POSITION AS A:

    1 = Director of Special Education   1   2   3
    2 = Supervisor of Special Education
    3 = neither

JOB TITLE: 1 = Assoc/Asst/Regional Supt   1 2 3 4 5 6
            2 = Director of Special Education
            3 = Assistant Director of Special Education
            4 = Supervisor of Special Education
            5 = Coordinator of Special Education
            6 = Other (Specify)

SPECIAL EDUCATION   1 = full-time   1 2 3 4 5
ADMINISTRATIVE   2 = less than full-time, more than half-time
RESPONSIBILITY: 3 = half-time
               4 = less than half-time, more than none
               5 = none

DIRECTIONS: Please specify for the following items.

YEARS IN PRESENT POSITION: _____

TOTAL NUMBER OF YEARS OF ADMINISTRATIVE EXPERIENCE IN EDUCATION: _____

TOTAL NUMBER OF YEARS OF TEACHING EXPERIENCE: _____

NUMBER OF FULL-TIME PROFESSIONAL PERSONNEL EMPLOYED BY YOUR DISTRICT 1982-83:   _____

APPENDIX C

THE AIKEN & HAGE SCALES

PLEASE NOTE:

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have not been filmed at the request of
the author. They are available for
consultation, however, in the author's
university library.

These consist of pages:

<u>145-146</u>

<u>148-151</u>

APPENDIX D

THE THOMAS-KILMANN MODE INSTRUMENT

XICOM, INC., 1974

APPENDIX E

VALIDITY RATINGS OF THE MEASURES BY

A PANEL OF JUDGES

VALIDITY RATINGS OF THE MEASURES BY

A PANEL OF JUDGES

Validity ratings for the instruments included in this research were made by a panel of four judges. The panel was comprised of three graduate students from the College of Education at Michigan State University and one consumer. The face validity of items for both the Aiken & Hage Scales and the Thomas-Kilmann MODE Instrument were rated on a Likert-type scale ranging from "strongly agree" (+2) to "strongly disagree" (-2).

The procedure included a description of the purpose of the process and a description of the design of the scales. Definitions for each of the constructs and sub-constructs were given. Individual judges were instructed to rate each item for its ability to assess the construct in question. Judges independently rated each of the items and scores were averaged for each scale/subscale.

The findings indicated that the Aiken & Hage Scales were viewed as highly valid with ratings of 1.97 for Centralization and 1.48 for Formalization. The results of these ratings are reported in Table E.1. Similarly, the findings for the Thomas-Kilamnn MODE Instrument were supportive of the face validity of the instrument with an overall rating of 1.24. Ratings for each of the subscales are reported in Table E.2. The results of these ratings indicate support for the face validity of the measures utilized in this study.

Table E.1

Face Validity Ratings for the Aiken & Hage Scales by Subscale

Centralization		Formalization			
Subscales	Mean	Subscales	Mean x Items		Mean
Partic	2.00	Auton	1.80 x	5	9.0
Hier	1.95	RuleOb	2.00 x	2	4.0
		JobSp	1.03 x	6	6.9
Full Scale	1.97	Full Scale		13	1.48

Table E.2

Face Validity Ratings for the Thomas-Kilmann
MODE Istrument by Subscale

Modes of Conflict Management	
Subscales	Mean
Collaborating	1.58
Compromising	1.38
Competing	.84
Accommodating	1.19
Avoiding	1.22
Full Scale	1.24

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