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**NYE, John Robert, 1932-  
ROLE PERFORMANCE IN SITUATIONS OF  
CONFLICTING ROLE DEFINITIONS.**

**Iowa State University, Ph.D., 1968  
Sociology, general**

**University Microfilms, Inc., Ann Arbor, Michigan**

ROLE PERFORMANCE IN SITUATIONS OF  
CONFLICTING ROLE DEFINITIONS

by

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A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of  
The Requirements for the Degree of  
DOCTOR OF PHILOSOPHY

Major Subject: Sociology

Approved:

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1968

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## INTRODUCTION

## Statement of the Problem

The development of sociological theory and research using the concept "role" is relatively recent. There is a growing body of logically related concepts and propositions, supported by empirical data, which is moving toward the development of a more clearly articulated role theory. At present, however, there is a notable lack of consistency among definitions of concepts central to discussions of role, including "role" itself (27, p. 37).

Few empirical studies have been reported in the literature in which role concepts have been used, and in the literature there have been virtually no statements of hypotheses incorporating the word "role". Even fewer studies have been reported using the notion of "role performance"; those studies which have used role concepts deal primarily with role rather than with role performance. In their recent book, Role Theory, Biddle and Thomas point out that ". . . evaluations (of role behavior) have received little analytic discussion in the role literature" (9, p. 27). Gross, et al., in Explorations in Role Analysis, point out that

. . . there is not now a systematic body of literature concerned with the . . . consequences of consensus on role definition for individual behavior and group functioning . . . (27, p. 37)

The research problem of this thesis is to empirically investigate role performance in situations of conflicting role definitions. Stated somewhat differently, the research problem is to study relationships between differing role definitions (sets of behavior prescriptions and proscriptions) and evaluations of role performances (perceptions of actual

role-related behavior of position incumbents). The research problem has been approached by: 1) defining concepts, 2) operationalizing concepts, 3) formulating hypotheses, and 4) empirically testing hypotheses, using statistical criteria.

### The Situation

Certain programs sponsored at least in part by the federal government have been operating on the local community level for some time, such as those of the Agricultural Extension Service and the Soil Conservation Service. During the past several years new programs have been introduced into the local community, such as those of the Office of Economic Opportunity (e.g., the Job Corps, Head Start, and Community Action Programs) and civil defense programs (41). Various means have been used to implement the programs, including the development of new social systems and modification of already extant social systems.

More specifically, some of the alternative means utilized in the implementation of programs such as described above have been: 1) the development of completely new social systems with attendant new positions, 2) the modification of existing social systems by adding new positions or changing the role of those already holding positions, and 3) the establishment of the position of "local coordinator" to coordinate efforts of incumbents of positions in existing social systems. Either the definition of new roles or the redefinition of existing roles attends the development of any of these possible means of implementing new programs. The extent to which there is convergence (or agreement) on sets of behaviors expected of persons with new or redefined roles may have a considerable effect upon

the level of role performance.

One new social system which has been developed is the Joint County-Municipal Civil Defense Administration. It has been designed to implement local civil defense programs suggested by the federal government. When a Joint Administration is established in a county, new sets of behaviors are expected of persons in certain local government positions and a new position is created, that of the county-municipal civil defense director. Focusing on the Joint County-Municipal Civil Defense Administration, the following question is asked: To what extent is the level of the (civil defense related) role performance of incumbents of positions functionally related to convergence (by relevant role definers) on definitions of their roles.

#### Objectives

The first objective of this dissertation is to develop a conceptual framework to investigate relationships among role convergence, role congruence, and task accomplishment, where "role convergence" is the correspondence between role definitions, "role congruence" is the correspondence between an evaluation of role performance and a role definition, and "task accomplishment" refers to the completion of certain civil defense related tasks (to be discussed later). This objective is elaborated in the Conceptual Framework and Development of Hypotheses chapters.

In order to investigate relationships in the "real world" among role convergence, role congruence, and task accomplishment, these concepts must be operationalized. The second objective, then, is to develop empirical measures of role convergence, role congruence, and task accomplishment.

This objective is elaborated in the Methods and Procedures chapter.

The third objective is to test hypotheses for relationships among role convergence, role congruence, and task accomplishment, using statistical criteria. Each empirical measure of a concept is compared with each other such measure. Conclusions are then drawn with regard to whether or not the hypotheses are supported. This objective is elaborated in the Findings chapter and the Summary and Discussion chapter.



## CONCEPTUAL FRAMEWORK

### Introduction

A "conceptual framework" is a set of concepts (and their definitions) with statements of relationships between them. The key concept of the conceptual framework used in this dissertation is "social system", which may be defined as patterned interaction. Other concepts which have been used are: position, role, role convergence, role performance, and role congruence. These concepts are discussed briefly below and in greater detail in the following pages.

"Position" has been used to refer to a designated location in the structure of a social system. A position incumbent is the actual person who occupies a position.

Certain behaviors are expected of the incumbent of each position in a social system. The term "role" has been used in the literature to mean either 1) a set of behaviors (or actions) characteristic of an incumbent of a position, or 2) a set of behaviors expected of an incumbent of a position. The latter has been phrased: "a set of expectations . . . applied to an incumbent of a particular position" (27, p. 60). The operational definition of role used in this dissertation is: an empirically delineated set of behaviors expected of an incumbent of a position, with the expectations being prescriptive and proscriptive rather than anticipatory.

Different persons may expect differing sets of behaviors for an incumbent of a position, i.e., there may be different role definitions for the same position. To the extent that two sets of expected behaviors are

the same, there may be said to be role convergence. The degree of role convergence may vary from no role convergence (mutually exclusive sets of expected behaviors) to complete role convergence (identical sets of expected behaviors).

The term "role performance" has been used in this dissertation to refer to the actual behavior of an incumbent of a position.

The term "role congruence" has been used to refer to the correspondence between a role definition and an evaluation of the role performance of a position incumbent. The "evaluation" of an incumbent's role performance is an individual's perception of which expected behaviors have been performed and which have not.

#### Application of Concepts to the Research Problem

The research problem is to empirically investigate relationships between role performance and conflicting role definitions. The specific roles and role performances investigated were those relating to incumbents of positions in the Joint County-Municipal Civil Defense Administration. The positions are those of county board members, mayors, and civil defense directors. The interaction of county board members, mayors, and civil defense directors in the Joint Administration is patterned, and such patterned interaction has been defined as a social system.

Each member of a Joint Administration defines his own role and the roles of other members in certain ways. Each member also makes certain evaluations of his own role performance and the role performance of others. These role definitions and role performance evaluations have been empirically ascertained.

Since "role" has been operationally defined as an empirically delineated set of behaviors expected of an incumbent of a position, the delineation of these sets of behaviors may yield differing definitions of a role. A county board member, for example, might define his role in a certain way (with a certain set of expected behaviors), while a mayor might define the county board member's role in a different way (with another set of expected behaviors). To the extent that the two role definitions are alike, there is role convergence between them.

An incumbent of a position performs certain actions (behaviors) which may or may not be the same as expected by a given role definer. For example, a county board member's role-related behaviors might not be the same as expected by a mayor. To the extent that there is correspondence between the mayor's evaluation of the county board member's role performance and the mayor's definition of the county board member's role, there is role congruence between them.

A detailed discussion of concepts central to the above discussion follows.

#### Definition and Discussion of Concepts

##### Concept: social system

Loomis considers the core datum of sociology to be interaction, which

. . . tends to develop certain uniformities over time . . . (and when these uniformities) are orderly and systematic, they can be recognized as social systems. (45, p. 3)

Parsons has stated that interaction ". . . takes place under such conditions that it is possible to treat such a process of interaction as a system . . ." (60, p. 3).

In general systems theory terms, "system" has been defined as ". . . a set of objects with relationships between the objects and their attributes" (31, p. 60). System objects may be classified as either physical or social. A "social system", then, is a set of social objects with relationships between the social objects and their attributes.

Also in general systems theory terms, the "environment" of a particular system has been defined as ". . . all factors external to the system which affect it and are affected by it" (31, p. 5). Any division made between system and environment is somewhat arbitrary. The way a system is delineated depends to a great extent upon the problem at hand. For example, one might ask: Are the positions of local government officials part of the civil defense system or part of the environment? If the problem at hand were to study the civil defense bureaucracy, it might be concluded that the positions of local government officials are part of the environment rather than part of the civil defense system since there is no authoritative "chain-of-command" linking them to the positions of federal and state civil defense officials. On the other hand, if the problem at hand were to study relationships between local government officials and federal and state civil defense officials, it might be concluded that the positions of local officials are part of the civil defense social system since a social system is a set of social objects with relationships between them. In the discussion which follows, the positions of local government officials are considered to be part of the civil defense system.

A system may have sub-systems within it. If attention is focused on a given sub-system, the rest of the system becomes part of the environment of that particular sub-system. In this dissertation attention is focused

on a sub-system composed of positions of certain local government officials and local civil defense directors. The (sub-) system of interest is the Joint County-Municipal Civil Defense Administration.

Figure 1 is the official organizational diagram of the Joint County-Municipal Civil Defense Administration in Iowa.

The term "county board" has been used generically in this dissertation to refer to the central governing body of a county. The title of "county-municipal civil defense director" is given in Iowa to a local civil defense director who is legally responsible to a Joint County-Municipal Civil Defense Administration. Other than the county-municipal civil defense director, there may be two kinds of civil defense directors within a county: municipal directors and county directors. A municipal civil defense director is responsible for civil defense in a municipality and is an operations officer for the county-municipal civil defense director. A county director is responsible for civil defense in unincorporated areas of his county. In actual practice, however, if there is a county-municipal civil defense director, there is generally no separate county director.

To recapitulate, the social system of interest in this dissertation is the Joint County-Municipal Civil Defense Administration. It is composed of social objects with relationships between them. The social objects are the positions of county board member, mayor, and county-municipal civil defense director rather than the incumbents themselves, for, as Bredemeier has stated, ". . . the basic unit of a social system is not a person; it is (rather) one of the statuses (positions) of that person" (10, p. 31).

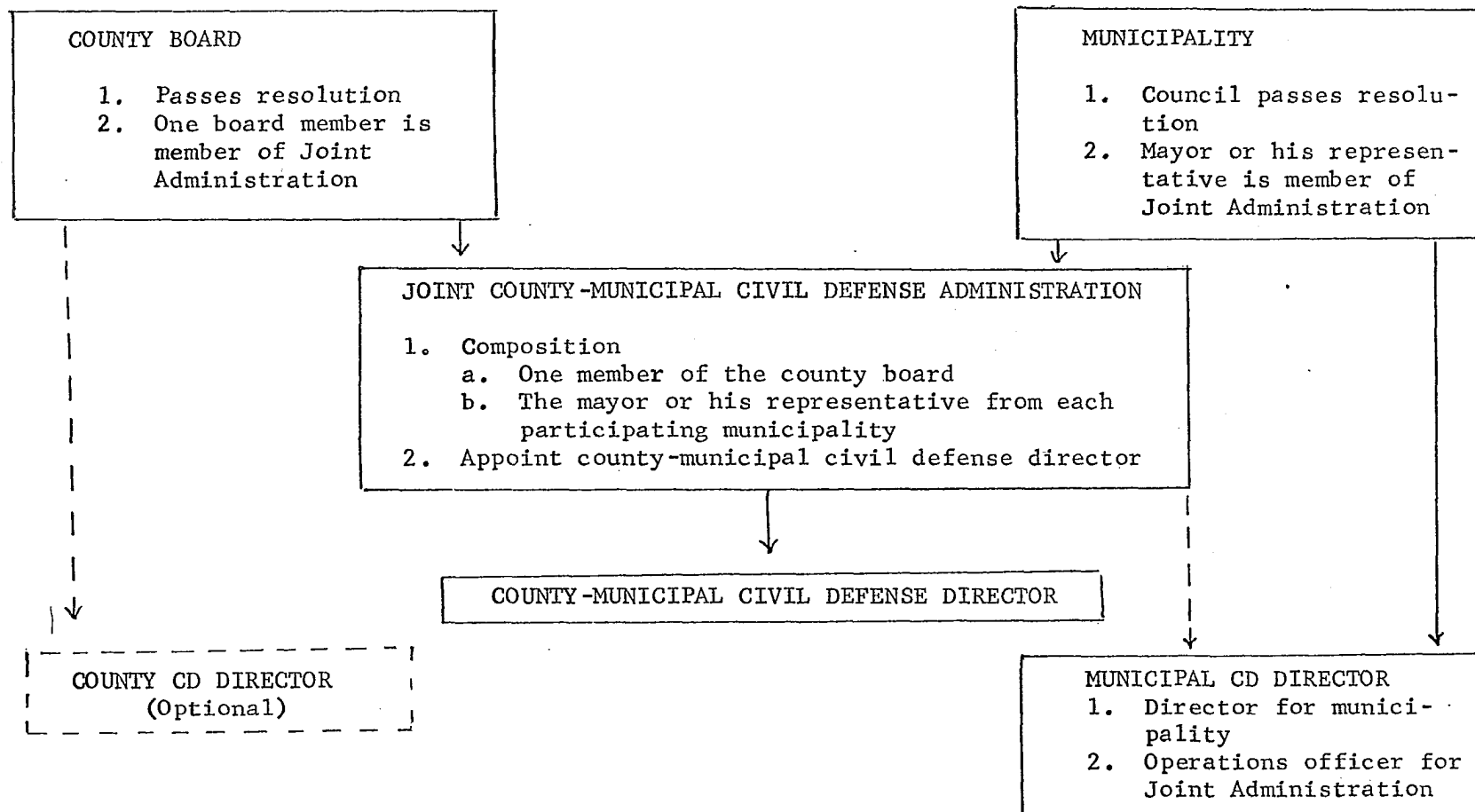


Figure 1. Organizational diagram of the Joint County-Municipal Civil Defense Administration -- based upon Iowa House File 417.

Concept: position

The concept "position" has been used in this dissertation to refer to a designated location in the structure of a social system. Loomis, among others, has used the terms "status" and "position" interchangeably to denote a structural element of the social system. As Loomis put it: "Status or position represents the element; and role represents the process" (45, p. 19). Kingsley Davis has also used "status" and "position" interchangeably, but has considered "position" to be more general than "status". He would have the term "status" designate:

. . . a position in the general institutional system, recognized and supported by the entire society, spontaneously evolved rather than deliberately created, rooted in the folkways and mores. Office, on the other hand, would designate a position by specific and limited rules in a limited group . . .  
(20, pp. 88-89)

The civil defense positions created by federal and state officials for local government officials fall into the latter category, that of "office", but throughout this dissertation the more generic term "position" has been used.

"Position", by definition, is a location in the structure of a social system, and, thus, is a relational concept. The study of a position always involves the study of other positions in the social system. In keeping with this, incumbents of all positions in the Joint County-Municipal Civil Defense Administration were studied: county board members, mayors, and county-municipal civil defense directors.

Davis ties position closely to rights and obligations. The incumbent of a position has certain rights and obligations, i.e., there are certain behavioral expectations applied to the position incumbent (20, p. 88).

These expectations may be either 1) anticipatory or 2) prescriptive and proscriptive. "Anticipatory expectations" refer to behaviors considered to be characteristic of a position incumbent.

The term "role" is often used in association with the term "position".

Concept: role

The English word "role" was taken directly from the French language where it meant the roll upon which an actor's part in a drama was written. By extension, it came to mean a part taken by anyone. The word was in the vernacular long before it was used as a sociological term.<sup>1</sup>

Although Max Weber did not use the word "role", he used "vocation" much as the "role" is used today (48, p. 391). The earliest record of the use of the word by a sociologist is Simmel's reference to "Spielen einer Rolle" in 1920 (9, p. 6). In 1921, Park and Burgess titled one of Binet's papers "The Self as the Individual's Conception of His Role" and included it in their book, Introduction to the Science of Sociology (59). George Herbert Mead, Jacob Moreno, and Ralph Linton all made important early contributions to theory related to role.

In Mind, Self and Society, a book based upon Mead's teachings and published posthumously, Mead spoke of "role taking". The notion of role taking was related to other concepts used by Mead such as the "generalized other", the "I" and the "me" (49).

Moreno used role playing in psychodrama and sociodrama. He used the words "role" and "role playing" in the 1934 edition of his book,

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<sup>1</sup>For an extended discussion of the evolution of the sociological usage of "role" see Biddle and Thomas (9, pp. 5-8).



Who Shall Survive? (54, p. 6). This book was influential in the diffusion of role terminology among sociologists.

Linton, an anthropologist, made an important conceptual distinction between role and status in 1936:<sup>1</sup>

A status . . . is simply a collection of rights and duties . . . . A role represents the dynamic aspect of a status . . . . When (one) puts the rights and duties which constitute the status into effect, he is performing a role. Role and status are quite inseparable, and the distinction between them is of only academic interest. (44, p. 113)

Linton conceptually linked role and social system when he said that each ". . . individual has a series of roles deriving from the various patterns in which he participates . . ." (44, p. 114). Not all writers have been as careful to clarify terms as has Linton.

There has been a considerable amount of confusion of terms by persons writing about role. Reviews of role literature have been done by Neiman and Hughes (55); Gross, Mason, and McEachern (27); and by Biddle and Thomas (9); all of whom have decried the confusion of definitions. To quote Biddle and Thomas:

The idea of role has been used to denote prescription, description, evaluation, and action; it has referred to covert and overt processes, to the behavior of the self and others, to the behavior an individual initiates versus that which is directed to him. (9, p. 29)

They go on to point out that perhaps the most common definition of role is ". . . the set of prescriptions defining what the behavior of a position member should be" (9, p. 29). Another common definition of role is a set of behaviors characteristic of an incumbent of a position.

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<sup>1</sup>The term "status" as used by Linton is similar to the term "position" as used in this dissertation.

For this dissertation, "role" has been operationally defined as an empirically delineated set of behaviors expected of an incumbent of a position, with the expectations being prescriptive and proscriptive rather than anticipatory.

Different role definers may expect differing sets of behaviors of an incumbent of a position. The extent to which there is agreement among role definers is the degree of role convergence among them.

Concept: role convergence

"Role convergence" has been defined for purposes of this dissertation as the correspondence between role definitions, i.e., between sets of behaviors expected of an incumbent of a position. Throughout, role convergence has been considered to be variable, i.e., subject to quantitative change. Rather than "role convergence", the term "consensus" is often used in the literature, but implicit in the latter term is the notion of complete agreement -- of lack of variability. According to Gross, one of the first sociologists to discuss the theoretical utility of treating consensus (role convergence) as a variable was Cottrell in 1942 (27, p. 39). A rationale for expecting less than complete correspondence of expectations has been given by Gross:

How can we say that an expectation is variable? When . . . it is said that something 'should be done' by a position incumbent there seems to be little scope for variability, but when one asks who defines the obligation, the answer is implicit. In the literature it is ordinarily said that 'society' or the 'group' defines the obligations attached to a particular position. However, 'society' and 'group' are . . . open to empirical investigation only through their members . . . . Asking many . . . individuals the same question seldom results in a single answer. Thus . . . we are led to expect . . . a number of expectations that may or may not be the same. (27, pp. 4-5)

Gross has, at some length, treated the limitations placed upon role research by the postulate of role consensus; the main limitation being that where complete consensus has been assumed, possible lack of role consensus (role convergence) has not been investigated (27, pp. 21-47).

When no assumption of complete consensus has been made, studies have shown that different role definers often disagree on expected behaviors. Coleman's study, The Adolescent Society, showed a decided lack of convergence on the role of high school students as defined by students and as defined by teachers and parents. He found that students defined their own role differently than teachers and parents defined the student role. He also found a considerable lack of convergence among the students themselves regarding their role (16). The degree of convergence on behavioral expectations may be functionally related to the population of role definers.

Lack of role convergence may cause the incumbent of a position to experience role conflict. Whereas many formulations of role conflict conceive such conflict to be the result of exposure to conflicting expectations arising from a person's simultaneous occupancy of two positions, a person may also be exposed to conflicting expectations as the incumbent of a single position (27, p. 5). For example, not only may a county-municipal civil defense director experience conflict as a result of his occupying both the position of civil defense director and, say, the position of automobile salesman, but he may experience conflict as a result of lack of convergence between the different expectations held by county board members and mayors with regard to the former position.

When evaluative standards are applied to role behavior, differing role performance levels are found.

Concept: role performance

"Role performance" is the actual role-related behavior of an incumbent of a position. "In general, the individual's total role obligations are over-demanding", according to Goode (25, pp. 483-496). If demands are too heavy, a position incumbent may not be able to perform all behaviors expected of him. Also, when several relevant role definers hold inconsistent sets of expectations for an incumbent of a position, that incumbent's role performance might be affected. Gross insists that one of the important tasks in the development of role analysis is to account for the variability of the behavior of incumbents of the same position (27, p. 4). That task is closely related to the research problem of this dissertation: to investigate role performance in situations of conflicting role definitions.

The role performance (actual behavior) of an incumbent may correspond to a greater or lesser degree to a set of behavioral expectations held by a role definer.

Concept: role congruence

"Role congruence", as it has been used in this dissertation, is the correspondence between 1) evaluations of role performances and 2) role definitions. Bible and McComas have used the term "consensus" to refer to both 1) correspondence between different role definitions and 2) correspondence between evaluations of role performances and role definitions (7). It is to avoid such confusion of terms that in this dissertation "role convergence" has been used for the former and "role congruence" for the latter. Role congruence involves the comparing of performance

against a criterion or a "standard of excellence".

When performance is compared against some standard of excellence, it is being ordered in terms of its adequacy . . . . Quality, amount, frequency, or rate are but alternative means by which performance may be ordered against a standard, and generally both quality and quantity are combined. The variable of performance adequacy ranges from some point defined as adequate through successive departures from this point. (9, p. 52)

In the preceding pages, concepts have been defined and discussed. In the pages which follow, a consideration is made of relationships between concepts.

#### Elements and Relationship of the Conceptual Framework

The first general objective of this dissertation is to develop a conceptual framework for purposes of investigating relationships among 1) role convergence between role definitions, 2) role congruence between role definitions and evaluations of role performances, and 3) task accomplishment. The following is a presentation of certain elements of the conceptual framework and their interrelationships, accompanied by diagrams.

#### Elements

The following are elements of the conceptual framework:

1) Position incumbent: the actual person who occupies a designated location in the structure of a social system (in the Joint Administration, a county board member, a mayor, or a county-municipal civil defense director).

2) Role definition: the delineation of a set of behaviors expected of an incumbent of a position.

3) Ideal role definition: the delineation of a set of behaviors expected of an incumbent of a position, representing official (civil

defense) expectations.

- 4) Evaluation of role performance: the perception of the actual (role related) behavior of an incumbent of a position.

### Relationships

Relationships of elements of the conceptual framework are as follow:

- 1) Role convergence: the correspondence between sets of behavioral expectations applied to an incumbent of a position (i.e., between different role definitions).

- 2) Role congruence: the correspondence between evaluations of role performances and sets of behavioral expectations (role definitions).

### Diagrams illustrating the conceptual framework

Figure 2 shows, for one position, elements of the conceptual framework and relationships between the elements. Figure 3 shows elements and relationships for two positions. The elements and relationships in Figure 2 are as follow:

- 1) Circle A represents the ideal role definition.
- 2) Circle B represents the position incumbent's definition of his own role.
- 3) Circle C represents the position incumbent's evaluation of his own role performance.
- 4) Circle D represents the incumbent of the position.
- 5) The overlap between Circle A and Circle B represents the degree of role convergence between the ideal role definition and the incumbent's definition of his own role.
- 6) The overlap between Circle A and Circle C represents the degree

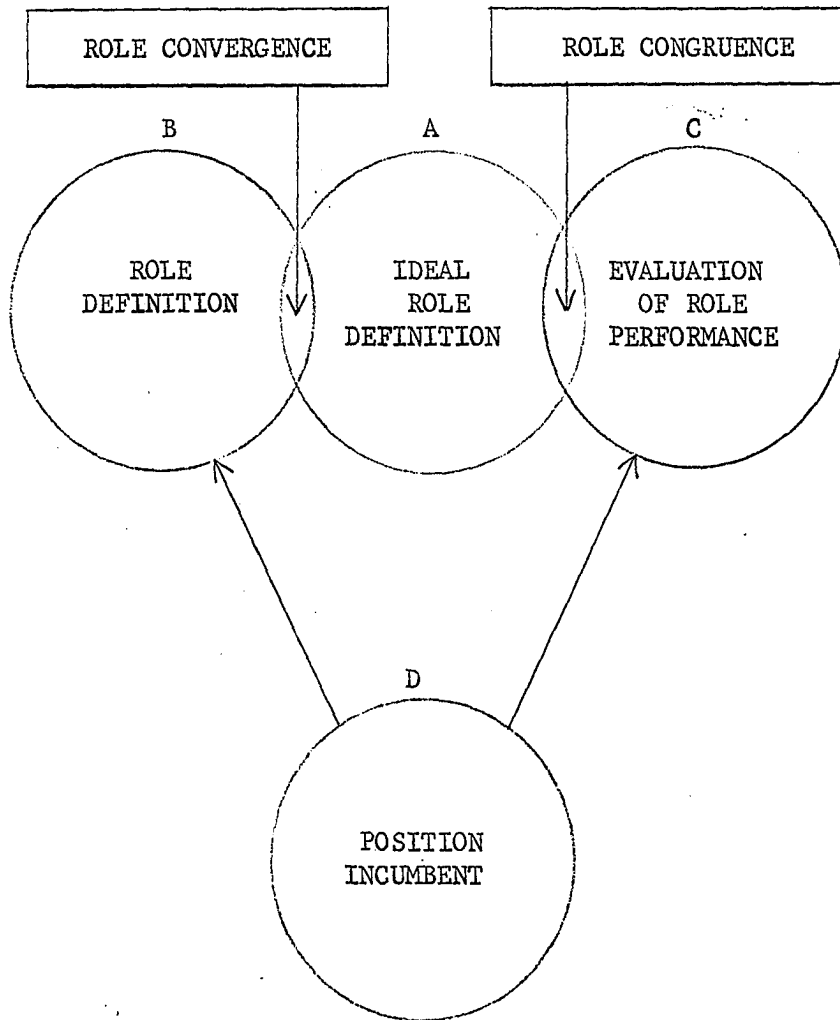



Figure 2. Conceptual framework elements and relationships between the elements, for one position.


of role congruence between the ideal role definition and the incumbent's evaluation of his own role performance.

The elements and relationships in Figure 3, for two positions, are as follow:

- 1) Circle A represents Position Incumbent A.
- 2) Circle B represents Position Incumbent B's definition of Position A's role.
- 3) Circle C represents the ideal definition of Position Incumbent A's role.
- 4) Circle D represents Position Incumbent B's evaluation of Position Incumbent A's role performance.
- 5) Circle E represents Position Incumbent B.
- 6) Circle F represents Position Incumbent A's definition of Position Incumbent B's role.
- 7) Circle G represents the ideal definition of Position Incumbent B's role.
- 8) Circle H represents Position Incumbent A's evaluation of Position Incumbent B's role performance.
- 9) The overlap between Circle B and Circle C represents the degree of role convergence between the ideal definition of A's role and B's definition of A's role.
- 10) The overlap between Circle C and Circle D represents the degree of role congruence between the ideal definition of A's role and B's evaluation of A's role performance.
- 11) The overlap between Circle F and Circle G represents the degree of role convergence between the ideal definition of B's role and



 = ROLE CONGRUENCE

 = ROLE CONVERGENCE

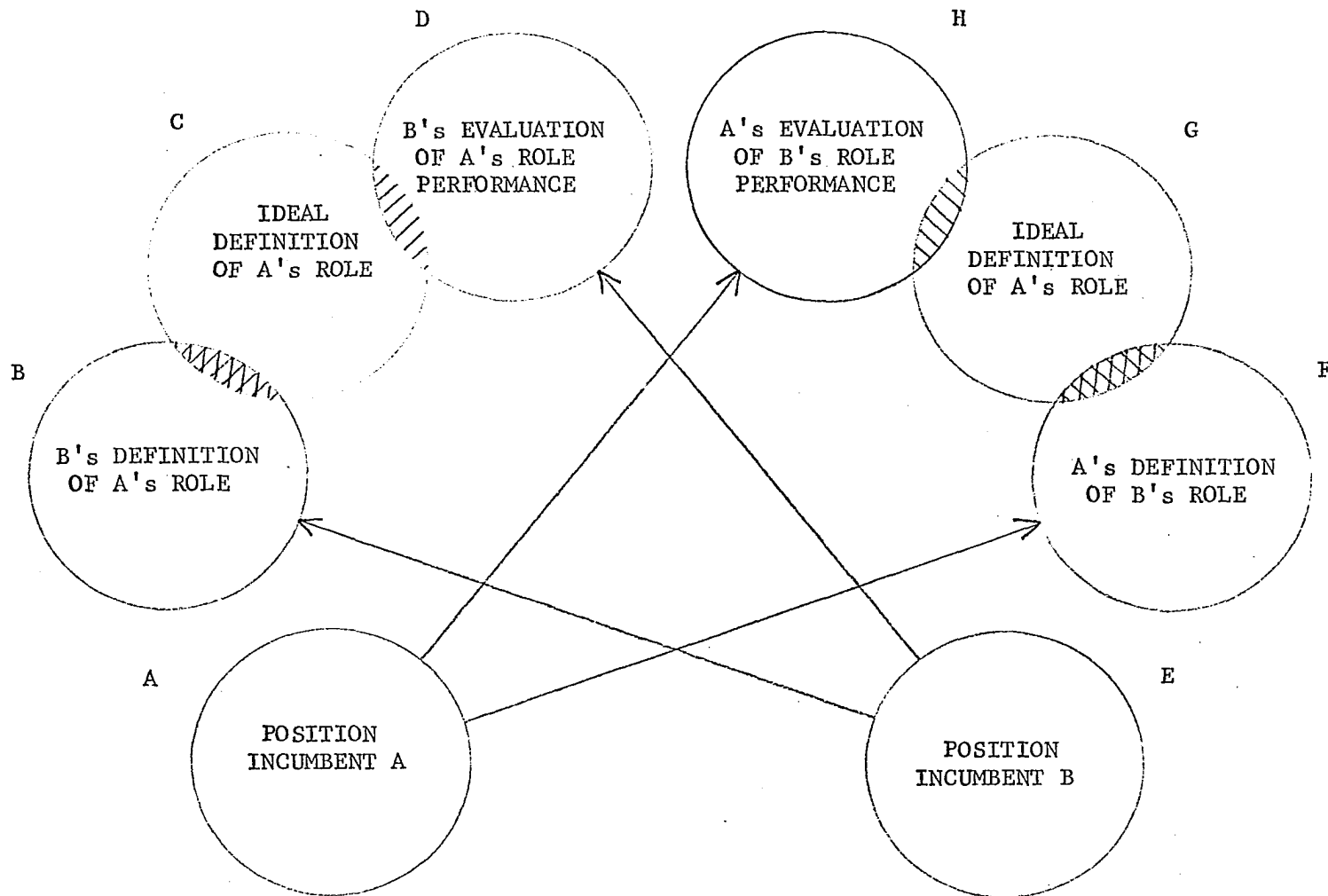


Figure 3. Conceptual framework elements and relationships between the elements, for two positions

A's definition of B's role.

- 12) The overlap between Circle G and Circle H represents the degree of role congruence between the ideal definition of B's role and A's evaluation of B's role performance.

## DEVELOPMENT OF HYPOTHESES

### Introduction

We cannot take a single step forward in any inquiry unless we begin with a suggested explanation or solution of the difficulty which originated it. (When) tentative explanations . . . are formulated as propositions, they are called hypotheses. (15, pp. 200-201)

The hypotheses stated in this dissertation were suggested by the application of the conceptual framework to the research problem, which is the investigation of role performance in situations of conflicting role definitions.

### Postulates and Hypotheses

Postulates and hypotheses are presented in the following pages. There are three types of hypotheses: general hypotheses, specific hypotheses, and empirical hypotheses. Each general hypothesis is followed by specific hypotheses stating relationships between specific "real world" phenomena. The concepts in the specific hypotheses have been operationalized and empirical hypotheses have been developed. The empirical hypotheses are presented and discussed in the Findings chapter.

#### Role congruence, role convergence, and task accomplishment

Postulate: There are functional relationships between 1) role congruence, 2) role convergence, and 3) task accomplishment. To expand: there are functional relationships between 1) the degree of role congruence between a definition of a position incumbent's role and the evaluation of the position incumbent's role performance, 2) the degree of role convergence between different definitions of the position incumbent's role, and

3) the degree of task accomplishment.

"Role" is a set of behaviors expected of an incumbent of a position, with the expectations being prescriptive and proscriptive, rather than anticipatory. Different role definers may expect differing sets of behaviors of an incumbent of a position. To the extent that there is agreement among role definers, there is convergence among them.

"Role convergence" is the correspondence between role definitions, i.e., between sets of behaviors expected of an incumbent of a position.

"Role performance" is the actual role-related behavior of an incumbent of a position. The role performance of an incumbent may correspond to a greater or lesser degree to a set of behavioral expectations held by a role definer.

"Role congruence" is the correspondence between evaluations of role performances and role definitions. That is, there is role congruence to the extent that it is perceived that an incumbent's role-related behaviors are in accord with a given role definition.

"Task accomplishment" is the correspondence between an ideal list of tasks to be performed and the tasks which actually have been performed.

Based upon the above postulate, three general hypotheses have been developed.

General Hypothesis 1: The degree of role congruence is related positively to the degree of role convergence.

For a general-level hypothesis to be tested empirically, it must be applied to a specific "real world" situation. The above hypothesis was applied to the study of roles and role performances of incumbents of Joint County-Municipal Civil Defense Administrations in Iowa. The Joint

Administration is a relatively new organizational structure developed to implement at the local level civil defense programs suggested by the federal government. With the development of the Joint Administrations in Iowa counties came new role definitions. The already existing roles of county board members and mayors were redefined to include new expectations. Also, a new position was created, that of the county-municipal civil defense director, with an attendant new role. The sets of official expectations for behavior of incumbents of these positions have been called "ideal role definitions" in this dissertation. (Ideal role definitions are discussed in the Methods and Procedures chapter.)

The specific hypotheses which follow were derived from the general hypothesis that the degree of role congruence is related positively to the degree of role convergence.

Specific Hypothesis 1.1: The degree of role congruence between the ideal definition of the county board member's civil defense role and the county board member's evaluation of his own civil defense role performance is related positively to the degree of role convergence between the ideal definition of the county board member's civil defense role and the county board member's definition of his own civil defense role.

Specific Hypothesis 1.2: The degree of role congruence between the ideal definition of the mayor's civil defense role and the mayor's evaluation of his own civil defense role performance is related positively to the degree of role convergence between the ideal definition of the mayor's civil defense role and the mayor's definition of his own civil defense role.

Specific Hypothesis 1.3: The degree of role congruence

between the ideal definition of the county-municipal civil defense director's civil defense role and the county-municipal civil defense director's evaluation of his own civil defense role performance is related positively to the degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's definition of his own role.

General Hypothesis 2: The degree of role convergence is related positively to the degree of task accomplishment.

Specific Hypotheses 1.1 through 1.3 dealt with role congruence and role convergence. They were derived from the general hypothesis that the degree of role congruence is related positively to the degree of convergence. The concepts considered in General Hypothesis 2 are "role convergence" and "task accomplishment". Role convergence is the correspondence between role definitions. The degree of task accomplishment is the extent to which certain civil defense tasks were found to have been carried out in a county. (See chapter on Methods and Procedures for a detailed discussion of the measurement of task accomplishment.) Those completed tasks were considered to have contributed to the degree of civil defense task accomplishment in the county rather than to the role performance level of the county-municipal civil defense director, as they may have been accomplished by previous civil defense directors or by others in the county.

The following specific hypotheses were derived from the general hypothesis that the degree of role convergence is related positively to the degree of task accomplishment.

Specific Hypothesis 2.1: The degree of role convergence

between the ideal definition of the county board member's civil defense role and the county board member's definition of his own civil defense role is related positively to the degree of civil defense task accomplishment.

Specific Hypothesis 2.2: The degree of role convergence between the ideal definition of the mayor's civil defense role and the mayor's definition of his own civil defense role is related positively to the degree of civil defense task accomplishment.

Specific Hypothesis 2.3: The degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's definition of his own role is related positively to the degree of civil defense task accomplishment.

General Hypothesis 3: The degree of role congruence is related positively to the degree of task accomplishment.

General Hypothesis 2 dealt with the relationship between role convergence and task accomplishment. General Hypothesis 3 deals with the relationship between role congruence and task accomplishment. Whereas role convergence is the correspondence between role definitions, role congruence is the correspondence between evaluations of role performances and role definitions.

The specific hypotheses which follow were derived from the general hypothesis that the degree of role congruence is related positively to the degree of task accomplishment.

Specific Hypothesis 3.1: The degree of role congruence between the ideal definition of the county board member's civil defense role

and the county board member's evaluation of his own civil defense role performance is related positively to the degree of civil defense task accomplishment.

Specific Hypothesis 3.2: The degree of role congruence between the ideal definition of the mayor's civil defense role and the mayor's evaluation of his own civil defense role performance is related positively to the degree of civil defense task accomplishment.

Specific Hypothesis 3.3: The degree of role congruence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's evaluation of his own role performance is related positively to the degree of civil defense task accomplishment.

#### Position held and knowledge of role

Postulate: There is a functional relationship between 1) position held and 2) knowledge of an ideal role definition. To expand: there is a functional relationship between 1) the position which the person defining a role holds in the social system and 2) the degree to which his definition of the role agrees with the official (ideal) definition of the role.

"Knowledge" in the above postulate means the extent to which a given role definer's definition of a role is correct, using the ideal (official) role definition as the criterion of correctness.

"Position" is a designated location in the structure of a social system. The positions of the Joint County-Municipal Civil Defense Administration are those of the county board member, the mayor, and the county-municipal civil defense director.



In General Hypothesis 1 the emphasis was upon the relationship of role congruence and role convergence. Here the emphasis is upon the relationship of role convergence and position, comparing degree of role convergence by position.

General Hypothesis 4: A position incumbent defines his own role in such a way that there is greater role convergence between his definition of the role and the ideal role definition than there is between another role definer's definition of the same role and the ideal role definition.

Put in terms of knowledge of the role, if the ideal definition of a role is taken as the criterion of correctness, the person in the position with which the role is associated may have greater knowledge of the role than do others.

Specific Hypothesis 4.1: The degree of role convergence between the ideal definition of the county board member's civil defense role and the county board member's definition of his own civil defense role is greater than the degree of role convergence between the ideal definition of the county board member's civil defense role and the mayor's definition of the county board member's civil defense role.

Specific Hypothesis 4.2: The degree of role convergence between the ideal definition of the county board member's civil defense role and the county board member's definition of his own civil defense role is greater than the degree of role convergence between the ideal definition of the county board member's civil defense role and the civil defense director's definition of the county board member's civil defense role.

Specific Hypothesis 4.3: The degree of role convergence

between the ideal definition of the mayor's civil defense role and the mayor's definition of his own civil defense role is greater than the degree of role convergence between the ideal definition of the mayor's civil defense role and the county board member's definition of the mayor's civil defense role.

Specific Hypothesis 4.4: The degree of role convergence between the ideal definition of the mayor's civil defense role and the mayor's definition of his own civil defense role is greater than the degree of role convergence between the ideal definition of the mayor's civil defense role and the county-municipal civil defense director's definition of the mayor's civil defense role.

Specific Hypothesis 4.5: The degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's definition of his own role is greater than the degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county board member's definition of the county-municipal civil defense director's role.

Specific Hypothesis 4.6: The degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's definition of his own role is greater than the degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the mayor's definition of the county-municipal civil defense director's role.

## METHODS AND PROCEDURES

### Introduction

This chapter contains a discussion of the field study, the interviewing situation, operational measures of concepts used in the hypotheses presented in the previous chapter, and statistical analyses.

### Field Study

Empirical measures of the variables were obtained in a study conducted under the supervision of Dr. George M. Beal, Dr. Joe M. Bohlen, and Dr. Gerald E. Klonglan.

The population selected for study was composed of the 64 Iowa counties with Joint County-Municipal Civil Defense Administrations on record with the Iowa Civil Defense Administration (out of a total of 99 counties in Iowa). A Joint Administration has the major responsibility, by law, for civil defense in a county. Each Joint Administration, as legally constituted, is composed of one member of the county board and the mayor (or mayor's representative) of each municipality which has passed a resolution to participate in the Joint Administration. Once established, the Joint Administration appoints a "county-municipal civil defense director". The establishment of a Joint Administration in a county results in a set of interrelated positions with sets of behavioral expectations.

A stratified random sample of nine counties was selected from the population of 64 counties. The stratifying criteria included whether or not the Joint County-Municipal Civil Defense Administration in the county met federal requirements for receiving "matching funds", whether or not the county received personnel and administrative funds or only funds for

civil defense "hardware" (such as radiological monitoring devices, warning equipment such as sirens, etc.), and whether or not the county-municipal civil defense director was paid.

Within each of the sample counties, incumbents of the three different Joint Administration positions were studied: county board members, mayors, and county-municipal civil defense directors.

### The Interviewing Situation

The county board members, mayors, and county-municipal civil defense directors were interviewed by the author of this dissertation in their offices. Most county board members requested that the other board members be present during the interview; if others were present, the interviewer requested that they hold their comments until the interview was completed. No one refused to be interviewed, and no interview schedules had to be discarded.

In each county, the county board member selected to be interviewed was chosen because he had specific responsibility for civil defense in the county board members' division of responsibilities. If no one else was designated, the chairman of the county board had such responsibility, and he was interviewed. Nine county board members were interviewed.

For each county, a list was obtained of municipalities which had passed resolutions to participate in a Joint Administration. From that list, a maximum of three municipalities per county were randomly selected, and the mayors of those municipalities were interviewed. Twenty-one mayors were interviewed (fewer than three in some counties, as some counties had fewer than three municipalities which had passed such a

resolution).

Besides county board members and mayors, in each of the sample counties, the county-municipal civil defense director was interviewed to obtain comparative data. Nine county-municipal civil defense directors were interviewed.

### Operational Measures

#### Introduction to operational measures

Operational measures were developed for each concept. To operationalize a concept is to define it by stating the procedures or "operations" used to distinguish it from others. Operationalization involves the establishment of relationships between concepts and "real world" observations. The next chapter deals with the measures obtained, i.e., with the actual data.

The variables treated here are the degree of role convergence, the degree of role congruence, and the degree of task accomplishment. Before these are discussed, however, there is a discussion of ideal role definitions, as the measures of both role convergence and role congruence are dependent upon them.

#### Ideal role definitions

A list of possible civil defense responsibilities (behavioral expectations) was developed for each of the positions studied. Each list of possible responsibilities was composed of two types of items: responsibilities and non-responsibilities. Items termed "responsibilities" were defined as such by official state civil defense sources, while items termed "non-responsibilities" were not so

defined.<sup>1</sup>

A list of possible responsibilities for a given position with items designated "responsibilities" or "non-responsibilities" was considered to be the ideal role definition for that position. It was called "ideal" because it reflected official civil defense expectations of incumbents of a given position. An ideal role definition ". . . can be thought of as the limiting case against which the expected departures can be measured" (86, p. 101).

The ideal role definitions which were used are discussed below and outlined in Tables 1, 2, and 3. Table 1 shows the ideal role definition for county board members. Table 2 shows the ideal role definition for mayors. And Table 3 shows the ideal role definition for county-municipal civil defense directors.

Ideal definition of county board member's role Table 1 shows the list of "responsibilities" and "non-responsibilities" considered to be the ideal definition of the county board member's civil defense role.

According to the Iowa Code, county board members are to "Appoint one of (the county board members) to the Joint County-Municipal Civil Defense Administration (Item 2)" and "Appropriate funds for civil defense (Item 3)" (36). According to the Iowa State Survival Plan, they are to "Establish an Emergency Operating Center for government (Item 11)" (37, p. 6). An official of the Iowa Civil Defense Administration said that county

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<sup>1</sup>Information sources: Iowa Code, Chapter 28A (36), the Iowa State Survival Plan (37), state civil defense officials and other official civil defense sources (pamphlets, etc.).

board members are supposed to "Develop a plan for the preservation of essential records (Item 7)". The same state official said that county board members are to "Prepare for continuity of government in an emergency (Item 6)", which is also considered a responsibility of county board members in the Iowa State Survival Plan (37, p. 6). It is implicit in much of the civil defense literature that county board members are to "Promote the licensing, marking and stocking of shelter spaces . . . (Item 10)".

The remaining statements in Table 1 do not represent responsibilities of county board members. The preparing of ". . . an annual civil defense budget (Item 1)" is a responsibility of the Joint County-Municipal Civil Defense Administration, rather than of county board members (36). The tasks of appointing a ". . . county-municipal civil defense director (Item 4)" and directing ". . . the activities of the county-municipal civil defense director (Item 5)" are also responsibilities of the Joint County-Municipal Civil Defense Administration (36). County board members are not to "Be in charge following natural disasters in the county (Item 8)", according to official state sources (36). Neither are they to "Coordinate efforts of fire services in the county (Item 9)" nor are they to "Develop a basic operational plan (Item 12)".

Ideal definition of mayor's role      Table 2 shows the list of "responsibilities" and "non-responsibilities" considered to be the ideal definition of the mayor's civil defense role.

According to the Iowa Code, mayors are to "Attend or send a representative to Joint County-Municipal Civil Defense Administration meetings (Item 1)" (36). The Iowa State Survival Plan says that mayors are to

Table 1. Ideal definition of county board member's role

List of possible responsibilities of county board members	Is it the responsibility of county board members? Ideal definition.
(1) Prepare an annual civil defense budget	No <sup>a</sup>
(2) Appoint one of its members to the Joint County- Municipal Civil Defense Administration	Yes <sup>a</sup>
(3) Appropriate funds for civil defense	Yes <sup>a</sup>
(4) Appoint the county-municipal civil defense director	No <sup>a</sup>
(5) Direct the activities of the county-municipal civil defense director	No <sup>a</sup>
(6) Prepare for continuity of government in an emergency	Yes <sup>b,c</sup>
(7) Develop a plan for the preservation of essential records	Yes <sup>c</sup>
(8) Be in charge following natural disasters in the country	No <sup>a,c</sup>
(9) Coordinate efforts of fire services in the county	No <sup>c</sup>
(10) Promote the licensing, marking and stocking of shelter spaces in buildings	Yes <sup>d</sup>
(11) Establish an Emergency Operating Center for government	Yes <sup>b</sup>
(12) Develop a basic operational plan	No <sup>c</sup>

<sup>a</sup>Iowa Code (36).

<sup>b</sup>Iowa State Survival Plan (37).

<sup>c</sup>Official of the Iowa Civil Defense Administration.

<sup>d</sup>Implicit in civil defense literature.



Table 2. Ideal definition of mayor's role

List of possible responsibilities of mayors	Is it the <u>responsibility of mayors?</u> Ideal definition
(1) Attend or send a representative to Joint County-Municipal Civil Defense Administra- tion meetings ( <u>or</u> , Attend CD planning meetings)	Yes <sup>a</sup>
(2) Direct the activities of the county-munici- pal civil defense director	No <sup>a</sup>
(3) Prepare for continuity of government in an emergency	Yes <sup>b</sup>
(4) Attend civil defense information and train- ing programs	Yes <sup>c</sup>
(5) Develop and conduct civil defense training programs	Yes <sup>b</sup>
(6) Disseminate anti-communist literature	No
(7) Promote the licensing, marking and stocking of shelter spaces in buildings	Yes <sup>c</sup>

<sup>a</sup>Iowa Code (36).

<sup>b</sup>Iowa State Survival Plan (37).

<sup>c</sup>Implicit in civil defense literature.

"Prepare for continuity of government in an emergency (Item 3)" and "De-  
velop and conduct civil defense training programs (Item 5)" (37, pp. 6-7).

It is implicit in the civil defense literature that mayors are to "Attend  
civil defense information and training programs (Item 4)" and "Promote the  
licensing, marking and stocking of shelter spaces in buildings (Item 7)".

"It is the responsibility of the County-Municipal Civil Defense

Administration rather than of mayors to "Direct the activities of the county-municipal civil defense director (Item 2)" (36). And as part of their civil defense role mayors are not required to "disseminate anti-communist literature (Item 6)".

Ideal definition of county-municipal civil defense director's role

Table 3 shows the list of "responsibilities" and "non-responsibilities" considered to be the ideal definition of the county-municipal civil defense director's role. Whether a statement was considered to be a responsibility or non-responsibility was based upon the judgment of an official of the Iowa Civil Defense Administration.

By this criterion, responsibilities of county-municipal civil defense directors are to: "Carry out civil defense public information programs (Item 1)", "Establish an Emergency Operating Center (Item 3)", "Prepare for continuity of government . . . (Item 4)". "Develop and conduct civil defense training programs (Item 5)", "Develop plans to care for evacuees (Item 6)", "Be in charge following any natural disaster . . . (Item 7)", "Carry out the . . . licensing, marking and stocking . . . programs (Item 9)", "Develop a radiological monitoring capability (Item 10)", "Obtain federal surplus equipment . . . (Item 11)", and "Work with volunteer organizations . . . (Item 12)", and, using the official's set of responses to the list of statements as the criterion, directors are not to: "Call out the National Guard in an Emergency (Item 2)" or "Disseminate anti-communist literature (Item 8)".

There are some items which appear in more than one ideal role definition. This is because certain tasks are responsibilities of incumbents of

more than one position.

Both county board members and mayors are to participate in the Joint County-Municipal Civil Defense Administration (Table 1, Item 2 and Table 2, Item 1).

Local civil defense directors as well as county board members and mayors are to prepare for continuity of government in an emergency (Table 1, Item 6; Table 2, Item 3; and Table 3, Item 4).

Both county board members and mayors are to promote the licensing, marking and stocking of shelters (Table 1, Item 10 and Table 2, Item 7).

Both mayors and local civil defense directors are to develop and conduct civil defense training programs, according to official sources (Table 2, Item 5 and Table 3, Item 5).

Each county board member, mayor, and county-municipal civil defense director interviewed was shown the list of possible responsibilities for each role. Each respondent was asked to act as both role definer and role performance evaluator with regard to each position. First, each respondent, acting as role definer, was asked which of a given list of possible responsibilities were responsibilities and which were non-responsibilities of an incumbent of the position in question. Then each respondent, acting as role performance evaluator, was asked which of the possible responsibilities had been performed by the position incumbent.

Besides the above delineations of role definitions and evaluations of role performances, a third measure was obtained. In each sample county the extent of civil defense task accomplishment was determined. A description of the measurement of task accomplishment follows descriptions of the convergence index and the congruence index.

Table 3. Ideal definition of county-municipal civil defense director's role

List of possible responsibilities of county-municipal civil defense directors	Is it the responsibility of county-municipal civil defense directors?
(1) Carry out civil defense public information programs	Yes <sup>a</sup>
(2) Call out the National Guard in an emergency	No
(3) Establish an Emergency Operating Center	Yes
(4) Prepare for continuity of government in an emergency	Yes
(5) Develop and conduct civil defense training programs	Yes
(6) Develop plans to care for evacuees	Yes
(7) Be in charge following any natural disaster in your area	Yes
(8) Disseminate anti-communist literature	No
(9) Carry out the existing licensing, marking and stocking shelter programs	Yes
(10) Develop a radiological monitoring capability	Yes
(11) Obtain federal surplus equipment for your county	Yes
(12) Work with volunteer organizations on civil defense	Yes

<sup>a</sup>All of the responses on this page are marked "yes" or "no" in accord with the responses of an official of the Iowa Civil Defense Administration.

### Index of convergence

The index of convergence is based upon the amount of agreement between two role definitions: an ideal definition of a role and a respondent's definition of the same role. The lists of "possible responsibilities" presented to respondents had different numbers of items for different roles. The index of convergence standardizes scores with regard to the number of items considered in a given role definition. The list of possible responsibilities for county board members follows, along with an illustration of some possible responses (Table 4).

If the "correct" response to an item was "yes" (column A), and if the respondent replied "no" (column E), the difference is one discrepancy unit. There is also one discrepancy unit if the "correct" response was "no" and the respondent replied "yes". However, if the respondent replied "don't know", the difference between his response and the "correct" answer is considered to be one-half discrepancy unit. A response of "don't know" has been considered to be between "yes" and "no" for the following pragmatic reason: If a role definer asserts that a given "possible responsibility" is not a responsibility of an incumbent of the role in question when it actually is a responsibility according to the ideal role definition, it is likely to be more difficult to change the role definer's belief than if he says he does not know whether it is a responsibility.

In Table 4, an illustration of scoring for the index of convergence, there is role convergence on Items 2, 3, and 9; there is a discrepancy of one-half unit each on Items 4, 6, 7, 8, and 12; and there is a discrepancy of one unit each on Items 1, 5, 10, and 11; for a total of six and one-half discrepancy units.

Table 4. Illustration of scoring for index of convergence

List of possible responsibilities of county board members	Is it the county board members' responsibility?		Is it the county board members' responsibility?		
	Ideal definition		Respondent's definition		
	A Yes	B No	C Yes	D DK	E No
(1) Prepare an annual civil defense budget	1	(0)	(1)	.5	0
(2) Appoint one of its members to the Joint County-Municipal Civil Defense Administration	(1)	0	(1)	.5	0
(3) Appropriate funds for civil defense	(1)	0	(1)	.5	0
(4) Appoint the county-municipal civil defense director	1	(0)	1	(.5)	0
(5) Direct the activities of the county-municipal civil defense director	1	(0)	(1)	.5	0
(6) Prepare for continuity of government in an emergency	(1)	0	1	(.5)	0
(7) Develop a plan for the preservation of essential records	(1)	0	1	(.5)	0
(8) Be in charge following natural disasters in the county	1	(0)	1	(.5)	0
(9) Coordinate efforts of fire services in the county	1	(0)	1	.5	(0)
(10) Promote the licensing, marking, and stocking of shelter spaces in buildings	(1)	0	1	.5	(0)

Table 4. (Continued)

List of possible responsibilities of county board members	Is it the county board members' responsibility?		Is it the county board members' responsibility?		
	Ideal		Respondent's		
	definition		definition		
	A Yes	B No	Yes	D DK	E No
(11) Establish an Emergency Operating Center for government	(1)	0	1	.5	(0)
(12) Develop a basic operational plan	1	(0)	1	.5	0

In the index of convergence formula which follows, the symbol "n" stands for the number of possible responsibility items in a given list. The maximum number of discrepancy units for a list equals n, as the maximum discrepancy on any one item is one.

The index of convergence formula, then, is:

$$\frac{100 (n-d)}{n} ,$$

where n equals the maximum number of discrepancy units, and d equals the total observed number of discrepancy units. The numerator is multiplied by 100 to yield a whole number. The numerator is divided by n (the maximum number of discrepancy units) so that index scores are comparable between lists containing different numbers of possible responsibility

items.<sup>1</sup> The greatest possible d is equal to n, with a resultant score of zero. The smallest possible d is equal to zero, with a resultant score of 100.

When the index of convergence formula is applied to the above example (Table 4), it yields the following score, where n = 12, and d = 6.5:

$$\frac{100 (12-6.5)}{12} = \frac{100 (5.5)}{12} = \frac{550}{12} = 45.8$$

The index of convergence score, then, is 45.8 (or 46 when rounded to the nearest whole number). A score of 46 indicates greater convergence than, say, a score of 40.

#### Index of congruence

The index of congruence is based upon the amount of agreement between an evaluation of role performance and a definition of a role (i.e., the same role as the one for which role performance was evaluated). The index of congruence is computed in much the same way as the index of convergence (previously discussed). The difference is that the index of congruence deals with role performance whereas the index of convergence does not, but deals only with role definitions. The list of possible responsibilities of county board members which follows illustrates the kinds of items used, and some possible responses to them (Table 5).

If the "correct" response to an item was "yes" (column A), and if the

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<sup>1</sup>The list of possible responsibility items for the position of county board member contained 12 items; for the position of mayor, seven items; and for the position of civil defense director, 12 items.



Table 5. Illustration of scoring for index of congruence

List of possible responsibilities of county board members	Is it the county board members' responsibility?		Have the county board members carried it out?		
	Ideal definition		Evaluation of role performance		
	A Yes	B No	C Yes	D DK	E No
(1) Prepare an annual civil defense budget	1	(0)	(1)	.5	0
(2) Appoint one of its members to the Joint County-Municipal Civil Defense Administration	(1)	0	(1)	.5	0
(3) Appropriate funds for civil defense	(1)	0	(1)	.5	0
(4) Appoint the county-municipal civil defense director	1	(0)	(1)	.5	0
(5) Direct the activities of the county-municipal civil defense director	1	(0)	1	.5	(0)
(6) Prepare for continuity of government in an emergency	(1)	0	1	(.5)	0
(7) Develop a plan for the preservation of essential records	(1)	0	1	(.5)	0
(8) Be in charge following natural disasters in the county	1	(0)	1	.5	(0)
(9) Coordinate efforts of fire services in the county	1	(0)	1	(.5)	0
(10) Promote the licensing, marking, and stocking of shelter spaces in buildings	(1)	0	1	.5	(0)
(11) Establish an Emergency Operating Center for government	(1)	0	(1)	.5	0
(12) Develop a basic operational plan	1	(0)	1	(.5)	0

respondent replied "no" when asked if the incumbent had performed the responsibility represented by an item (column E), the difference is one discrepancy unit. There is also one discrepancy unit if the "correct" response was "no" and the respondent replied "yes", i.e., that the incumbent had performed what was a "non-responsibility". If the respondent replied "don't know", the difference between his response and the "correct" answer ("yes" or "no") is one-half discrepancy unit.

In Table 5, an illustration of scoring for the index of congruence, there is role congruence on Items 2, 3, 5, 8, and 11; there is a discrepancy of one-half unit each on Items 6, 7, 9, and 12; and there is a discrepancy of one unit each on Items 1, 4, and 10, for a total of five discrepancy units.

In the index of congruence formula which follows, the symbol "n" stands for the number of possible responsibility items in a given list. The maximum number of discrepancy units for a list equals n, as the maximum discrepancy on any one item is one.

The index of congruence formula, then, is:

$$\frac{100 (n-d)}{n} ,$$

where n equals the maximum number of discrepancy units, and d equals the total observed number of discrepancy units. The numerator is multiplied by 100 to yield a whole number. The numerator is divided by n (the maximum number of discrepancy units) so that index scores are comparable between lists containing different numbers of possible responsibility items. The greatest possible d is equal to n, with a resultant score of zero.

The smallest possible d is equal to zero, with a resultant score of 100.

When the index of congruence formula is applied to the above example (Table 5), it yields the following score, where n = 12, and d = 5.0:

$$\frac{100 (12-5.0)}{12} = \frac{100 (7)}{12} = \frac{700}{12} = 58.3.$$

The index of congruence score, then, is 58.3 (or 58 when rounded to the nearest whole number). The larger the score, the greater the congruence.

### Task accomplishment index<sup>1</sup>

Introduction An index of civil defense task accomplishment was developed to determine the correspondence between an ideal list of tasks to be performed and the tasks actually performed. Each civil defense director was asked a series of questions to determine the extent to which civil defense tasks had been accomplished in his county. The data obtained were based upon written records.<sup>2</sup> Those tasks which had been accomplished were considered to have contributed to the degree of civil defense task accomplishment of the county rather than to have contributed to the role performance level of the county-municipal civil defense director, as some of the tasks had been accomplished by previous civil defense directors or by others in the county.

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<sup>1</sup>The research upon which this dissertation is based is one phase of a larger research project. To facilitate comparability, the task accomplishment index used here utilizes measures used in another phase of the larger project (40, pp. 59-96).

<sup>2</sup>The number of spaces in buildings licensed, marked, and stocked for shelter use was verified by letter from the United States Corps of Engineers.

Selecting a task definer      Because the Office of Civil Defense has been given responsibility for initiating the nation's civil defense program (77), and because many programs for local civil defense originate in the Office of Civil Defense (OCD), the Office of Civil Defense was selected to provide criteria for the measurement of task accomplishment.

Definition of tasks      The Office of Civil Defense has prepared a management document called the Program Paper which prescribes specific tasks for local government units to perform in order to build a local civil defense capability. Because the Program Paper constitutes an explicit statement of tasks, irrespective of whether or not a municipality or county is participating in federal assistance programs, it was used to delineate the expectations for local civil defense task accomplishment. Discussions regarding the Program Paper were held with Office of Civil Defense staff members in 1964. From these discussions, four general task areas were delineated. These general task areas constitute an official statement of the expectations at the federal level for local civil defense task accomplishment. (The local unit of interest in this dissertation is the county.)

The four task areas delineated for measurement were:

1. The degree to which spaces in eligible buildings had been licensed, marked, and stocked in the local civil defense area (the county).
2. The degree to which a state-approved basic operational survival plan has been established for the local civil defense area (the county).
3. The degree to which direction and control measures had been developed for the local civil defense area (the county). This task area

included: a) the degree of which an emergency operating center (for local government) had been established, equipped and tested, and b) the degree to which emergency radio services had been developed.

4. The degree to which emergency services had been developed. This included: a) the establishment of warning services for the civil defense area, and b) the degree to which radiological defense measures had been developed.

The "mandatory" priority areas listed in the Program Paper Guide for 1965 were: 1) Shelter, 2) Operational Planning, 3) Direction and Control, 4) Increased Readiness,<sup>1</sup> 5) Warning and 6) Radiological Defense. (The last two have been combined and called "Emergency Services".)

Relative importance of task areas After the task areas for local civil defense were defined by Office of Civil Defense (OCD) personnel, the next step was to determine the relative importance of task areas. Office of Civil Defense personnel were asked to distribute 100 points among seven task areas, assigning points to task areas according to perceived importance. Only four of the seven task areas have been used in this dissertation; only "mandatory" priority areas were used. The task areas and the points assigned to each are as follow:

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<sup>1</sup> Office of Civil Defense personnel advised that adequate guidelines had not yet been given for this task area, so it was omitted from the list of tasks to be accomplished (40, p. 60).

<u>General task areas</u>	<u>Points</u>
1. Licensing, Marking and Stocking	35
2. Operational Plan	15
3. Direction and Control	15
4. Emergency Services 1 (Warning and Radiological Defense)	10 <sup>1</sup>
5. Training and Public Education	10 <sup>1</sup>
6. Public Information	10 <sup>1</sup>
7. Emergency Services 2	<u>5<sup>1</sup></u>
Total Points	100

With each task weighted according to the number of points out of 100 assigned to it, Office of Civil Defense personnel were asked to weight sub-tasks within general task areas. For example, within Task Area 1: licensing buildings for use as fallout shelters was given a weight of .2 (or 20 percent); marking buildings as fallout shelters, .3 (or 30 percent); and stocking buildings with emergency rations and other supplies, .5 (or 50 percent).

Task Area 1: Licensing, Marking, and Stocking Eligible Buildings

To determine the extent to which the licensing, marking, and stocking of eligible buildings had been accomplished in each county, each director was asked to indicate: 1) the number of spaces in buildings found eligible for licensing, marking, and stocking in his area ("eligible" meant a building had at least 50 shelter spaces and a protection factor of 40 or more); 2) the number of spaces in buildings licensed; 3) the number of spaces in buildings marked; and 4) the number of spaces in buildings stocked.

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<sup>1</sup> Task areas 5, 6 and 7 were not used in calculating final scores.

A licensing, marking, and stocking score was determined by computing the ratio, respectively, of: 1) spaces licensed, 2) spaces marked and 3) spaces stocked, to the number of spaces in eligible buildings in the county. The total task score was obtained by multiplying the ratio of spaces licensed to spaces eligible by .2, the ratio of spaces marked to spaces eligible by .3, and the ratio of spaces stocked to spaces eligible by .5, and then adding these three component scores. For example, if 75 percent of the spaces in eligible buildings had been licensed, 50 percent of the spaces in eligible buildings had been stocked, the licensing, marking, and stocking score would be 42.5, as shown below.

$$75 \times (.2) = 15.0$$

$$50 \times (.3) = 15.0$$

$$25 \times (.5) = \underline{12.5}$$

42.5 points

Task Area 2: Establishing a Basic Operational Survival Plan      The empirical measure of the establishment of a state-approved Basic Operational Survival Plan was based upon the amount of progress which had been made in a county toward the establishment of such a plan. Each civil defense director interviewed was first asked if a Basic Operational Survival Plan had been considered (or perhaps established) in his local civil defense area. If a plan had been considered, he was asked to indicate the status of the plan, using the following list of statements:

1. The basic plan has been written up, but at this date (date of interview) has not been submitted to the county board of supervisors for required local approval.

2. The basic plan has been submitted for required local approval, but no action as yet has been taken by the county board of supervisors to approve the plan.
3. All required local approval of the basic plan has been obtained, but the State Office of Civil Defense has not been contacted.
4. The basic plan has been presented to the State Office of Civil Defense for approval, but the state's approval has not been received as of this date.
5. The basic plan has been approved by the State Office of Civil Defense.

If a basic plan had not been considered, a score of zero was given. A score of 20 was given if a basic plan had been written up, but not yet submitted for local approval. A score of 40 was given if a basic plan had been submitted for local approval, but local approval had not been received. A score of 60 was given if local approval of a basic plan had been obtained, but the plan had not yet been submitted for state approval. A score of 80 was given if a basic plan had been approved locally and submitted for state approval, but had not yet received that approval. The highest possible score (of 100) was given for having a state-approved basic plan.

Task Area 3: Direction and Control Task Area 3 consists of two subtasks: "Establishing an Emergency Operating Center (EOC)" and "Arranging for the Use of Emergency Radio Communication Systems". Subtask 1, "Establishing an Emergency Operating Center", was judged by Office of Civil Defense personnel to constitute 70 percent of Task Area 3, while



Subtask 2, "Radio Communications", was judged to constitute the other 30 percent of Task Area 3.

Subtask 1: Establishing an Emergency Operating Center One of the listed tasks was to establish an Emergency Operating Center (EOC). An EOC is the place from which a local civil defense director and local government officials would direct emergency operations in an emergency. The empirical measure for this subtask was based upon the director's responses to the following eight questions:

1. Has an Emergency Operating Center Control Center) been designated for your county?
2. What is the protection factor of your Emergency Operating Center?
3. How many square feet of floor space is there in your Emergency Operating Center?
4. How many people are assigned to man your Emergency Operating Center in an Emergency?
5. Has any equipment or supplies been installed in the Emergency Operating Center?
6. Have the following types of equipment and supplies been installed in the Emergency Operating Center: radiological equipment with analysis capability, communications equipment, survival supplies (medical, food, etc.), an emergency power source?
7. Has the Emergency Operating Center been used in any test situation?

If an area had been designated as an Emergency Operating Center (Question 1), 20 points were assigned.

If the Emergency Operating Center had both a protection factor (PF) of 100 or more (Question 2) and a minimum of ten square feet of floor space for each person assigned to it (Questions 3 and 4), 20 points were assigned.

Forty points (10 points each) were assigned for having 1) radiological equipment with analysis capability, 2) communications equipment, 3) survival supplies and 4) an emergency power source (Questions 5, 6 and 7).

Twenty points were given if the Emergency Operating Center had been used in a test situation (Question 8).

Thus it was possible to receive an unweighted score ranging from zero to 100 or Subtask 1, "Establishing an Emergency Operating Center". Each unweighted Subtask 1 score was then multiplied by .7 to determine the weighted Subtask 1 score, since Subtask 1 constitutes 70 percent of Task Area 3, "Direction and Control". Thus, it was possible to receive a score ranging from zero to 70 for Subtask 1. This weighted score was added to the score on Subtask 2 (described below) in order to obtain a total score for Task Area 3, "Direction and Control".

Subtask 2: Radio Communications Subtask 2 was arranging for the emergency use of existing radio communications systems.

To determine the extent to which arrangements had been made for the use of radio communications systems in an emergency, the following procedure was used. Each civil defense director was shown a list of 11 radio communications systems which might be used in an emergency, and was asked which were present in his county and for which emergency-use arrangements

had been made. The communications systems listed were: 1) Radio Amateur Communication Emergency Systems, 2) power company short wave systems, 3) veterinarians' short wave systems, 4) state police or sheriff's radio, 5) local police radio, 6) ground-air radio, 7) taxi radio systems, 8) telephone company systems, 9) emergency broadcast service, 10) highway commission radio systems, and 11) fire department radio systems. Each director was asked to add to the list any additional communications systems existing in his county.

A radio communications score was developed for each county as follows: First, the number of radio communications systems present in a civil defense area was determined. Second, a determination was made of the number of radio communications systems for which emergency-use arrangements had been made. Third, the ratio was calculated of the number of radio communications systems for which emergency-use arrangements had been made to the number for which such arrangements could have been made, i.e., which were present in the county. The ratio was then multiplied by .3, since Subtask 2 constitutes 30 percent of Task Area 3, "Direction and Control". Thus, scores from zero to 30 were possible for Subtask 2.

The score for Task Area 3 was obtained by summing the two subtask scores. Possible scores could have ranged from zero to 100.

Task Area 4: Emergency Services (Warning Services and Radiological Defense Services) This task area consists of two subtask areas: the establishment of "Warning Services" and the establishment of "Radiological Defense Services". Subtask 1, "Warning Services", was judged by Office of Civil Defense personnel to constitute 40 percent of Task Area 4, while

Subtask 2, "Radiological Defense (RADEF) Services", was judged to constitute the other 60 percent.

Subtask 1: Warning Services      The score on Subtask 1 was based upon the local civil defense director's responses to the following four questions:

1. Does your county have a local warning point on the NAWAS or a sheriff's warning system?
2. Do you have an outdoor siren warning system?
3. What percentage of the population in your county is covered by the warning system?
4. Have you tested alerting procedures, warning dissemination, and warning devices within the last six months?

One-hundred points were given for affirmative answers to Questions 1 and 4 above. Questions 2 and 3 were scored together on the basis of the percentage of the population in the county covered by the warning system (zero if no warning system), and the percentage was multiplied by 100 to yield a whole number. The scores were added together, and then divided by three. Thus, the highest possible unweighted score for Subtask 1 was 100 (i.e., 300 divided by three).

Since Subtask 1 constituted 40 percent of Task Area 4, each unweighted Subtask 1 score was multiplied by .4 to determine the weighted Subtask 1 score. Thus, possible scores could have ranged from zero to 40 for Subtask 1. This weighted score was added to the score on Subtask 2 (described below) in order to obtain a total score for Task 4.

Subtask 2: Radiological Defense Services Another local civil defense task was coordinating radiological defense in the local civil defense area.

The empirical measure of Subtask 2 is based upon the local civil defense director's responses to the following questions:

1. Does your county have any radiological monitoring capability?
2. Have you trained (or had trained) and assigned RADEF (radiological defense) officers and/or monitors for shelters or monitoring stations?
3. How many RADEF officers or monitors have been trained for shelters?
4. How many have been trained for reporting stations?
5. Have you secured and placed any RADEF instruments?
6. How many have been placed in shelters?
7. How many have been placed in monitoring stations?
8. Is a written or updated set of procedures for receipt, evaluation and dissemination of RADEF reports in your Emergency Operating Center?
9. Have you tested and calibrated all RADEF instruments in the last 6 months?

If a director said his county had a radiological monitoring capability (Question 1), he was asked how many radiological defense (RADEF) officers and/or monitors had been trained (Questions 2, 3 and 4). If at least one RADEF officer or monitor had been trained for each shelter (i.e., each building in the county marked as a public fallout shelter), 30 points were assigned. If fewer than this had been trained, zero points were assigned.

If at least one RADEF officer or monitor had been trained for each reporting station, 30 points were assigned. If fewer than one per reporting station had been trained, zero points were assigned.

If at least one RADEF instrument had been obtained for each shelter and monitoring station, and had been emplaced (Questions 28, 29 and 30), 20 points were assigned.

If there was a written or updated set of procedures for receipt, evaluation and dissemination of RADEF reports in the Emergency Operating Center (Question 8), ten points were given.

If all RADEF instruments had been tested and calibrated in the last six months (Question 9), 10 points were given.

The unweighted score for Subtask 2, "Radiological Defense Services", ranged from zero to 100. The unweighted score was then multiplied by .6, since Subtask 2 constituted 60 percent of Task Area 4. Thus, scores could have ranged from zero to 60 for Subtask 2.

The total Task Area 4 score was obtained by summing the two subtask scores. Possible scores for Task Area 4 could have ranged from zero to 100.

The total task accomplishment score To determine the total task accomplishment score for each county, the score received on each of the task areas was multiplied by a weight determined by Office of Civil Defense personnel, as discussed at the beginning of this section.

An example of the computation of the total task accomplishment score is shown in Table 6.

Table 6. Example of the computation of the total task accomplishment score for a county

	Tasks				Total Score
	1 Shelter	2 Plan	3 Direction and Control	4 Warning and RADEF	
Weights	.35	.15	.15	.10	
Task Scores	100	20	20	0	
Product (Row 1 times Row 2)	35	+	3	+	0 = 41

The maximum possible score was 75;<sup>1</sup> the minimum possible score was zero.

### Statistical Analyses

#### Introduction

Nonparametric techniques of hypothesis testing have been used in this dissertation because it is not necessary to assume, for their use, that scores were drawn from a normally distributed population; because nonparametric techniques may be used with scores ". . . which are not exact in any numerical sense, but which in effect are simply ranks . . . (and because of) their usefulness with small samples . . ." (72, p. vii). The nonparametric tests used were: 1) the median test, which gives information concerning the likelihood of two independent groups having been drawn

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<sup>1</sup>Three task areas, constituting 25 points were not used; therefore, the maximum possible score was 75 rather than 100.

from populations with the same median, and 2) the Kendall rank correlation coefficient, which gives a measure of the degree of correlation between two sets of ranked data.<sup>1</sup>

### The median test

The null hypothesis tested by the median test is that two samples are from populations with the same median. The median test requires that the scores be at least ordinal (rather than only nominal). It is not necessary, however, to have interval or ratio scales.

### The Kendall rank correlation coefficient

The null hypothesis tested by a statistical measure of correlation is that the variables involved are not related in the population (72, p. 195). Such a measure of correlation is used to determine the probability of the occurrence of a correlation as large as the one observed in the sample. The Kendall rank correlation coefficient ( $\tau$ ) is an appropriate measure of correlation

. . . if at least ordinal measurement of both the X and Y variables has been achieved, so that every subject can be assigned a rank on both X and Y, then ( $\tau$ ) will give a measure of the degree of association or correlation between the two sets of ranks. The sampling distribution of ( $\tau$ ) under the null hypothesis is known, and therefore (it) is subject to tests of significance. (72, p. 214)

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<sup>1</sup>For the median test and the Kendall rank correlation coefficient, the computational procedures used were those outlined by Siegel (72, pp. 111-116, 213-223). The Spearman rank correlation coefficient and the Kendall coefficient both have the same power to detect the existence of an association in the population (72, p. 219).



## FINDINGS

## Introduction

General and specific hypotheses are restated in this chapter, and empirical hypotheses are presented. Statistical criteria have been used as the basis of rejection or non-rejection of hypotheses. The obtained values of statistical tests are given along with significance levels.

## Statement and Testing of Hypotheses

The following abbreviations are used in this chapter: "G.H." for a general hypothesis, "S.H." for a specific hypothesis, and "E.H." for an empirical hypothesis.

G.H. 1: The degree of role congruence is related positively to the degree of role convergence.

S.H. 1.1: The degree of role congruence between the ideal definition of the county board member's civil defense role and the county board member's evaluation of his own civil defense role performance is related positively to the degree of role convergence between the ideal definition of the county board member's civil defense role and the county board member's definition of his own civil defense role.

E.H. 1.1: There is a positive correlation between 1) role congruence scores based upon the ideal definition of the county board members' civil defense role and the county board members' evaluation of their own civil defense role performances and 2) role convergence scores based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of their own civil defense role. The null

form of the hypothesis is: There is no correlation between 1) role congruence scores based upon the ideal definition of the county board members' civil defense role and the county board members' evaluations of their own civil defense role performances and 2) role convergence scores based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of their own civil defense role.<sup>1</sup> Findings: The calculated Kendall rank correlation coefficient ( $\tau$ ) is +.508. The probability of occurrence ( $p$ ) under the null hypothesis of no correlation is .028. Using the .05 level of significance as the criterion of rejection or non-rejection, the null hypothesis is rejected. These findings, then, support the original hypothesis that the two sets of scores are positively correlated in the population from which the sample was drawn.<sup>2</sup>

S.H. 1.2: The degree of role congruence between the ideal definition of the mayor's civil defense role and the mayor's evaluation of his own civil defense role performance is related positively to the degree of role convergence between the ideal definition of the mayor's civil defense role and the mayor's definition of his own civil defense role.

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<sup>1</sup>For statistical purposes, it is customary to state hypotheses in the null form and for them to be rejected or not rejected in that form, and the rejection or non-rejection related to the original empirical hypothesis as is done here in Empirical Hypothesis 1.1. However, to avoid redundancy the null form will not be stated for the remaining hypotheses.

<sup>2</sup>Tables showing scores and ranks upon which the statistical tests are based are in the Appendix.

E.H. 1.2: There is a positive correlation between 1) role congruence scores based upon the ideal definition of the mayors' civil defense role and the mayors' evaluations of their own civil defense role performances and 2) role convergence scores based upon the ideal definition of the mayors' civil defense role and the mayors' definitions of their own civil defense role.

Findings: tau equals + .183; p equals .123. These findings do not support the original hypothesis that the two sets of scores are correlated.

S.H. 1.3: The degree of role congruence between the ideal definition of the county-municipal civil defense director's civil defense role and the county-municipal civil defense director's evaluation of his own civil defense role performance is related positively to the degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's definition of his own role.

E.H. 1.3: There is a positive correlation between 1) role congruence scores based upon the ideal definition of the county-municipal civil defense directors' civil defense role and the county-municipal civil defense directors' evaluations of their own civil defense role performances and 2) role convergence scores based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors' definitions of their own role. Findings: tau equals + .669; p equals .006. Using the .05 level of significance as the criterion of rejection or nonrejection, the null

hypothesis of no correlation is rejected. These findings, then, support the original hypothesis that the two sets of scores are positively correlated in the population from which the sample was drawn.

For Empirical Hypotheses 1.1, 1.2, and 1.3, the following table shows the position with which each hypothesis deals, the calculated Kendall rank correlation coefficient ( $\tau$ ), the probability ( $p$ ) of the occurrence of such a coefficient under the null hypothesis of no correlation, and the level of statistical significance (\*indicates significance at the .05 level and \*\* indicates significance at the .01 level).

Table 7. Correlation between role congruence and role convergence

E.H.	Position	$\tau$	$p$
1.1	County board members	+.508	.028*
1.2	Mayors	+.183	.123
1.3	County-municipal civil defense directors	+.669	.006**

\*Significant at .05; also used in following tables.

\*\*Significant at .01; also used in following tables.

G.H. 2: The degree of role convergence is related positively to the degree of task accomplishment.

S.H. 2.1: The degree of role convergence between the ideal definition of the county board member's civil defense role and the county board

member's definition of his own civil defense role is related positively to the degree of civil defense task accomplishment.

E.H. 2.1: There is a positive correlation between 1) role convergence scores based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of their own civil defense role and 2) civil defense task accomplishment scores. Findings: tau equals +.145; p equals .291. These findings do not support the original hypothesis that the two sets of scores are correlated.

S.H. 2.2: The degree of role convergence between the ideal definition of the mayor's civil defense role and the mayor's definition of his own civil defense role is related positively to the degree of civil task accomplishment.

E.H. 2.2: There is a positive correlation between 1) role convergence scores based upon the ideal definition of the mayors' civil defense role and the mayors' definitions of their own civil defense role and 2) civil defense task accomplishment scores. Findings: tau equals +.395; p equals .006. At the .05 level of significance, the null hypothesis of no correlation is rejected. These findings, then, support the original hypothesis that the two sets of scores are positively correlated in the population from which the sample was drawn.

S.H. 2.3: The degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's definition of his own role is related positively to the degree of civil defense task accomplishment.

E.H. 2.3: There is a positive correlation between 1) role convergence scores based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors' definitions of their own role and 2) civil defense task accomplishment scores. Findings: tau equals .000; p equals .500. These findings do not support the original hypothesis that the two sets of scores are correlated.

For Empirical Hypotheses 2.1, 2.2, and 2.3, the following table shows the position with which each hypothesis deals, the calculated Kendall rank correlation coefficient (tau), the probability (p) of the occurrence of such a coefficient under the null hypothesis of no correlation, and the level of statistical significance.

Table 8. Correlation between role convergence and task accomplishment

E.H.	Position	tau	p
2.1	County board members	+.145	.291
2.2	Mayors	+.395	.006**
2.3	County-municipal civil defense directors	.000	.500

G.H. 3: The degree of role congruence is related positively to the degree of task accomplishment.

S.H. 3.1: The degree of role congruence between the ideal definition of the county board member's civil defense role and the county board

member's evaluation of his own civil defense role performance is related positively to the degree of civil defense task accomplishment.

E.H. 3.1: There is a positive correlation between 1) role congruence scores based upon the ideal definition of the county board members' civil defense role and the county board members' evaluations of their own civil defense role performances and 2) civil defense task accomplishment scores. Findings: tau equals  $+ .172$ ; p equals  $.261$ . These findings do not support the original hypothesis that the two sets of scores are correlated.

S.H. 3.2: The degree of role congruence between the ideal definition of the mayor's civil defense role and the mayor's evaluation of his own civil defense role performance is related positively to the degree of civil defense task accomplishment.

E.H. 3.2: There is a positive correlation between 1) role congruence scores based upon the ideal definition of the mayors' civil defense role and the mayors' evaluations of their own civil defense role performances and 2) civil defense task accomplishment scores. Findings: tau equals  $+ .165$ ; p equals  $.149$ . These findings do not support the original hypothesis that the two sets of scores are correlated.

S.H. 3.3: The degree of role congruence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's evaluation of his own role performance is related positively to the degree of civil defense task accomplishment.

E.H. 3.3: There is a positive correlation between 1) role

congruence scores based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors' evaluations of their own role performances and 2) civil defense task accomplishment scores. Findings: tau equals +.448; p equals .046. At the .05 level of significance, the null hypothesis of no correlation is rejected. These findings support the original hypothesis that the two sets of scores are positively correlated in the population from which the sample was drawn.

For Empirical Hypotheses 3.1, 3.2, and 3.3, the following table shows the position with which the hypothesis deals, the calculated Kendall rank correlation coefficient (tau), the probability (p) of the occurrence of such a coefficient under the null hypothesis of no correlation, and the level of statistical significance.

Table 9. Correlation between role congruence and task accomplishment

E.H.	Position	tau	p
3.1	County board members	+.172	.261
3.2	Mayors	+.165	.149
3.3	County-municipal civil defense directors	+.448	.046*

G.H. 4: A position incumbent defines his own role in such a way that there is greater role convergence 1) between his definition of the role and



the ideal role definition than there is 2) between another role definer's definition of the same role and the ideal role definition.

S.H. 4.1: The degree of role convergence between the ideal definition of the county board member's civil defense role and the county board member's definition of his own civil defense role is greater than the degree of role convergence between the ideal definition of the county board member's civil defense role and the mayor's definition of the county board member's civil defense role.

E.H. 4.1: The median role convergence score based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of their own civil defense role is higher than the median role convergence score based upon the ideal definition of the county board members' civil defense role and the mayors' definitions of the county board members' civil defense role. Findings: The calculated chi square value equals .635. With one degree of freedom (d. f.), the chi square value is not significant at the .10 level. Therefore the null hypothesis that the two sets of scores are from populations with the same median is not rejected. The data do not support the original hypothesis that one median is higher than the other.

S.H. 4.2: The degree of role convergence between the ideal definition of the county board member's civil defense role and the county board member's definition of his own civil defense role is greater than the degree of role convergence between the ideal definition of the county board member's civil defense role and the county-municipal civil

defense director's definition of the county board member's civil defense role.

E.H. 4.2: The median role convergence score based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of their own civil defense role is higher than the median role convergence score based upon the ideal definition of the county board members' civil defense role and the county-municipal civil defense directors' definitions of the county board members' civil defense role. Findings: chi square equals .450; one d.f. The chi square value is not significant at the .10 level. The data do not support the original hypothesis that one median is higher than the other.

S.H. 4.3: The degree of role convergence between the ideal definition of the mayor's civil defense role and the mayor's definition of his own civil defense role is greater than the degree of role convergence between the ideal definition of the mayor's civil defense role and the county board member's definition of the mayor's civil defense role.

E.H. 4.3: The median role convergence score based upon the ideal definition of the mayors' civil defense role and the mayors' definitions of their own civil defense role is higher than the median role convergence score based upon the ideal definition of the mayors' civil defense role and the county board members' definitions of the mayors' civil defense role. Findings: chi square equals 1.388; one d.f. The chi square value is not significant at the .10 level. The data do not support the original hypothesis that one median is higher than the other.

S.H. 4.4: The degree of role convergence between the ideal definition of the mayor's civil defense role and the mayor's definition of his own civil defense role is greater than the degree of role convergence between the ideal definition of the mayor's civil defense role and the county-municipal civil defense director's definition of the mayor's civil defense role.

E.H. 4.4: The median role convergence score based upon the ideal definition of the mayors' civil defense role and the mayors' definitions of their own civil defense role is higher than the median role convergence score based upon the ideal definition of the mayors' civil defense role and the county-municipal civil defense directors' definitions of the mayors' civil defense role. Findings: chi square equals 1.201; one d.f. The chi square value is not significant at the .10 level. The data do not support the original hypothesis that one median is higher than the other.

S.H. 4.5: The degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's definition of his own role is greater than the degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county board member's definition of the county-municipal civil defense director's role.

E.H. 4.5: The median role convergence score based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors'

definitions of their own role is higher than the median role convergence score based upon the ideal definition of the county-municipal civil defense directors' role and the county board members' definitions of the county-municipal civil defense directors' role. Findings: chi square equals .058; one d.f. The chi square value is not significant at the .10 level. The data do not support the original hypothesis that one median is higher than the other.

S.H. 4.6: The degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the county-municipal civil defense director's definition of his own role is greater than the degree of role convergence between the ideal definition of the county-municipal civil defense director's role and the mayor's definition of the county-municipal civil defense director's role.

E.H. 4.6: The median role convergence score based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors' definitions of their own role is higher than the median role convergence score based upon the ideal definition of the county-municipal civil defense directors' role and the mayors' definitions of the county-municipal civil defense directors' role. Findings: chi square equals .231; one d.f. The chi square value is not significant at the .10 level. The data do not support the original hypothesis that one median is higher than the other.

The table which follows shows, for each of the six empirical hypotheses, the role definition with which the hypothesis deals, the positions of role definers, the degrees of freedom of the chi square test (d.f.), the tabular chi square value for the .10 probability level, and the calculated chi square value.

Table 10. Median chi square tests of convergence scores

E.H.	Role	Positions of role definers	d.f.	Tabular chi square, p=.10	Calculated chi square
4.1	CBM <sup>a</sup>	CBM and mayor	1	2.706	.635
4.2	CBM	CBM and CDD <sup>b</sup>	1	2.706	.450
4.3	Mayor	Mayor and CBM	1	2.706	1.388
4.4	Mayor	Mayor and CDD	1	2.706	1.201
4.5	CDD	CDD and CBM	1	2.706	.058
4.6	CDD	CDD and mayor	1	2.706	.231

<sup>a</sup>"CBM" stands for "county board member".

<sup>b</sup>"CDD" stands for "civil defense director", or, in full, "county-municipal civil defense director".

## SUMMARY AND DISCUSSION

### Objectives of the Dissertation

The first objective of this dissertation was to develop a conceptual framework to investigate relationships among role convergence, role congruence, and task accomplishment, where "role convergence" was defined as the correspondence between role definitions, "role congruence" was defined as the correspondence between an evaluation of role performance and a role definition, and "task accomplishment" was the completion of certain civil defense related tasks. The conceptual framework was developed and elaborated in the Conceptual Framework and Development of Hypotheses chapters.

The second objective of this dissertation was to develop empirical measures of role convergence, role congruence, and task accomplishment. Empirical measures were discussed in the Methods and Procedures chapter.

The third objective was to test hypotheses dealing with relationships among role convergence, role congruence, and task accomplishment, using statistical criteria. Hypotheses were tested and findings were reported in the Findings chapter. In this chapter, findings will be discussed in greater detail.

### Discussion of Findings

The general-level hypotheses were as follow:

G.H. 1: The degree of role congruence is related positively to the degree of role convergence.

G.H. 2: The degree of role convergence is related positively to the degree of task accomplishment.

G.H. 3: The degree of role congruence is related positively to the

degree of task accomplishment.

G.H. 4: A position incumbent defines his own role in such a way that there is greater role convergence 1) between his definition of the role and the ideal (official) role definition than there is 2) between another role definer's definition of the same role and the ideal role definition.

There were three empirical hypotheses associated with General Hypothesis 1; three with General Hypothesis 2; three with General Hypothesis 3; and there were six empirical hypotheses associated with General Hypothesis 4.

#### Role congruence and role convergence

The first general hypothesis considered was that the degree of role congruence is related positively to the degree of role convergence. Three specific hypotheses were derived from the general hypothesis. Then for each specific hypothesis, one empirical hypothesis was stated. These three empirical hypotheses treat of relationships between role congruence and role consensus with regard to three positions: county board member, mayor, and county-municipal civil defense director.

Role congruence and role convergence: county board members      Empirical Hypothesis 1.1 focused on the role and role performance of the county board member. The hypothesis tested was that there is a positive correlation between 1) role congruence scores based upon the ideal definition of the county board members' civil defense role and the county board members' evaluations of their own civil defense role performances and 2) role convergence scores based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of

their own civil defense role.

The findings supported the hypothesis that the two sets of scores were positively correlated in the population from which the sample of county board members was drawn. That is to say that, in general, the higher the role congruence score, the higher the role convergence score. Those county board members who defined their role in such a way as to agree with the ideal (official) role definition tended also to have performed in such a way as to conform with the expectations of the ideal definition of their role. "Role performance", here, is based upon the county board members' perceptions of which of a list of responsibilities and non-responsibilities they had performed or not performed.

Role congruence and role convergence: mayors Empirical Hypothesis 1.2 focused on the role of the mayor. The hypothesis tested was that there is a positive correlation between 1) role congruence scores based upon the ideal definition of the mayors' civil defense role and the mayors' evaluations of their own civil defense role performances and 2) role convergence scores based upon the ideal definition of the mayors' civil defense role and the mayors' definitions of their own civil defense role.

The findings did not support the hypothesis that the two sets of scores were positively correlated in the population from which the sample of mayors was drawn. That is, no statistically significant association was found between higher role congruence scores and higher role convergence scores of the mayors. Those mayors who defined their role in such a way as to agree with the ideal definition of their role did not uniformly perform in such a way as to conform with the expectations of the ideal



definition.

Role congruence and role convergence: county-municipal civil defense directors Empirical Hypothesis 1.3 focused on the role of the county-municipal civil defense director. The hypothesis tested was that there is a positive correlation between 1) role congruence scores based upon the ideal definition of the county-municipal civil defense directors' civil defense role and the county-municipal civil defense directors' evaluations of their own civil defense role performances and 2) role convergence scores based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors' definitions of their own role.

The findings supported the hypothesis that the two sets of scores were positively correlated in the population from which the sample of county-municipal civil defense directors was drawn. Therefore, in general, the higher the role congruence score, the higher the role convergence score. The county-municipal civil defense directors who defined their role in such a way as to agree with the ideal role definition tended to have performed in such a way to conform with the expectations of the ideal definition of their role.

Role congruence and role convergence: summary conclusion The empirical hypotheses discussed above all deal with relationships between role congruence and role convergence. The general level hypothesis was that the degree of role congruence is related positively to the degree of role convergence.

The findings demonstrate clear-cut support for two out of the three

empirical hypotheses (E.H. 1.1 and E.H. 1.3). Although the calculated correlation coefficient for the other hypothesis (E.H. 1.2) is not statistically significant, it is positive.

Therefore, on the basis of the findings, the author concludes that the general hypothesis of a positive relationship between role congruence and role convergence is supported.

#### Role convergence and task accomplishment

The second general hypothesis was that the degree of role convergence is related positively to the degree of task accomplishment. Three specific hypotheses were derived from the general hypothesis. For each of the specific hypotheses, one empirical hypothesis was stated. These three empirical hypotheses treat of relationships between role convergence and task accomplishment with regard to three positions: county board member, mayor, and county-municipal civil defense director.

#### Role convergence and task accomplishment: county board members

Empirical Hypothesis 2.1 focused on the role of the county board member and the task accomplishment in his county. Task accomplishment was measured by a civil defense task accomplishment index which determined the correspondence between an ideal list of tasks to be accomplished and the tasks which were actually accomplished (as empirically determined). The hypothesis tested was that there is a positive correlation between 1) role convergence scores based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of their own civil defense role and 2) civil defense task accomplishment scores.

The findings did not support the hypothesis that the two sets of scores were positively correlated in the population from which the sample of county board members was drawn. That is, there is no statistically significant association between higher role convergence scores and higher task accomplishment scores. Those county board members who defined their role in such a way as to agree with the ideal definition of their role did not uniformly come from counties with high task accomplishment scores.

Role convergence and task accomplishment: mayors Empirical Hypothesis 2.2 focused on the role of the mayor and the task accomplishment of his county. The hypothesis tested was that there is a positive correlation between 1) role convergence scores based upon the ideal definition of the mayors' civil defense role and the mayors' definitions of their own civil defense role and 2) civil defense task accomplishment scores.

The findings supported the hypothesis that the two sets of scores were positively correlated in the population from which the sample of mayors was drawn. Therefore, in general, the higher the role convergence score, the higher the task accomplishment score. The mayors who defined their role in such a way as to agree with the ideal role definition tended to come from counties with high task accomplishment scores.

Role convergence and task accomplishment: county-municipal civil defense directors Empirical Hypothesis 2.3 focused on the role of the county-municipal civil defense director and the task accomplishment of his county. The hypothesis tested was that there is a positive correlation between 1) role convergence scores based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal

civil defense directors' definitions of their own role and 2) civil defense task accomplishment scores.

The findings did not support the hypothesis that the two sets of scores were positively correlated in the population from which the sample of county-municipal civil defense directors was drawn. Those county-municipal civil defense directors who defined their role in such a way as to agree with the ideal definition of their role did not uniformly come from counties with high task accomplishment scores.

Role convergence and task accomplishment: summary conclusion The three empirical hypotheses discussed above all deal with relationships between role convergence and task accomplishment. The general level hypothesis was that the degree of role convergence is related positively to the degree of task accomplishment.

The findings demonstrate clear-cut support for only one of the three empirical hypotheses. Only E.H. 2.2 has a significant correlation coefficient. Although the correlation coefficient for E.H. 2.1 is not significant, it is positive. The correlation coefficient for E.H. 2.3 has a value of zero, showing no correlation whatever.

Therefore, on the basis of the findings, the author concludes that the general hypothesis of a positive relationship between role convergence and task accomplishment has little support.

#### Role congruence and task accomplishment

The third general hypothesis was that the degree of role congruence is related positively to the degree of task accomplishment. Three specific hypotheses were derived from the general hypothesis. For each

of the specific hypotheses, one empirical hypothesis was stated. These empirical hypotheses treat of relationships between role congruence and task accomplishment with regard to three positions: county board member, mayor, and county-municipal civil defense director.

Role congruence and task accomplishment: county board member      Em-  
pirical Hypothesis 3.1 focused on the role performance of the county board member and the task accomplishment in his county. The hypothesis tested was that there is a positive correlation between 1) role congruence based upon the ideal definition of the county board members' civil defense role and the county board members' evaluations of their own civil defense role performances and 2) civil defense task accomplishment scores.

The findings did not support the hypothesis that the two sets of scores were positively correlated in the population from which the sample of county board members was drawn. There is no statistically significant association between higher role congruence and higher task accomplishment scores. That is, those county board members whose role performances had a high correspondence with the ideal definition of their role did not uniformly come from counties with high task accomplishment scores.

Role congruence and task accomplishment: mayors      Empirical Hypothe-  
sis 3.2 focused on the role performance of the mayor and the task accomplishment in his county. The hypothesis tested was that there is a positive correlation between 1) role congruence scores based upon the ideal definition of the mayors' civil defense role and the mayors' evaluations of their own civil defense role performances and 2) civil defense task accomplishment scores.

The findings did not support the hypothesis that the two sets of scores were positively correlated in the population from which the sample of mayors was drawn. That is, there is no statistically significant association between higher role congruence scores and higher task accomplishment scores. Those mayors whose role performances had a high correspondence with the ideal definition of their role did not uniformly come from counties with high task accomplishment scores.

Role congruence and task accomplishment: county-municipal civil defense directors Empirical Hypothesis 3.3 focused on the role performance of the county-municipal civil defense director and the task accomplishment in his county. The hypothesis tested was that there is a positive correlation between 1) role congruence scores based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors' evaluations of their own role performances and 2) civil defense task accomplishment scores.

The findings supported the hypothesis that the two sets of scores were positively correlated in the population from which the sample of county-municipal civil defense directors was drawn. Therefore, in general, the higher the role congruence score, the higher the task accomplishment score. The county-municipal civil defense directors whose role performances had a high correspondence with the ideal definition of their role tended to come from counties with high task accomplishment scores.

Role congruence and task accomplishment: summary conclusion The three empirical hypotheses discussed above all deal with relationships between role congruence and task accomplishment. The general level

hypothesis was that the degree of role congruence is related positively to the degree of task accomplishment.

The findings demonstrate clear-cut support for only one of the three empirical hypotheses. Only E.H. 3.3 has a significant correlation coefficient. Although the calculated correlation coefficients for the other two empirical hypotheses are not significant, both are positive.

On the basis of the findings, the author concludes that the general hypothesis of a positive relationship between role congruence and task accomplishment has some support.

#### Position and role convergence

The fourth general hypothesis was that a position incumbent defines his own role in such a way that there is greater role convergence 1) between his definition of the role and the ideal role definition than there is 2) between another role definer's definition of the same role and the ideal role definition. Six specific hypotheses were derived from the general hypothesis. For each of the specific hypotheses, one empirical hypothesis was stated. The empirical hypotheses treat of relationships between role convergence and position of role definer.

Convergence on county board members' role: county board members vs. mayors Empirical Hypothesis 4.1 focused on the role of the county board member, as defined by county board members themselves and as defined by mayors. The hypothesis tested was that the median role convergence score based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of their own civil defense role is higher than the median role convergence score based upon

the ideal definition of the county board members' civil defense role and the mayors' definitions of the county board members' civil defense role.

The median chi square test was used to determine whether the medians of the two groups of role convergence scores differed. The findings did not support the hypothesis that the median of one set of scores was higher than the median of the other set of scores. County board members did not define their own role in such a way that their median role convergence score (based upon the ideal definition) was higher than the median role convergence score which resulted from the way in which the mayors defined the county board members' role.

Convergence on county board members' role: county board members vs. county-municipal civil defense directors Empirical Hypothesis 4.2

focused on the role of the county board member, as defined by county board members themselves and as defined by county-municipal civil defense directors. The hypothesis tested was that the median role convergence score based upon the ideal definition of the county board members' civil defense role and the county board members' definitions of their own civil defense role is higher than the median role convergence score based upon the ideal definition of the county board members' civil defense role and the county-municipal civil defense directors' definitions of the county board members' civil defense role.

The findings did not support the hypothesis that the median of one set of scores was higher than the median of the other set of scores. County board members did not define their own role in such a way that their median role convergence score was higher than the median role convergence



score which resulted from the way in which the county-municipal civil defense directors defined the county board members' role.

Convergence on mayors' role: mayors vs. county board members      Em-  
pirical Hypothesis 4.3 focused on the role of the mayor, as defined by the mayors themselves and as defined by county board members. The hypothesis tested was that the median role convergence score based upon the ideal definition of the mayors' civil defense role and the mayors' definitions of their own civil defense role is higher than the median role convergence score based upon the ideal definition of the mayors' civil defense role and the county board members' definitions of the mayors' civil defense role.

The findings did not support the hypothesis that the median of one set of scores was higher than the median of the other set of scores. Mayors did not define their own role in such a way that their median role convergence score was higher than the median role convergence score which resulted from the way in which the county board members defined the mayors' role.

Convergence on mayors' role: mayors vs. county-municipal civil defense directors      Empirical Hypothesis 4.4 focused on the role of the mayor, as defined by the mayors themselves and as defined by county-municipal civil defense directors. The hypothesis tested was that the median role convergence score based upon the ideal definition of the mayors' civil defense role and the mayors' definitions of their own civil defense role is higher than the median role convergence score based upon the ideal definition of the mayors' civil defense role and the county-

municipal civil defense directors' definitions of the mayors' civil defense role.

The findings did not support the hypothesis that the median of one set of scores was higher than the median of the other set of scores. Mayors did not define their own role in such a way that their median role convergence score was higher than the median role convergence score which resulted from the way in which the county-municipal civil defense directors defined the mayors' role.

Convergence on county-municipal civil defense directors' role: county-municipal civil defense directors vs. county board members      Empirical Hypothesis 4.5 focused on the role of the county-municipal civil defense director, as defined by the directors themselves and as defined by county board members. The hypothesis tested was that the median role convergence score based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors' definitions of their own role is higher than the median role convergence score based upon the ideal definition of the county-municipal civil defense directors' role and the county board members' definitions of the county-municipal civil defense directors' role.

The findings did not support the hypothesis that the median of one set of scores was higher than the median of the other set of scores. County-municipal civil defense directors did not define their own role in such a way that their median role convergence score was higher than the median role convergence score which resulted from the way in which the county board members defined the county-municipal civil defense directors'

role.

Convergence on county-municipal civil defense directors' role:

county-municipal civil defense directors vs. mayors      Empirical Hypothesis 4.6 focused on the role of the county-municipal civil defense director, as defined by the directors themselves and as defined by the mayors. The hypothesis tested was that the median role convergence score based upon the ideal definition of the county-municipal civil defense directors' role and the county-municipal civil defense directors' definitions of their own role is higher than the median role convergence score based upon the ideal definition of the county-municipal civil defense directors' role and the mayors' definitions of the county-municipal civil defense directors' role.

The findings did not support the hypothesis that the median of one set of scores was higher than the median of the other set of scores. County-municipal civil defense directors did not define their own role in such a way that their median role convergence score was higher than the median role convergence score which resulted from the way in which the mayors defined the county-municipal civil defense directors' role.

Position and role convergence: summary conclusion

The six empirical hypotheses discussed above all deal with relationships between position and role convergence. The general level hypothesis was that a position incumbent defines his own role in such a way that there is greater role convergence 1) between his definition of the role and the ideal role definition than there is 2) between another role definer's definition of the same role and the ideal role definition.

The findings did not support any of the six empirical hypotheses.

The conclusion, then, is that the general hypothesis of a relationship between position and role convergence is not supported.

#### Evaluation and Suggestions for Future Research

The following evaluational statements and suggestions for future research flow from the four general hypotheses which have been considered in this dissertation.

The first of these general hypotheses treated of relationships between role congruence and role convergence. It was concluded that the findings supported the hypothesis that those position incumbents who defined their respective roles in such a way as to agree with ideal role definitions were the incumbents whose role performances most nearly corresponded to "ideal" expectations. The data supported the general hypothesis.

While the data did not offer as much support for the third empirical hypothesis, which focused on the role of mayor, as it did for the other two, the findings were in the expected direction. If the relationship between role congruence and role convergence (for the mayor) is to be clarified, further research on the civil defense role of the mayor is needed. Civil defense responsibilities may be of such low salience relative to the many other demands placed upon mayors that they do not give attention to possible civil defense expectations and/or they do not allocate their time and energy resources in such a way as to perform the civil defense-related behaviors. If a future study were to take into account salience of civil defense and if it were to have an adequately large subsample of mayors for whom civil defense is salient, support might (or might not) be gained for the hypothesis.

The second general hypothesis dealt with role convergence and task accomplishment. It was concluded after examination of the data that there was little support for the general hypothesis that those position incumbents who defined their respective roles in such a way as to agree with ideal role definitions were from counties where the level of civil defense task accomplishment was high.

A finding of potentially important practical significance is that no relationship was found between convergence and task accomplishment when the role of the county-municipal civil defense director was studied. In other words, it appears that there is no relationship between 1) the extent to which a county-municipal civil defense director's definition of his own role agrees with the ideal definition of his role and 2) the extent to which civil defense tasks get accomplished in his county. This might be, at least in part, because the set of behaviors delineated as expected in the ideal role definition are not those behaviors which will get the tasks accomplished. That is, perhaps a more adequate "ideal" role definition is needed. The empirical hypothesis which focused on the role of mayor was, on the other hand, supported by the data. Although one might expect a positive relationship between role convergence and task accomplishment to occur in a situation where high role convergence precedes high task accomplishment, it might be that a high level of task accomplishment actually precedes a greater understanding by mayors of the behaviors expected of them, yielding higher role convergence. A possible rationale for expecting high task accomplishment to precede high role convergence is that, given the minimal civil defense responsibilities of mayors, it is not likely that their knowing their ideal civil defense

roles would have any great effect upon the accomplishment of civil defense tasks in the county, but where an effective civil defense program exists, mayors might have a greater understanding of civil defense matters. In general, the mayor's "responsibilities" are not to perform specific tasks, but to provide the sort of social situation and facilities which enhance the possibility of the civil defense director's behaving in a way consonant with the ideal definition of his role. Since task accomplishment scores (as operationalized herein) are based in part upon tasks performed over a period of years, controlling for the length of time incumbents have occupied their positions might yield more clear-cut support or refutation of hypotheses involving the notion of task accomplishment.

The third general hypothesis dealt with relationships between role congruence and task accomplishment. It was concluded that the data offered some support for the general hypothesis. The one empirical hypothesis which was supported by statistically significant results focused on the position of county-municipal civil defense director. (The data offered some support for the other empirical hypotheses.) It might be that only in the case of county-municipal civil defense directors does role congruence (between role performance and the ideal role definition) have an influence upon the degree of civil defense task accomplishment. Several civil defense directors who were interviewed for this study said that all they wanted from county board members and mayors was approval of the civil defense budget and "to be left alone" -- that they could work more effectively for task accomplishment when mayors and county board members did not interfere.

The fourth and final general hypothesis dealt with relationships

between position and role convergence. The hypothesis was, restated, that a position incumbent would define his own role in such a way that there would be greater role convergence between his role definition and the ideal definition than between another person's definition of the role and the ideal definition. The data did not support the general hypothesis.

The author would be interested in a retest of this general hypothesis. It seems reasonable to expect differential understanding of roles by persons in different positions, even though such differential understanding was not demonstrated in this study. Since an individual's location in a social system influences both his social relationships and his perceptions of incumbents of other positions, one would expect definitions of a given role to vary by the position of the role definer.

In this dissertation a distinction has been made between the actual behavior of a position incumbent and the ideal role definition. This was done implicitly in the treatment of role congruence. This distinction is important because, as evidenced earlier in the dissertation, expectations only partially influence the behavior of position incumbents. There is, in no sense, complete correspondence between expected behavior and actual behavior.

Another distinction was made: between the ideal role definition and the individual's definition of his own role. This was done in the treatment of role convergence. This distinction has consequences for the study of role because a position incumbent's behavior is influenced by both the expectations of others and by the expectations he holds for his own behavior.

The development of a conceptual framework for the investigation of

relationships between role convergence, role congruence, and task accomplishment, the refinement of techniques for operationalizing those concepts, and the testing of hypotheses involving role concepts have important implications for moving the discipline toward a more clearly articulated role theory.



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## ACKNOWLEDGMENTS

The guidance and encouragement given by Dr. Joe M. Bohlen during my graduate program and during the writing of this dissertation are sincerely appreciated. Acknowledgment is made of the major contributions of Dr. Bohlen, Dr. George M. Beal, and Dr. Gerald E. Klonglan in the conceptualization and guidance of the larger study from which this dissertation was developed. I also wish to express appreciation to Dr. Richard D. Warren for consultation on methods and statistics. And for personal encouragement, I wish to express gratitude to my wife, Martha Nye.



## APPENDIX

Table 11. Role congruence scores<sup>a</sup> and ranks

County board members		Mayors		Civil Defense directors	
Scores	Ranks	Scores	Ranks	Scores	Ranks
75	1.5	86	1.5	83	2
75	1.5	86	1.5	83	2
67	3	79	3.5	83	2
62	4	79	3.5	71	4.5
58	5	71	9	71	4.5
54	6	71	9	67	6.5
50	7.5	71	9	67	6.5
50	7.5	71	9	46	8
42	9	71	9	42	9
		71	9		
		64	11		
		57	13.5		
		57	13.5		
		57	13.5		
		57	13.5		
		50	16		
		43	18		
		43	18		
		43	18		
		29	20.5		
		29	20.5		

<sup>a</sup>Role congruence scores resulted from a comparison of a respondent's evaluation of his own role performance and the ideal definition of his role.

Table 12. Role convergence scores<sup>a</sup> and ranks

County board members		Mayors		Civil Defense directors	
Scores	Ranks	Scores	Ranks	Scores	Ranks
75	1	86	3.5	99	1
71	2	86	3.5	92	2
67	3	86	3.5	83	3
67	4	86	3.5	83	4
67	5	86	3.5	83	5
62	6	86	3.5	83	6
58	7	71	12.5	83	7
50	8	71	12.5	79	8
38	9	71	12.5	75	9
		71	12.5		
		71	12.5		
		71	12.5		
		71	12.5		
		71	12.5		
		71	12.5		
		71	12.5		
		71	12.5		
		71	12.5		
		64	19		
		57	20.5		
		57	20.5		

<sup>a</sup>Role convergence scores resulted from a comparison of a respondent's definition of his own role and the ideal definition of his role.

Table 13. Task accomplishment scores and ranks

Counties	
Scores	Ranks
59	1
50	2
38	3
35	4
30	5
24	6
23	7
22	8
19	9

Table 14. Division with regard to the median score of county board members' and mayors' role convergence scores, focusing on the county board member's role (median score = 62.0)

	Number of county board members' scores	Number of mayors' scores	Total number of scores
Above median	5.5	9.5	15.0
Below median	<u>3.5</u>	<u>11.5</u>	<u>15.0</u>
Total	9.0	21.0	30.0

Table 15. Division with regard to the median score of county board members' and directors' role convergence scores, focusing on the county board member's role (median score = 64.5)

	Number of county board members' scores	Number of directors' scores	Total number of scores
Above median	5.0	4.0	9.0
Below median	<u>4.0</u>	<u>5.0</u>	<u>9.0</u>
Total	9.0	9.0	18.0

Table 16. Division with regard to the median score of mayors' and county board members' role convergence scores, focusing on the mayor's role (median score = 71.0)

	Number of mayors' scores	Number of county board members' scores	Total number of scores
Above median	8.0	6.5	14.5
Below median	<u>13.0</u>	<u>2.5</u>	<u>15.5</u>
Total	21.0	9.0	30.0

Table 17. Division with regard to the median score of mayors' and directors' role convergence scores, focusing on the mayor's role (median score = 71.0)

	Number of mayors' scores	Number of directors' scores	Total number of scores
Above median	10.0	4.5	14.5
Below median	<u>11.0</u>	<u>4.5</u>	<u>15.5</u>
Total	21.0	9.0	30.0

Table 18. Division with regard to the median score of directors' and county board members' role convergence scores, focusing on the county-municipal civil defense director's role (median score = 83.0)

	Number of directors' scores	Number of county board members' scores	Total number of scores
Above median	4.5	5.0	9.5
Below median	<u>4.5</u>	<u>4.0</u>	<u>8.5</u>
Total	9.0	9.0	18.0

Table 19. Division with regard to the median score of directors' and mayors' role convergence scores, focusing on the county-municipal civil defense director's role (median score = 83.0)

	Number of directors' scores	Number of mayors' scores	Total number of scores
Above median	4.5	11.0	15.5
Below median	<u>4.5</u>	<u>10.0</u>	<u>14.5</u>
Total	9.0	21.0	30.0