A Study in Role Conflict: The Role of the University Research Administrator

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A STUDY IN ROLE CONFLICT:
THE ROLE OF THE UNIVERSITY
RESEARCH ADMINISTRATOR

by

Robert D. Mendelsohn

A Thesis
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Master of Arts

Western Michigan University
Kalamazoo, Michigan
December 1971
ACKNOWLEDGEMENTS

I wish to express my thanks to Dr. Donald N. M. Horning, who served as my major advisor throughout this project. Somehow he managed to provide a maximum of patience and excellent advice, yet never attempted to stifle what occasionally may have appeared as my endless propensity for pursuing new lines of inquiry during this research. It was particularly generous of him to continue as chairman at a critical time when circumstances did not necessitate his doing so.

A special thanks is due to Dr. Stanley S. Robin who worked very closely with me in developing the theory and guiding me through the difficult task of analyzing the data. More importantly, he aroused my initial interest in role theory, and with many thought provoking discussions has helped to maintain my interest in the field.

I would like to thank Mr. Foster S. Buchtel, Director of the Office of Research Services at Western Michigan University, for not only serving on my committee, but also for generously providing the much needed supplies for this research. His ability to integrate the practical dimensions of research administration with role theory made him invaluable to the project's success.

I would also like to thank Dr. Herbert L. Smith, the fourth
member of my committee. His fresh perspective provided valuable comments and criticisms of the research.

It would have been impossible to complete this study without the cooperation of the staff of the Office of Research Services at Western Michigan University. Much of their valuable time was spent typing and processing the questionnaires as well as suffering through my daily telephone inquiries regarding the questionnaire returns.

Finally, and most importantly, I would like to thank my wife, Susan Rae, for not only working with me throughout the research, but also for being perhaps the one person always confident that the research would be successfully completed.
MENDELSOHN, Robert David

A STUDY IN ROLE CONFLICT: THE ROLE OF THE UNIVERSITY RESEARCH ADMINISTRATOR.

Western Michigan University, M.A., 1971
Sociology, general

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CHAPTER I
THE NATURE OF THE PROBLEM

Introduction

The last twenty-five years have witnessed spectacular increases in the volume and scope of sponsored research at American colleges and universities. Today it represents one of the most vital elements in the functioning of our institutions of higher learning. Of course, as many writers have suggested and practitioners have experienced, participation with sponsored research frequently invites not only substantial rewards, but often complex problems. Unfortunately, however, despite much genuine concern over the complexities of sponsored research, little actual data is available on the administration of sponsored programs. Even more rare is research focusing on the specific role requirements of the positions designed to administer funded research.

To obtain some insight into the field of university/college research administrators, a study was designed and conducted to investigate the following problems and to test a number of theoretical propositions derived from one approach to role theory. The problems are:

One: How is the role of the university research administrator defined by the significant audiences who interact with
the role incumbent within the social structure of the university?

Two: In which behavioral arenas are discrepancies in role definitions more likely to develop between the research administrator and his significant audiences?

Three: To what extent is the presence of role conflict associated with unsatisfactory evaluations of the research administrator's role behavior by his significant audiences?

Four: What effect does the presence of audience role conflict have upon the level of job satisfaction expressed by the incumbent of the research administrative position?

Reasons for Studying Research Administrators

There are three main reasons for the selection of the university research administrator as a subject for the examination of role theory constructs. First, sponsored research is a significant and expanding component of our contemporary institutions of higher education. Second, effective administration of sponsored research has become a critical area in the on-going operations of the modern university. Third, the uniqueness of the location of the research administrative position, combined with the nature of administering sponsored research make the position a likely arena for the emergence of role conflict.¹

¹See Buchtel, Foster S., "The University Research Administrator: A Three-Faced Man." Journal of the Society of Research Administrators, II, No.1 (Summer 1970), 5-6; and Beasley, Kenneth L., "The Research Administrator As Mediator-Expeditor," unpub-
The Significance of Sponsored Research

During the second World War, many academic institutions throughout the country devoted much of their time and research activities toward aiding the nation's war effort. That their research and development programs for the war were successful has been attested to historically and requires little further elaboration for our discussion. What is important for our purposes is that the experience derived during the federal-university research cooperation during World War II indicated the desirability and effectiveness of such a partnership. Of course, the outcome of this success has been the continuance of the partnership coupled with enormous increases in the amount and scope of financial support for university research. Private foundations have contributed additional sources of support for sponsored research programs in the universities.

Commenting on the growth of sponsored research, Eurich notes that the very phenomenon of sponsored research is "relatively new in universities and newer still in colleges" and that its expansion since World War II "... has been phenomenal and was wholly

lished paper read at the Region IV NCURA Meeting (May 1971), 1-11, for two descriptions of the unique requirements for this role as perceived by two role occupants.
unpredictable two decades ago.¹ During the two decades men­tioned by Eurich, funding from the Federal Government alone has increased from roughly seventy-four million dollars in 1940 to an estimated seven and one half billion dollars in the early 1960's.²

It is also noteworthy that during the twenty year period since 1940, the relative importance of funded research to the total operations of all higher educational institutions has increased substantially.³ For example, in 1940 the amount derived from research was close to nine percent; by the early 1960's, this percentage had risen to almost thirty-eight percent.⁴ The growth in importance to the total cost of higher education may also be observed by the increase in the number of institutions currently receiving federally sponsored funds. Only about one half of the nation's colleges and universities received federal support during fiscal year 1963; by


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fiscal year 1967 this figure had risen to over eighty percent.\(^1\)

Naturally, this dramatic growth in the volume of sponsored research has brought to the participating institutions numerous rewards, e.g., "federal funds have improved the quality of graduate training in the physical and biological sciences;"\(^2\) sponsored research funds "can aid the university to augment its community of scholars and help to develop its intellectual and scholarly climate;"\(^3\) finally, research funds assist in the development and maintenance of more adequate libraries and laboratories as well as contribute in the recruiting of prominent faculty members.\(^4\)

Increased participation in sponsored research programs has not, however, occurred without an absence of undesirable effects. Of course, a complete and systematic examination of all the potential negative effects stemming from sponsored research activities is beyond the scope of our investigation. Nonetheless, the "dilemmas" associated with funded research are frequently the subject of


\(^3\) Office of Research Development and the Graduate School, Michigan State University, op. cit., p. 27.

\(^4\) Eurich, op. cit., p. 3.
symposiums on higher education,\(^1\) publications by the American Council on Education, \(^2\) governmental committees, \(^3\) and the literature dealing with the financing of higher education. \(^4\) Therefore, in light of the substantial attention devoted to the negative aspects associated with the institution's participation with funded research, we think it fruitful to note some of the comments made by other writers.

As early as 1954, the American Council on Education was concerned with the effects of preoccupation with funded research upon the quality of instruction at the participating universities. It observed:

The pressure of large-scale projects within universities also diverts men from academic programs in order to work on


\(^3\)Hearings of the U.S. Senate Committee on Government Operations, March 1955, Washington, D.C. Cited in Strickland, op. cit., p. 201. This hearing dealt with the issue of classified sponsored research and the scholar's right to disseminate his findings.

development projects and thus tends to reduce the educational effectiveness of these institutions. This effect becomes particularly acute when the institutions permit special financial inducements to be provided on sponsored research, thus making teaching activities a poor relation in the institutional environment.¹

Although less frequently noted than the detrimental effects on teaching, the overhead costs resulting from sponsored research projects often prove to be much more of a handicap for colleges and universities. C. C. Furnas, President-emeritus of the State University of New York at Buffalo, when speaking to university presidents on the importance of their being familiar with cost accounting procedures, stated:

Usually overhead costs range from 50 to 70 percent of the costs of salaries and wages of those directly engaged in the research itself. Congress, a few years back, with an air of magnanimity, passed legislation allowing a maximum of 20 percent for overhead costs on research grants. Frequently a research grant does not include an allocation for any portion of the salary of the distinguished professor who is to be the principal investigator, on the basis that he would only be doing what he wanted to do anyway. That another professor or instructor must be hired to take over half or more of his teaching duties is often ignored in the accounting of the total costs. This practice could well become a pattern of prospering into bankruptcy.²

Another side effect resulting from sponsored research is the imbalance existing in many academic programs within universities. Since the second World War, the greatest proportion of federal

¹American Council on Education, op. cit., p. 79.

²C. C. Furnas, "Coping with Sponsored Research: A Special Word to Presidents," in Strickland, op. cit., p. 38.
funding for universities and colleges has been allocated to natural science programs. The history of support for the natural sciences has made it difficult for the humanities and social sciences to, in a sense, break into the traditional funding patterns of federal programs. Thus, universities often overcommit themselves to emphasizing those areas most likely to draw funded programs.

One past chairman of the American Council on Education's Committee on Sponsored Projects advocates that:

The system should permit no basic difference in the pattern of project grants for teaching, training or research to the competent scholar, whether humanist, social scientist, social worker, or physician. The travel expenses of the humanist do not differ from those of the physician; the services of an assistant may be as desirable for the artist as for the physicist.

In addition to the imbalances among academic programs within universities, there also exists a more general imbalance among the various colleges and universities throughout the country regarding the apportionment of research funds. In noting this phenomenon, Eurich describes it as a process of:


2Office of Research Development and the Graduate School, Michigan State University, op. cit., p. 25.

... intensification of the competition among institutions—competition for good students, good faculty, additional support. Here a cycle can easily start, as the strong institutions get most of the money and thereby become even better able to drain off talent from the less strong institutions, thus weakening them even further.¹

There are then, at least four major undesirable consequences which may confront institutions engaged in sponsored research activities:

One: Human resources tend to become centered around the research process rather than around the activities associated with teaching.

Two: There are often unanticipated and expensive overhead costs stemming from funded research, most of which are usually borne by the university.

Three: There are frequent imbalances within the academic programs of institutions heavily committed to securing and/or maintaining sponsored research programs.

Four: A general imbalance exists in the apportionment of research funds among the colleges and universities across the country.

At this juncture, we would note that it has not been our intention to over-emphasize the negative aspects of participation with sponsored research to the neglect of the benefits many institutions accrue from their involvement. Rather, it is our perspective that these "unintended" consequences of sponsored programs effectively demonstrate the necessity for effective coordination of the many aspects of an institution's participation with sponsored programs.

¹Eurich, op. cit., p. 4.
In attempting to convey this notion, our discussion has hopefully provided an additional benefit, namely a logical lead into the next topic; the function of the university research administrator.

The Functions of the University Research Administrator

What is a research administrator? This position within the university has been described formally and informally in a variety of manners; such as at Princeton, "to provide services to implement the policies of the Board and to assist departments and faculty members in the development and the administration of research projects." ¹ Another concept of what duties are expected from this position may be found in the University of Alabama's statement regarding research administration on the main campus:

... procuring support from foundations, government agencies, private business, associations, and individuals for the conducting of specific instruction, research, and service programs, including student assistance and building construction. The Office also promotes service to support faculty and administrative officers in carrying out such programs.²

Howard P. Wile has dichotomized the duties of the research administrator in accordance with the following sets of general functions for the position. The first category of general functions Wile


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labels "determinants" of research policy.\textsuperscript{1} He defines the determinants as including "decisions about the framework and the environment under which research is undertaken, establishment of criteria to be used in determining the acceptability or undesirability of a specific project and supervision of the integration between research and instruction."\textsuperscript{2}

The second function pertains to the basic administration necessary to integrate numerous and varied research projects.\textsuperscript{3}

This includes the processing of proposals, the selection of sponsorship, budget preparation and negotiation with the sponsor. Subsequently it includes services required in the performance of sponsored research: recruiting, purchasing, accounting, property control, patents, publications and the like.

Many writers on the subject of sponsored research hold to the view that the man who occupies the position of research administrator is perhaps the most critical link in the entire chain of transactions involved in the research process. One of those adhering to this perspective, the president of the State University of New York, states:

The administration of sponsored research in the university is one of the crucial areas in the whole field. For here the university and the surrounding society work out in terms of

\textsuperscript{1}Wile, Howard P., "The Human Element in Research Administration," ibid., p. 181.

\textsuperscript{2}ibid.

\textsuperscript{3}ibid.
their symbiotic relationship. The university needs the where-withal to pursue its knowledge-producing activities, the society needs the collective brainpower which the university represents. How the needs of each can be met without violating the rights of any is an increasingly delicate and complex problem. The man who administers research is at the interface between the university and society. And interfaces mean friction, constant change, wear, and tear.¹

In sum, the services which the office of research administration provides for the internal operation of the university may be dichotomized into: responsibilities to the faculty and responsibilities to the university administration.²

Responsibilities to the faculty:

One: Inform on potential sponsors including:
   a. program objectives
   b. specific programs of support
   c. analysis of award patterns
   d. organization and personnel
   e. administration requirements
   f. proposal submission format and content

Two: Program-planning counsel and assistance

Three: Assistance in the preparation of proposals to sponsors and in the selection of the most appropriate sponsors

Four: Assistance in negotiating grant or contract forms in the best interests of both the project and the university

Responsibilities to the university administration:

One: Brief faculty members with research sponsorship on pertinent sponsor regulations and requirements

¹Eurich, op. cit., pp. 4-5.
Two: Assist with and/or adopt administrative procedures designed to meet both university and sponsor requirements

Three: Assist with purchasing for projects in accordance with university and sponsor requirements

Four: Provide monthly expenditure information in an understandable and usable format

Five: Provide surveillance of performance requirements for sponsored projects as stipulated by sponsors

Six: Meet all institutional reporting and accountability requirements

Seven: Encourage faculty in pursuing research activities constant with their interests and the university's goals

Eight: Work with administration and faculty to constantly improve the academic research environment

The Location of the Research Administrative Position

An important feature of the research administrative position stems from its location within the university organizational hierarchy. While all role expectations mentioned by Wile, Krebs and Buchtel and others are not uniformly required by each research administrator, the expectations for this position have a unique quality. The location of the research administrative position makes it an interstitial one vis-a-vis other administrative positions within the university.¹

¹For a discussion of the nature of marginal positions and the roles associated with them, see: Johnson, Peter A., "The Marginal

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The concept of interstitial position is not a clearly defined one. This lack of conceptual clarity has occasionally led to severe criticisms of its usage as well as has the usage of its complementary concept, marginality. For our purposes, the concept of interstitial position will be defined as consisting of two components: (a) it is a position located at the interface of two or more sectors of positions within the social structure of an organization, and (b) the role expectations for the position are mainly derived from the incumbents occupying positions surrounding this interface or intersection of position sectors within the social structure of the organization. The following examples may help to clarify the above definition:

One: the role for an interstitial position is:

...an imperfectly institutionalized one, which means that there is some ambiguity in the pattern of behavior legitimately expected of a person filling

---


the role, and that the social sanctions attending the role tend to be inconsistently applied.¹

Two: the university research administrator must fulfill role expectations for at least two position sectors or audiences within the university and at least one position sector external to the university:

In reality, the research administrator must have three faces: he must deal with the faculty on a primarily advisor-counselor role; he must work with the administration to gain their confidence so that he can best represent the faculty in the university structure; and he must work closely with the sponsors.²

Three: concerning two facets of the research administrative role within the structure of the university:

Because of his role, the research administrator frequently finds himself caught up in the problems created . . . because expediting the team principle and improving efficiency are key concepts to him. . . . however, his position as a coordinator of the research program often places him in a middle position where he is the communication link between the scientists and the organization men . . . .

The research administrator cannot eliminate the causes of the conflicting problems because they are inherent in the structure of an interdisciplinary research organization.³

The interstitial nature of the research administrative position, therefore, increases the likelihood of its being involved in a variety

¹Wardwell, Walter I., "A Marginal Professional Role: The Chiropractor," Social Forces,

²Buchtel, op. cit., p. 5.

³Beasley, op. cit., pp. 6-7.

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of conflict situations within the social structure of the university.
A number of factors, in addition to those cited above, lead us to
this conclusion. For example, the position of research adminis-
trator was initially instituted as a means of coordinating and integrat-
ing policies designed to meet the expanding involvement of the uni-
versity with sponsored research. In the process, the position of
the research administrator has evolved into a unique and important
center of power within the university social structure. For not only
does its interstitial location enable it to identify and interact with
both the faculty and the administration of the institution, but its
involvement and proximity with the sources of sponsorship for re-
search funds endows the position with a gate-keeper-like control
over the major aspects of the research process within the univer-
sity.

Wile, after analyzing the functions of the research administra-
tor, noted this distinctive feature of the position's location within
the organization of the institution. He maintained that the research
administrator represented the most important element in the com-
munications network which evolves around the research process.¹
Thus, the interstitial location of the position enables it to serve
not only as a liaison between the faculty and the administrative

¹Wile, op. cit., p. 181.
personnel connected with university research, but also as a clearinghouse for information and services pertinent to the research process. In Wile's words, "In both cases, effective communication is the key to successful administration . . . thus, the human element becomes the crucial ingredient."

Based upon our earlier discussion of the responsibilities generally attributed to the research administrator by both the faculty and administration, one might conclude that the majority of the activities for this position centered around the mechanical processes involved in providing information and services for proposal preparation. Upon closer examination, however, we find that the position is confronted with the difficult problem of accomplishing the tasks mentioned above within the context of an informal policy role which seeks to integrate sponsored research within the confines of the philosophies of the institution as a whole, the faculty engaged in research, and the sponsoring agency. Broadly speaking, this harmony between the parties most directly involved in sponsored research must be accomplished within the constraints of a "minimum expenditure of money and manpower," and yet result in procedures which accomplish the "allocating of limited resources among the research, development, dissemination, and training functions" of

1ibid.
In summarizing our discussion up to this point, we are now able to define what might be termed "three unique and important characteristics systemic to the position of university research administrator"

One: It coordinates and integrates the business of sponsored research both internally and externally to the university.

Two: It serves as a liaison between the faculty and the administration of the university concerning matters pertinent to the research process.

Three: It functions as the gate-keeper of the university for sponsored research activities, both in the dissemination of information relevant to the procurement of research sponsorship and in the general regulation of proposal submission and the actual carrying out of the research.

\[\text{1 ibid.}\]
CHAPTER II
THEORETICAL ORIENTATION

Introduction

In this chapter our attention will be directed to six topics. They are presented below:

One: the role orientation of this investigation

Two: the convergence between the major concepts of our role orientation and the major concepts commonly used in the analysis of work organizations

Three: the concept of significant audiences

Four: a theory of role and a model of role conflict

Five: social context variables related to research administration

Six: a set of hypotheses designed to predict the effects of certain forms of role conflict on selected role behaviors of the research administrator

The Role Orientation

Role theory will be used as a means of analyzing the functioning of the university as a complex work organization. This approach will test the applicability of several role conceptualizations for explaining selected behaviors occurring within a formal work organization. In doing this, we will be considering several problems which are germaine to both role theory and to the study...
of work organizations. Traditionally, these problems receive consideration through one or the other theoretical perspectives. The role theory framework will attempt to explain the effects of social structural variables within an organization upon the role behaviors of persons occupying positions within the organization.

In this investigation, we will be employing a perspective of role theory broadly characterized as the Lintonian approach. This approach reflects a general view of the concept, role, as the normative requirements for human behavior in a given social structure. The historical antecedents of this perspective originated with Linton's early formulation of role, which placed a strong emphasis upon the normative features of the socio-cultural components of society.

---


In The Study of Man and in The Cultural Background of Personality, Linton laid the foundation for an orientation to role theory which views behavioral norms as being assigned to specific positions, whose locations may be specified in terms of a larger social structure within which the social behavior occurs. Linton posits three separate, but complementary, elements of all societies:

... an aggregate of individuals, an organized system of patterns by which the interaction and activities of these individuals are controlled, and the esprit de corps which provides the motive power for the expression of these patterns.

The conceptual apparatus for the expression of these patterns referred to by Linton is dichotomized into "status" and "role."

Status, Linton defines as "a collection of rights and duties" which exist "as distinct from the individual who may occupy it." Role, Linton notes, "will be used to designate the sum total of the subcultural patterns associated with a particular status." The unit for the analysis of status and role is the individual's role behavior,

1 ibid.


4 loc. cit., p. 113.

because when one

... puts the rights and duties which constitute the status into effect, he is performing a role. Role and status are quite unseparable ... there are no roles without statuses or statuses without roles ... every individual has a series of roles deriving from the various patterns in which he participates and at the same time a role, general, which represents the sum total of those roles and determines what he does for his society and what he can expect from it.  

Linton's importance for this investigation lies in the general role orientation he presents, rather than in the particular conceptual definitions found in his writings. This orientation emphasizes the normative aspects of role and links roles to positions which are defined in terms of their relationships to other positions. 2 The specific role definitions which we will use in the present study are derived from the work of Gross, Mason and McEachern. 3 Their work, which provides conceptual clarity for the Lintonian approach, has served as a theoretical guidepost for many contemporary researchers employing the concept role.

Gross, Mason and McEachern begin Explorations in Role Analysis with a review of the major attempts at working with the


2Robin, Stanley, "Three Approaches to Role Theory," The Rocky Mountain Social Science Journal, III (April 1966), 140-149.

notion of role. In their review of the field, the authors present what they consider to be the three major formulations of role into which most of the literature may be categorized.

Category one contains those definitions of role which focus upon the normative patterns of a given society.\(^1\) Within this group, Gross, et al., place Linton, Newcomb, Znaniecki, Rose, and Parsons.\(^2\) These authors have concentrated upon examining the various positions within a social system and the behavioral expectations which others hold for the individuals who occupy the selected positions. The total number of expectations held for any one position constitutes the role of that position and gives the position a definition in relation to the other positions within the social system.

Category two is comprised of those conceptualizations of role which treat it as "... an individual's definition of his situation with reference to his others' social position."\(^3\) The writers identified with this perspective include Sargent and Parsons. According to their approach, the definition of role does not restrict it to residence in the cultural, personal, or situational realm exclusively, but rather to some unspecified mixture, inclusive of all three

\(^1\) Gross, et al., op. cit., p. 11.  
\(^2\) loc. cit., pp. 11-18.  
\(^3\) loc. cit., p. 13.
elements.

The third category consists of those definitions which treat role as "... the behavior of actors occupying social positions." Under this heading, one could expect to find the works of Davis, Slater, and again, Sarbin and Parsons. The focus of this orientation centers upon role behavior. Not only is it concerned with the normative patterns specifying what actors should do, but also that behavior or interaction in which the actors are actually involved. Here, again, role is treated in relation to a defined social structure; however, the concern lies not with the relationships between the role and the social structure, but rather with the interplay of patterned role behavior occurring within the social structure.

Terminology commonly employed to describe this process are "role behavior," "role enactment," and "role performance," all of which relate to the behavior process taking place rather than to those expectations which define the content of the role.  

Gross, et al., after their review of the literature on the concept role state that there are three elements in the concept which appear as central to all of the approaches and which are the most fruitful as components for their own investigation: social location,  


2 loc. cit., p. 17.

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expectation, and behavior. These three elements form the core of their study which attempts to expand the Lintonian approach to role through the examination of the normative features of the school social system in terms of the effects of role consensus upon the role of the school superintendent. They state the major goals of their study as follows:

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This book is an attempt to forge a closer link between theoretical and empirical analysis concerned with a study of roles. It reports the outcome of an empirical inquiry whose major focus was the role of the school superintendent. The essential purpose of the research was to test theoretically derived hypotheses involving expectations for and the behavior of incumbents of positions in social systems.2

The outcome of their investigation may be summed up in the following theoretical consequences. Initially the authors were concerned with the process of role consensus for the definition of a given role which they found to be assumed in the literature. The study of the school superintendent's role indicated that those significant others who defined the role differed in the expectations which they held for the position of school superintendent whether in fact the significant others occupied the same position or different but complementary and inter-related positions within the school social system. The lack of consensus indicated that roles may not be clearly defined and agreed upon by the significant others in the system. Thus Gross,

1loc. cit., p. 3.

2loc. cit., p. 3.
et al., found that rather than attempting to explain the variations in role behavior on the basis of differing expectations and definitions held by significant others and in terms of a hierarchial ranking of others' positions. A third implication stemming from the absence of role consensus for the school superintendent position, may be subsumed under the general heading of social control. Generally, it is assumed that failure to comply with the normative prescriptions for a given role will result in the issuance of negative sanctions by the significant others within the social system. However, as Gross, et al., found variances in the degree of consensus in role definitions, they also discovered variances in the application of sanctions whether positive or negative. Furthermore, an association was found concerning the conformity or lack of conformity and the perceived legitimacy of those expectations held by significant others for the role of school superintendent.

The basis for these variances in the degree of role conformity as well as the variance in the application of sanctions appeared to be related to the ambiguity of the role definition in relationship to the various social situations within which the role was to be performed.

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1 loc. cit., p. 324.
3 loc. cit., p. 322.
The outcome of differential application of sanctions as well as differential conformity to the role by the incumbent led to Gross, et al., moving to a theoretical position midway between the Lintonian model of single role activation with other roles remaining latent on the basis of the social situation and Merton's conceptualization of multiple role application via the incumbent's role set. Gross, et al., concluded that the incumbent is sometimes interacted with on the basis of expectations applied to the position he occupies and sometimes on the basis of expectations applied to him as a whole person as a result of his occupying a complex of positions within the social structure of the school. One of the variables which was related consisted of the degree of time over which the incumbent and his significant others interacted.

The final result of their investigation concerns their attempt to develop a model for explaining the process of resolution of role conflict by the incumbent of the school superintendent's position. Their model posits four methods of conflict resolution which are determined by the incumbents assessment of the legitimacy of the role definers in combination with the possible sanctions occurring

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1 See Merton, Robert K., Social Theory and Social Structure (Glencoe, Illinois: The Free Press, 1957). Beginning on page 369 Merton discusses the notion of "role-set".  

2 Gross, et al., op. cit., p. 323.
with each alternative choice. The four alternatives examined by Gross, et al., for situations of role conflict resulting from incompatible expectations (e.g., A and B) are: (1) conformity to expectation A, (2) conformity to expectation B, (3) some method of compromising of the expectations of both A and B, and (4) refusal to act; in other words, the incumbent avoids conforming to either A or B's expectations.¹

The above model is based upon one, the degree of legitimacy of the source for the expectations, and two, the perception of the sources' power for the application of sanctions for non-conforming behavior. Therefore, behavior may be predicted on the basis of a table showing alternative choices encompassing all legitimacy/sanction dimensions: for example, when one expectation is perceived as legitimate, the incumbent will conform to it at the expense of the other, where both are legitimate he will attempt to compromise his behavior to meet some mid-point between the conflicting expectation and finally when neither are seen as legitimate, the actor will abstain from conforming to either on the assumption that meaningful sanctions will not be enforced. The result becomes a predictive device based upon three behavioral orientations of the incumbent; the "moral," "the expedient," and the "moral-expedient."²

²loc. cit., pp. 289-293.
The contribution of this model and of the entire conceptual scheme presented in Explorations in Role Analysis is twofold in nature. The first contribution is the authors' presentation of a theoretical model, applicable for the analysis of school superintendents in complex organizations within the framework of a role theory. They accomplish this by focusing upon the expectations, both legitimate and illegitimate, which significant others hold for particular positions within the organization's social structure.

Their emphasis upon expectations rather than upon obligations permits consideration of a set of rights and duties assigned to a position not limited by a required awareness of legitimacy and/or consensus concerning role definitions. Thus, the role for any position becomes variable according to the social context within which the position is in interaction with other positions. In one sense, there become as many positions of school superintendents as there are social situations involving that position, e.g., the school superintendent position in interaction with the school board; with parent-teacher conferences, with school principals, with other school superintendents, and so on.

Therefore, we are now able to postulate a general conceptualization of a position, i.e., school superintendent, while allowing its definition to be modified within various social systems. This additionally permits investigation into non-conforming behavior as
well as the area of informal expectation networks which often may exert greater demands on individuals' behaviors than do the formally institutionalized norms and regulations.

The second main contribution arising out of Explorations in Role Analysis is a particularly salient one for the field of role theory: the explicit conceptual definitions used in the study. The following terms and definitions are the central ones presented in Explorations in Role Analysis.¹ They will be used, with modifications, where appropriate in this investigation.

A **position** is the location of an actor or class of actors in a system of social relationships.

A **position sector** is an element of the relational specification of a position, and is specified by the relationship of a focal position or single counterposition.

An **expectation** is an evaluative standard applied to an incumbent of a position.

A **role** is a set of expectations applied to an incumbent of a particular position.

A **role sector** is a set of expectations applied to the relationship of a focal position to a single counterposition.

A **right** of an incumbent of a focal position is an expectation applied to the incumbent of a counterposition.

An **obligation** of an incumbent of a focal position is an expectation applied to the incumbent of a focal position.

A **role behavior** is an actual performance of an incumbent of that position.

¹ *loc. cit., p. 67.*
A **role attribute** is an actual quality of an incumbent of a position which can be referred to an expectation of an incumbent of that position.

A **role behavior sector** is a set of actual behaviors which can be referred to a set of expectations for behavior applicable to the relationship of a focal position to a counterposition.

A **role attribute sector** is a set of actual attributes which can be referred to a set of expectations for attributes applicable to the relationship of a focal position to a single counterposition.

A **sanction** is a role behavior the primary significance of which is gratification-deprivational.

**Concepts Central to Both Role Theory and the Analysis of Work Organizations**

In this section, we propose to discuss the similarities between the major concepts generally used in role theory and those commonly used in the analysis of work organizations. Included in our discussion is a perspective which regards the university as a work organization. This perspective is not unique in that other writers have also analyzed educational institutions in this manner. Hughes, for example, has commented:

> While the purposes for which an organization is established may have some effect on its form and functioning, they do not make an organization so peculiar that it can be suitably compared only with others devoted to the same purpose and studied only by people devoted to that purpose.¹

Within an organizational mode of analysis, the contemporary American university may be viewed as similar to other work organizations, i.e., industrial plants, corporations, governmental bodies, churches, and the like. It contains a social structure comprised of a variety of positions which function as facilitators in the processes of higher education.

Viewing an educational institution from this perspective, we are alerted to a number of particularly salient dimensions affecting its total operation. On one dimension, role concepts permit the study of the interactional patterns between positions or groups of positions within a given social structure. Yet, at the same time, the concepts of role also allow for the consideration of individual variations among the occupants of such positions on a more social psychological level. Therefore, one is able to become aware of both structure and personality in terms of their effect on the particular behavior within the organization.

Concepts which pertain to the type of organizational function aid in the analysis of the behavioral patterns on the second dimension. They allow for broad generalizations regarding the occurrence of interactional patterns to a particular variety of social systems, e.g., formal work organizations, and still permit consideration of many distinct organizational features of particular forms of formal work organizations, e.g., the university, in
terms of the ways in which the character of the organization may influence the interaction occurring within it. In this manner, both role concepts and organizations are studied together, with merit for both. Role concepts are not restricted to abstraction and isolation from the real world, and the method of analysis of organizations may be raised to a level of abstraction not distracted by immediate association with the organization itself.

It is maintained that the university as a formal work organization contained some form of internal structural arrangement designed to aid in the attainment of certain general goals. We are using the concept goal(s) to refer to that which Simon\(^1\) describes as a "set of requirements" or "constraints" which guide decision making within the organization. In terms of research administration, one of the university goals it is concerned with implementing might be to increase the volume of sponsored research done within the institution, or involving a broader range of faculty members with the sponsored research process.

The specific content of those general goals of the institution will, of course, vary depending upon the nature, size, etc., of the institution as will the range of the goals and the consensus within the university regarding goal content and methods of attainment. Gen-

erally, however, for most educational institutions, the transmission of knowledge as well as the procurement of new knowledge through the research process serve as the boundaries which distinguish university goals from those of other work organizations. The ideological emphasis given to either research or instruction, along with other variables, i.e., size, affiliation, normal school vs. multi-university, together provide additional means through which one may categorize institutions falling within the general fabric of educational work organizations, much in the same manner as one would be able to differentiate among the formal work organizations of the industrial world.

The concept of position is central to both role theory and an analysis of the functioning of work organizations. In role theory, position generally refers to a specific location within an abstract, 

\[^{1}\text{Gross, Edward and Paul V. Grambsch, University Goals and Academic Power (Washington, D.C., American Council on Education, 1968), pp. 2-16. These authors dichotomized university goals into Output Goals and Support Goals. A total of forty-seven specific goals were catalogued into their dichotomy ranging from: "Produce a student who, whatever else may be done to him, has had his intellect cultivated to the maximum" to "Keep this place from becoming something different from what it is now; that is, preserve its peculiar emphasis and point of view, its 'character'." For a complete and detailed description of their design and instrument, see pages 9-25.}\]

\[^{2}\text{loc. cit., pp. 36-42.}\]
Yet defined, social structure. The two concepts, position and social structure, are complementary in the sense that positions are what comprise the social structure, and the same social structure in turn forms the organization or arrangement of the positions. In organizations, the concept of position is analogous to its use in role theory. Positions in work organizations are the various job designations which are (arranged on the basis of a division of labor) practiced to achieve the general goals of the organization.

The manner in which positions are located within an organization's social structure may depend upon a number of criteria. One criterion, noted earlier by Weber, is the notion of office hierarchy. Office hierarchy implies that positions are located within a system of superordination and subordination. Specialization of particular tasks, another criterion for determining location of positions, is more easily coordinated when the span of control for each position is limited. A hierarchical arrangement of positions makes easier the formalization of decision making prerogatives and usually permits positions within the social structure to exercise control over those positions below them in the hierarchy. This may result in some role expectations exerting a greater influence than others. In

our study, for example, the research administrative position's incumbent might find it difficult to conform to the role expectations stemming from the one or two positions above him in the organizational hierarchy and at the same time meet those role expectations of the faculty holding the same and/or sometimes lower status in the hierarchy.

The combination of hierarchy and task specialization as criteria for position location does not automatically insure that the rational behavior Weber envisioned will ensue. As Bell has suggested, the incumbents of positions are frequently faced with the necessity to engage in "discretion" in their behaviors if they are to fulfill the general obligations of their office (position). Therefore, an element of potential conflict may be a "built-in" characteristic of the combination of criteria used in determining how positions are located within organizational structures.

This second feature of congruence between role theory and organizational analysis may be observed in the relationships of the individual to the social structure of the organization. When speaking of position as a location within a defined social structure, no reference was made to any individuals residing within the organization. When speaking of position as a location within a defined social struc-

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ture, no reference was made to any individuals residing within the organization. This was an intended omission stemming from our theoretical conceptualization of a position's existence not requiring the presence of an incumbent to fill it. This theoretical separation between position and its incumbent may be made somewhat clearer by way of the following example.

As human beings, we are able to make abstract distinctions about concepts representing the phenomena of our environments. Accordingly, we are able to conceptualize and use a word(s) to convey some meaning without the presence of the object and/or person being a requirement. The term "president" may be used in the abstract, without our referring to a particular individual, to convey a general set of qualifications for the presidential office and its place within the total social system. Not only are we able to conceive of the position of president, but also we are able to differentiate between the expectations we hold for the presidential position relative to the social context or system in which such a presidential position exists. In other words, we assign, on the bases or our shared expectations, certain role requirements which in effect define the position of president.

This conceptual separation between position and the individual offers the advantage of providing a method of examining the requirements of a role both in terms of content and in terms of development,
on a level of analysis which does not suffer from the contamination of the personality proclivities of the incumbent of the position.¹

This approach in no way denies the possibility of the individual modifying the definition of a given role, rather it permits us to delineate the boundaries of normative behavior from a particular position within the structure of the organization. Furthermore, we are able to analyze systematically any organizational position according to the following criteria: (a) How does the definition of a role on the basis of organizational sources limit the behavior of the individual within the organization, e.g., orders for behavior stemming from sources higher up in the status hierarchy; (b) How is the individual able to modify, if in fact he can, the organizational definition of his role; (c) What mechanisms exist within the social structure of the organization which provide insulation from observation or autonomy for the role behavior of the incumbent of a position.

We have been discussing the areas of convergence between role theory and organizational analysis in terms of the shared concepts endemic to both orientations. The two central concepts discussed were social structure and position. Position we have defined as a location within a social structure. Reference has also been made to the function of positions in achievement of the general goals of

¹Robin, op. cit., p. 147.
the organization and to the necessary conceptual separation between position and incumbent. The next question which logically arises concerns how the role for a given position is determined.

Significant Audiences

In the most general sense, significant audiences within any organization determine the role definition for any position by assigning expectations to the position. Many of these role expectations arise out of the rules and regulations associated with the division of labor within the organization. Because of the common ground shared by many role expectations with the rules and regulations of the organization, the expectations from significant others are often studied only according to their formal and/or legalized dimensions.

The most elaborate machinery of the organization, its bureaucratic structure, functions as a controlling agency by restricting random behaviors of individuals by placing limitations on decision making, span of control, etc. However, as Perrow has suggested, actually, however, non-rational orientations exist at all levels, including the elite who are responsible for setting goals and assessing the degree to which they are

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2ibid.
achieved.¹

Therefore it becomes necessary to take into consideration how informal role expectations, legitimate or otherwise, affect the degree to which organizational role behaviors may be viewed as predictable.² In role theory, expectations are generally defined as the rights and obligations applied to the incumbent of a position. However, as we noted when reviewing Explorations in Role Analysis, it is sometimes a handicap to restrict expectations to obligations as this may not allow for the existence of illegitimate expectations being applied to an incumbent.³ Therefore, we will follow Gross, et al., and term expectations the evaluative standard which others assign to the incumbent of a position.⁴

Thus, while the expectations one finds via role theory may in fact be quite similar, if not identical to the rules and regulations set forth in the formal code of an organization, we also allow for examination of informal norms of conduct and a hierarchy of the expectations defining the role. The sources of role definition for a


²Eisenstadt, op. cit., pp. 319-321.


given position have been referred to as the significant others or significant audiences. At this point, one question remains: "Who are these significant audiences and why are they regarded as important as opposed to the many 'others' within an organization?"

In a general sense, the significant audiences are those individuals whose positions are so located within the social structure as to enable and/or require them to engage in frequent interaction and/or surveillance with respect to the focal position under inquiry. In this case, the research administrator would be the incumbent of the focal position. Broadly speaking, the significant audiences represent primary sources for many of the norms which specify his behavior within the organization, i.e., university. In many instances, the positions constituting significant audiences carry with them a degree of prestige based upon their relative rank within the status hierarchy of the organization.

Significant Audiences for the Research Administrator

We have defined five sources of significant audiences for the position of university research administrator:

(1) That portion of the university administration which interacts with and in certain instances oversees the behavior of the research administrative position.

(2) That portion of the faculty engaged in present and/or proposed research at the university.
(3) The audience of research administrators, either with whom the incumbent has direct association or who, because of their membership in the profession of research administrators, are able to make apparent their role expectations, i.e., in professional journals, books, and so on.

(4) The groups with whom the incumbent interacts in the process of securing funds for the university, e.g., officials in Washington, business leaders, corporation personnel, etc.

(5) The incumbent himself, who usually carries into the position a certain set of role expectations which will affect his role definition and role performance either initially or else throughout his career.

A number of additional factors complicate the process of role definition resulting from the expectations of significant others. One of these is the interrelation among the variables of frequency of interaction, proximity to the focal position, prestige, legitimacy, and perception. Initially, it is necessary to be aware of which level of analysis, sociological or social-psychological, we are using to examine the interrelation of the variables associated with the process of significant others' definitions of the role of the research administrator. We have maintained earlier that our conceptualization of position rests on the assumption that it can be defined independent of the individual who may occupy it. We have, for example, expectations for the position of the quarterback on a football team. These expectations define the role of quarterback in terms of certain boundaries of normative behavior which persist despite the changing of individuals occupying the quarterback position. It is, of course, axio-
matic that the given individual may lend a Namath or Unitas personality to the role and somewhat modify it. However, this is accomplished within the limits of the definition of the role. Thus, the position becomes merely an abstract reference to a defined location within a given social structure. This still requires that there be a definition of the position, and this definition rests in part upon the perceptions of the incumbents who occupy other positions within social structure.

It is also possible for the incumbents of those positions constituting the significant audiences to influence each other's role expectations for the focal position. For example, the formal and informal communication networks within an organization may produce a cumulative set of role expectations for any focal position. The effects of the mutual interaction of audience incumbents as both formal and informal sources of role definition are particularly germane in the investigation of the research administrative position. In part, this is due to the nature of that position. Audience definitions of this position's role will be affected by the etiology and circumstances surrounding the creation of the position, the length of time it has existed, its intended function in helping achieve the general goals of the university, and the place of the position within the structural hierarchy of the university.

The diversity of audiences along with the formal and informal
dimensions of their interaction with one another present a major handicap in arriving at a clear definition of the research administrative role. In fact, the two factors we have been discussing are major contributors of potential role conflict involving the position of university research administrator.

Although the focal position carries the label of research administrator, it is maintained in this investigation that the position is an alien one vis-a-vis the traditional administrative body of the university as well as the faculty of the institution. As stated earlier by interstitial we mean that the position is neither within the formal administrative structure nor within the faculty structure. This location stems, in part, from the position's relative newness and uniqueness as a part of the university organization and from the position's several role definitions.

Earlier we maintained that the position of research administrator is a recently created position designed to meet the demands of a relatively recent phenomena which has occurred within the American university system. The phenomenon mentioned were the current high volumes of sponsored research activity and the importance which the university community has placed upon sponsored research activities. The position of the university research administrator is, in a sense, an alien one with respect to the traditional administrative and faculty bodies within the university.
organization. It is expected to function between the administrative body and that of the faculty and perform a service in some ways borrowed from outside of the university. While the effects of increased sponsored research may have ramifications throughout the university, it is not directly associated with the traditional processes of education within the university. True, the funds, equipment, and personnel brought to the university as a result of sponsored research may offer positive benefits for the quality of education occurring within the university. The research administrative position itself, however, is not directly concerned with the transmission of knowledge nor with the administrative decisions affecting relationships between, for example, the faculty and the student body of the institution.

Yet, at the same time, the research administrator position must interact with the faculty and the administration concerning the general goals of the institution, not simply restricting himself to the sponsored research process entirely. Hence, the role expectations which the significant others hold for the research administrative position may contain elements not directly associated with the research process. This, of course, increases the likelihood of role conflict. In the following sections we will discuss a model of

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1 This is particularly so in public as opposed to private institutions, where within the latter the eliciting of endowments is a rare activity.
role conflict and indicate a number of research hypotheses designed to test certain aspects of the model with reference to the process of research administration.

Role Theory and Role Conflict

We have discussed the general role orientation being used in this investigation; the convergence between the major concepts of role theory and those of organizational analysis; and, using the position of research administrator as an example, the manner in which significant audiences' role expectations define the roles for positions within social structures. What follows is the particular theory derived from our preceding discussion.

The underlying notions of this theory are based upon the general role orientation developed by Gross, Mason, and McEachern. It has been stated that their perspective focused upon the normative-structural dimensions of both role and role conflict. In its general form our theory states:

For any incumbent of a focal position, within a defined social structure, the form of role conflict and the presence of role conflict should lead to difficulty in the role behavior of that incumbent.

From the above general theoretical statement and from our discussion of the general role orientation of Gross, et al., three propo-

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sitions have been developed.

PROPOSITION ONE: Audience expectations determine the role for any particular position within any given social structure and this, in turn, determines the normative content of the incumbent's role behavior.

PROPOSITION TWO: Role conflict is an intervening variable that affects the clarity of the processes which communicate audience expectations defining the role; therefore affecting the incumbent's role behavior.

PROPOSITION THREE: Audience expectations define the role for a position and this definition may be modified by the presence of role conflict; this modification may result from the nature of the conflict itself or as a result of the presence of role conflict.

There are four major variables contained in the above propositions. Their definitions are based upon the role orientations of Gross, et al. \(^1\) and Ivey and Robin, \(^2\) with certain modifications growing out of the present investigation. They are defined below:

AUDIENCE EXPECTATIONS (E): norms which define the behavior for the incumbent of a position (position here is used as an analytical reference to some location within a definable social structure)

ROLE (R): the total complex of the audience expectations defining the appropriate behavior for the incumbent of any given position

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\(^1\)ibid.


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ROLE BEHAVIOR (B): the actual behavior or performance of an incumbent of a given position

ROLE CONFLICT (C): situations in which there is a disparity between role requirements attached to a given position and the role behavior of the incumbent of that position

The theoretical model of role theory we have been discussing is depicted symbolically below, beginning with its most elementary forms:

\[ E \quad R \]
\[ E \quad R \quad B \]

There are, however, several limitations to the models depicted above, in that the prediction of an incumbent's behavior would have to assume the occurrence of accurate agreement among those audience expectations defining the role and the specific role behavior of the position's incumbent. To acknowledge this potential discrepancy, the concept of role conflict is utilized. With the inclusion of role conflict (C), our model assumes the following form:

\[ E \quad R \quad C \quad B \]

The general form of role conflict is definitional, although there are several varieties of conflict forms which may be specified. In speaking of role conflict as a definitional problem, we are including a broad variety of types of incompatibilities within the expectations defining the role as well as certain general social structural constraints. In other words, since the definition of a
role results from the combination of audience expectations, location of the position, and the number of positions any given individual occupies, any type of disjuncture among these three variables may constitute a conflict situation.

This notion of role conflict may be clarified by an elaboration of some of the possible forms which role conflict may assume. For the purposes of this investigation, we are specifying four forms of role conflict. They are based upon the role conflict forms discussed by Ivey and Robin* and are presented below.

ONE: AUDIENCE CONFLICT -- this is the most general form of definitional conflict and results from a lack of agreement by the significant audiences concerning the content (definitions) of the role

TWO: NORMATIVE CONFLICT -- this form occurs when the audiences may be in agreement (as to the definitions of the role) with each other, yet disagree internally regarding the specific expectations held for the role, thus making it difficult for the position incumbent to fulfill all role expectations simultaneously.

THREE: PRESCRIPTIVE CONFLICT -- this form occurs when there is audience consensus as to the definition of the role, and when the expectations constituting the role are internally compatible; however the normative prescriptions defined as adequate for the role prove insufficient for allowing the position's incumbent to successfully execute the requirements for his behavior.

FOUR: MULTIPLE-ROLE CONFLICT -- this form occurs when

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an individual may be occupying more than one position within a given social structure or within two or more differing social structures, resulting in role conflict due to the over-lapping of the role expectations for each position the incumbent occupies.

From the previously discussed propositions, it is possible to derive several hypotheses for testing the effects of role conflict upon the role behavior of the university research administrator. The general model of our theory of role and role conflict is viewed as being affected by four social constraints or social context variables related to the social milieu of the university research administrator. These four social context variables are:

ONE: Ideal Faculty vs. Actual Departmental Norms About Research

TWO: Ideal vs. Actual Administrative Norms About Research

THREE: The Length of Time the Research Administrative Position Has Existed

FOUR: The Organizational Hierarchy of Positions Within the University

In the following section, we will discuss the above social context variables and their relationship to university research administration. The research hypotheses will be presented after the discussion of social context variable four. It is well to note at this time, however, that due to the exploratory nature of this investigation, only one social context variable will be used in the testing of
the hypotheses and only one form of role conflict will be tested. The form of role conflict being tested is AUDIENCE Role Conflict and the social context used will be IDEAL FACULTY vs. ACTUAL DEPARTMENTAL NORMS ABOUT RESEARCH.

Social Context Variables

ONE: Ideal vs. Actual Departmental Norms About Research

When discussing the responsibilities which the university research administrator has for the faculty, a series of behavioral tasks were noted; among those are: providing information on potential sponsors; offering counsel concerning proposal requirements and formats; assisting the faculty in the preparation of research proposals; and working to constantly improve the general climate for the conduct of sponsored research activities within the university. The hypotheses using this social context variable are concerned with the question:

What effects do consistency about different kinds and degrees of support among departments have upon the role behavior of the university research administrator?

In attempting to answer the above question, the assumption will be made that there exist, within all universities, conditions of ideal and actual norms regarding departmental support for sponsored research. The ideal norms about sponsored research are those broad departmental expectations which may regard sponsored
research as either an appropriate academic activity or one which is not appropriate for their particular departmental objectives.

The actual departmental norms are the specific expectations which, when translated into departmental rules, policies, and traditions either function to facilitate or inhibit faculty participation in sponsored research activities.

TWO: Ideal vs. Actual Administrative Norms about Research

The assumption made for departments, that conditions of ideal and actual norms about sponsored research do exist, will be assumed to also hold for the university administration. The ideal administrative norms about sponsored research are the general expectations and philosophies defining the appropriateness and, perhaps, utility of sponsored research programs relative to the total functioning of the institution. The actual administrative norms about sponsored research may be likened to the previously described departmental actual norms in that they are the specific expectations, which after they become transformed into established university-wide policies, regulations, and traditions may either encourage or retard the level of sponsored research activities occurring within the university as a whole.

Two of the possible research questions using this social context variable might be:
How do discrepancies between ideal and actual administrative norms about sponsored research affect the role behavior of the university research administrator?

and

How do discrepancies between ideal and actual administrative norms about sponsored research, when combined with discrepancies between ideal faculty and actual departmental norms about sponsored research affect the role behavior of the university research administrator?

THREE: Length of Time the Research Administrative Position Has Existed at the Institution

The duration of the time period during which the research administrative position has existed may be an important factor in both the development and in the subsequent forms of the role conflicts involving that position. One example of the relationship between time and role conflict might be that the more recently instituted positions face a general lack of clarity regarding the boundaries of the role which is associated with the position. If this is the situation, then one might expect newer positions to face more frequent instances of role definitional conflict than those positions whose longer period of existence has permitted a more precise crystallization of the role.

Other role conflict situations might develop as research administrative positions are faced with the task of implementing policy changes affecting the existing level of research activity at the insti-
tution. In either situation, the important question is whether or not the particular form and frequency of the conflict vary as the position becomes more established within the organizational hierarchy of the university. It may be that some form of role conflict is normative for the research administrative position.

FOUR: Organizational Hierarchy of University Positions

An examination of the organizational hierarchy of the institutions having a position of research administration should offer a substantial number of situational contexts within which the effects of role conflict upon an incumbent's role performance may be tested. Earlier in the discussion of the general theory, it was noted that the concept "role" was used in conjunction with the concept of "position"; the role defined the position in terms of the expectations of significant audiences for the position. The present section asks the question, "How does the location of a position within the organizational hierarchy affect the role definition of the position, and the role performance of the position's incumbent?"

Location within an organization hierarchy defined where a position ranks within the status system of the social structure. The concept of status refers to the formalized labeling of positions on the basis of certain criteria. In this study, status will consist of the legitimated ability for the incumbent of a position to engage in
policy-making decisions. The concept of hierarchy indicates the relative degrees of power distributed among the various positions constituting the social structure. Statuses, formally labeled positions, may be viewed as existing in the form of a continuum in which specified titles describe high degrees of legitimate decision-making power at one end and low degrees at the other. The implications of the status continuum for the present study may be clarified through the use of the following example.

If the research administrative role is defined as one of the expectations for the position of university treasurer or vice-president for finance, then a greater frequency of policy-making decisions concerning financial matters may be regarded as falling within the normative boundaries of the role for the treasurer/research administrator, etc. Similarly, if the incumbent of the research administrative position holds a formalized title, characteristic of the upper statuses within the university's administrative hierarchy, for example Dean, then the occurrence of frequent policy-making decisions are not likely to be evaluated as outside of the legitimate role expectations for that position. In both situations, the exercising of decision-making prerogatives is likely to be relatively congruent with audience expectations for the role vis-a-vis the location of the position within the hierarchy of the institution.

At the other end of the continuum exist those positions where
the status of the incumbent is below those of the higher administrative positions, yet not on the same level as those statuses reserved for the university faculty. The dilemma for the incumbents of these latter statuses is one of articulating the expectations held for their role in those instances where their statuses are inconsistent with the role demands of audiences located in higher or lower sectors of the institutional hierarchy.

At this point, it seems fruitful to review our discussion of the theoretical model being used in this study. The general theoretical statement was:

For any incumbent of a focal position, within a defined social structure, the form of role conflict and the presence of role conflict should lead to difficulty in the role behavior of that incumbent.

There were three theoretical propositions stated earlier. Briefly, they are:

1. Audience expectations determine the role for any particular position.

2. Role conflict is an intervening variable which affects the clarity of audience role expectations and incumbents' role behaviors.

3. Audience expectations define the role for a position and that definition may be modified by the presence and nature of role conflict.

We also presented four forms of role conflict: Audience, Normative, Prescriptive, and Multiple-Role, and discussed four
social context variables which relate our theoretical perspective on role to the actual phenomena of research administration in colleges and universities. The four were: Ideal Faculty vs. Actual Departmental Norms About Sponsored Research; Ideal vs. Actual Administrative Norms About Sponsored Research; The Length of Time the Research Administrative Position Has Existed at the Institution; and, The Organizational Hierarchy of University Positions.

A model, depicting all of the possible relationships among the social context variables (independent), the role conflict forms (intervening), the four independent variables selected from our discussion of the role of the university research administrator, is presented in Graph 1 on the following page. As we noted earlier, it is well beyond the scope of the present investigation to undertake an adequate testing of the full theoretical model. Therefore, our testing will be limited to one of the model's independent variables (Ideal Faculty vs. Actual Departmental Norms About Sponsored Research), one intervening variable (Audience Role Conflict), and the four dependent variables presented in the model. The specific hypotheses appear after the model shown in Graph 1.
THE RELATIONSHIPS RESULTING FROM ALL OF THE POSSIBLE THEORETICAL RELATIONSHIPS OF INDEPENDENT, INTERVENING, AND DEPENDENT VARIABLES OF THE ROLE MODEL

INDEPENDENT

Ideal Faculty vs. Actual Departmental Research Norms

Ideal Administrative vs. Actual Administrative Research Norms

Length of the Existence of the Research Administrative Role at the University

Position of the Research Administrative Role in the Organizational Hierarchy of the University

INTERVENING

Audience Role Conflict

Normative Role Conflict

Prescriptive Role Conflict

Multiple Role Conflict

DEPENDENT

Job Satisfaction of Research Administrator

Evaluations of Research Administrative Role Behavior

Proposal Output Within and Among Universities

Information Dissemination About Potential Sponsorship

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Hypotheses

We will now turn our attention to the five research hypotheses
which will be tested in this study. They are:

\( H_1 \): The greater the discrepancy between ideal faculty and
actual departmental norms about research, the lower
will be the faculty's estimations of congruency between
their role expectations regarding the appropriate be-

\( H_2 \): The greater the discrepancy between ideal faculty and
actual departmental norms about research, the lower
will be the faculty's evaluations of the research admin-

\( H_3 \): The more frequently differences exist in role definitions
held by three audiences within an institution, the lower
will be the faculty's evaluations of the research admin-

\( H_4 \): The greater the frequency of differences in research
administrative role definitions by three audiences
within an institution, the lower will be the job satisfac-

\( H_5 \): There will be an additive and cumulative effect among
proposal output and three variables: a measure of job
satisfaction by the research administrator; discrepancies
between ideal faculty and actual departmental norms
about research; and the differences among three audi-
ences in their definitions of the role of the university
research administrator.

In addition to the five research hypotheses presented above,
we will also examine the role expectations held for the position of
university research administrator. This description of the research administrative role will not involve the testing of formal hypotheses, but rather will be done to answer one of the general research questions outlined in Chapter I:

"How is the role of the university research administrator defined by the significant audiences who interact with the role incumbent within the social structure of the university?"
CHAPTER III

METHODS

Introduction

This chapter contains five sections. The operational specifications of the major variables are contained in section one. In section two, the instrument is described. The populations of the study are discussed in section three. The fourth section presents the sample definitions and data collection procedures. The last section outlines the techniques used in the analysis of the data and testing of the research hypotheses.

Operational Specifications

The six variables used in the research hypotheses are discussed according to their operational specifications in the following order:

1. Ideal Faculty Norms About Research
2. Actual Departmental Norms About Research
3. Faculty's Estimations of Congruency Between the Role Behavior They Expect of a Research Administrator and his Actual Behavior
4. Audience Evaluations of the Research Administrator's Role Behavior
5. A Measure of Job Satisfaction Expressed by the Research Administrator
6. A Measure of Proposal Output Among Universities

Ideal Faculty Norms About Research: This variable refers to
degree of relative importance faculty members attribute to research as an ideally important part of the total faculty role. An Ideal Faculty Norm About Research is operationally specified as the scored response by a faculty member to a fixed score response item asking the individual: "Do you feel that research activity is an important part of the faculty role?" There were five possible responses which ranged from "Yes definitely" to "Definitely not." These were scored in the manner indicated below:

<table>
<thead>
<tr>
<th>Response</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes definitely</td>
<td>5</td>
</tr>
<tr>
<td>Yes probably</td>
<td>4</td>
</tr>
<tr>
<td>Not sure</td>
<td>3</td>
</tr>
<tr>
<td>Probably not</td>
<td>2</td>
</tr>
<tr>
<td>Definitely not</td>
<td>1</td>
</tr>
</tbody>
</table>

High Importance Attached to Ideal Faculty Research Norms is operationally specified as a subject's score of a "4" or "5" on the above instrument.

Low Importance Attached to Ideal Faculty Research Norms is operationally specified as a subject's score of a "1", "2", or "3" on the above instrument.

Actual Departmental Norms About Research: This variable is measured by the extent to which a department rates research activities as important and supportable functions for its faculty members.
"Actual Departmental Research Norms" was operationally specified as the scored response by a faculty member to a fixed score response by asking him or her, "Does your department recommend that release time be provided for faculty members engaged in sponsored research activities?" There were six possible responses to the item, ranging from "Yes always" to "No not at all." The ranked scores on this item are indicated as follows:

<table>
<thead>
<tr>
<th>Score</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>a. Yes always</td>
</tr>
<tr>
<td>5</td>
<td>b. Yes in most instances</td>
</tr>
<tr>
<td>4</td>
<td>c. Yes occasionally</td>
</tr>
<tr>
<td>3</td>
<td>d. Not sure</td>
</tr>
<tr>
<td>2</td>
<td>e. Yes but only in rare instances</td>
</tr>
<tr>
<td>1</td>
<td>f. No not at all</td>
</tr>
</tbody>
</table>

**High Importance Attached to Actual Departmental Research Norms** is operationally specified as a subject's score of a "6", "5", or "4" on the above item.

**Low Importance Attached to Actual Departmental Research Norms** is operationally specified as a subject's score of a "1", "2", or "3" on the above item.

**Faculty's Estimations of Congruency Between the Role Behavior They Expect of a Research Administrator and the Actual Role Behavior of the Research Administrator** refers to the faculty's perceptions...
of how close the role behavior of the research administrator is to
the behavior they regard as appropriate for that position. This
variable is operationally specified as the scored response by a
faculty member to the question, "In your opinion, is the behavior
of the Director of the Office of Research Services within your
university congruent with the expectations which you hold regard-
ing the appropriate behavior for the position?" There were five
possible responses ranging from "Yes, definitely" to "Definitely
not." They are scored in the following manner:

"In your opinion, is the behavior of the Director of
the Office of Research Services within your university
congruent with the expectations which you hold re-
garding the appropriate behavior for the position?"

<table>
<thead>
<tr>
<th>Score</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>a. Yes definitely</td>
</tr>
<tr>
<td>4</td>
<td>b. Yes probably</td>
</tr>
<tr>
<td>3</td>
<td>c. Not sure either way</td>
</tr>
<tr>
<td>2</td>
<td>d. Probably not</td>
</tr>
<tr>
<td>1</td>
<td>e. Definitely not</td>
</tr>
</tbody>
</table>

High Faculty Estimations of Congruency is operationally speci-
fied as a subject's score of a "4" or "5" on the above item.

Low Faculty Estimations of Congruency is operationally speci-
fied as a subject's score of a "1", "2", or "3" on the above item.

Audience Evaluations of Research Administrative Role Behav-
ior (Faculty). Audience expectations of research administrative
role behavior refers to the degree of acceptability held by the
faculty regarding the manner in which the research administrator executes his role. This was operationally specified by asking faculty members, "In general, how would you rate the professional behavior of the Director of the Office of Research Services within your university?" There were six possible responses varying from "Excellent" to "Much Below Average." They were ranked in the manner indicated below:

> "In general, how would you rate the professional behavior of the Director of the Office of Research Services within your university?"

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Excellent</td>
</tr>
<tr>
<td>5</td>
<td>Above average</td>
</tr>
<tr>
<td>4</td>
<td>About average</td>
</tr>
<tr>
<td>3</td>
<td>Not sure either way</td>
</tr>
<tr>
<td>2</td>
<td>Below average</td>
</tr>
<tr>
<td>1</td>
<td>Much below average</td>
</tr>
</tbody>
</table>

**High Faculty Evaluations of Role Behavior** is operationally specified as a subject's score of a "4" or "5" on the preceding item.

**Low Faculty Evaluations of Role Behavior** is operationally specified as a subject's score of a "1", "2", or "3" on the preceding item.

**The Level of Job Satisfaction Expressed by the Research Administrator** refers to how satisfied with his present position at the particular institution where he is the research administrator.
This variable was operationally specified as the response from each research administrator to the question, "Generally speaking, how satisfied are you with your role as research director at the university in which you are currently employed?" The five response choices provided varied from "Very satisfied" to "Very unsatisfied." They were scored as indicated below:

<table>
<thead>
<tr>
<th>Score</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>&quot;Generally speaking, how satisfied are you with your role as research director at the university in which you are currently employed?&quot;</td>
</tr>
<tr>
<td>4</td>
<td>a. Very satisfied</td>
</tr>
<tr>
<td>3</td>
<td>b. Satisfied</td>
</tr>
<tr>
<td>2</td>
<td>c. Only moderately satisfied</td>
</tr>
<tr>
<td>1</td>
<td>d. Unsatisfied</td>
</tr>
<tr>
<td></td>
<td>e. Very unsatisfied</td>
</tr>
</tbody>
</table>

A High Level of Job Satisfaction is operationally specified as a subject's scored response of a "4" or "5" on the above item.

A Low Level of Job Satisfaction is operationally specified as a subject's scored response of a "1", "2", or "3" on the above item.

A Measure of Proposal Output Among Universities: This variable refers to the change, between the fiscal years 1967-68 and 1969-70, in the ratio of proposals accepted to those submitted. The operational specifications for this variable are presented below:
Total Number of Proposals Submitted for 1967-68

<table>
<thead>
<tr>
<th>Range</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td>4. 100-150</td>
</tr>
<tr>
<td>25-50</td>
<td>5. 150-200</td>
</tr>
<tr>
<td>50-100</td>
<td>6. 200 and above</td>
</tr>
</tbody>
</table>

Total Number of Proposals Accepted for 1967-68

<table>
<thead>
<tr>
<th>Range</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td>4. 100-150</td>
</tr>
<tr>
<td>25-50</td>
<td>5. 150-200</td>
</tr>
<tr>
<td>50-100</td>
<td>6. 200 and above</td>
</tr>
</tbody>
</table>

Total Number of Proposals Submitted for 1969-70

<table>
<thead>
<tr>
<th>Range</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td>4. 100-150</td>
</tr>
<tr>
<td>25-50</td>
<td>5. 150-200</td>
</tr>
<tr>
<td>50-100</td>
<td>6. 200 and above</td>
</tr>
</tbody>
</table>

Total Number of Proposals Accepted for 1969-70

<table>
<thead>
<tr>
<th>Range</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td>4. 100-150</td>
</tr>
<tr>
<td>25-50</td>
<td>5. 150-200</td>
</tr>
<tr>
<td>50-100</td>
<td>6. 200 and above</td>
</tr>
</tbody>
</table>

Instrument

In presenting a discussion of the instrument at this point in the methods chapter, a twofold objective is intended. First, it is hoped that an overview of the general nature of the data required can be developed in advance of the more specific discussions about data collection and analysis procedures. Second, since the latter sections of this chapter make numerous references to various forms of the instrument in relationship to methods employed in the
investigation, familiarity with the instrument may reduce possible confusion.

Five sources were used for selecting the items to be included in the instrument. The first of these was a proposal initiated by Robert E. Krebs and Foster S. Buchtel\(^1\) which was concerned with establishing regional training sessions for college and university research administrators. Second was a committee report of research conducted by the Society of Research Administrators which attempted to arrive at a profile of the "typical" research administrator.\(^2\) The third source was a study sponsored by the National Council of University Research Administrators which provided a descriptive summation of the background characteristics of its membership.\(^3\) Fourth was a questionnaire developed by McBride for a survey entitled, "Universities Having a Centralized Office for the Administration of Sponsored Research, Research


Training, and other Special Projects. ¹ The last reference was the 1967 Annual Report issued by the Office of Research Services at Western Michigan University. ²

Additional items arose out of a series of open-ended conversations with the Director of the Office of Research Services at Western Michigan University. Once the items were constructed, they were discussed with this director in order to appraise both their content and appropriateness for the audiences which were to be sampled.

Three forms of the instrument were developed. Each form was designed to secure information from one of the three populations being sampled during the investigation. They are: the university administration, the university faculty and the research administrators. Each of the three forms of the instrument asked each of the audiences comparable questions about: (a) the extent of their association with sponsored research activities, (b) their ideal and actual norms about research, (c) their evaluation of the role behavior of the research administrator at their institution, (d) the degree of perceived congruence between the audiences.


expectations about what constituted the research administrator's role and their judgment about the role incumbent's own definition of his role. Additional items about the number of proposals submitted, accepted, declined, and pending; the size of the research administrator's office and staff; and the research administrator's placement in the hierarchial structure of the university were included only within the research administrator form of the instrument.

Finally, two role inventory instruments were developed. The first of these asked the total sample to respond to a Likert-type scale of thirty items specifying behaviors which might or might not be associated with the research administrative role. A second form of the role inventory questionnaire was administered to only the sample of university research administrators. It contained the same items as did the one given to all of the respondents. The single difference was that the second form asked the respondent about his actual behaviors while the first form asked only about his expectations for behaviors in the abstract sense. Since all of the items were the same, the questions in the second form of the instrument were placed in random order. The instruments are located in Appendices A, B, C, D and E.
Populations

The populations used in this research have previously been described as constituting the "significant others" who frequently interact with the incumbent of the position of university research administrator. For the purposes of the present investigation, three functionally related groups of university personnel comprise the population of significant audiences. They are the research administrators, the faculty, and the university administration of the participating universities.

The total population, composed of three audiences, may be thought of as two types of populations. One, those audiences which may be taken as representative of university faculty actually engaged in sponsored research, university administrators, and research administrators within the universities across the United States. At this level, the object is to generalize to these groups in the abstract. In other words, there are two sorts of generalizations to be made. While particular differences may be expected to occur, by audience category within the entire university spectrum, certain general patterns of behavior are likely to emerge. These patterns may be relevant to developing a normative picture of universities when they are viewed as complex work organization.

The second way in which our population is used is to examine variations in role and structure which occur with the three audi-
ences within each institution sampled. In this analysis, our concern is with those variables, differing among universities, that are associated with the variance in the ability of the research administrator to execute his role in a successful manner. Included at this level of specificity would be those broad behavioral differences and similarities among universities based upon their size, volume of sponsored research activities, and lengths of time during which they have had offices for the administration of sponsored research.

The object is to provide a population which allows us to use the individual observations of role conflict and yet coalesce multiple and differing factors into a unified picture of the research process. Using the population we have selected permits a comparison of three audiences across each university as well as within each university.

Sample Definitions and Data Collection Procedures

The data for this investigation were collected by means of a two-stage design in which mailed questionnaires were sent of a purposive sample of midwestern universities. The final number of universities sampled was fourteen.¹

¹The number of universities used in testing the research hypotheses and in compiling the role inventory picture will vary were noted due to an incompleteness in the data collected for some of the three audiences within each institution.
These fourteen institutions were selected on the basis of two criteria:

one: to represent different levels of their involvement with sponsored research as ascertained in terms of federal research and development obligations in science and engineering for the fiscal year, 1969.¹

two: they were all selected from the same geographic area comprised of four midwestern states.

Using level of research involvement as a discriminating criterion, the thirteen universities were divided into five groups. These groups and their amounts of federal support are shown in Table I.

The data depicted in Table I were grouped according to the following five categories:

one: LOWER: Having an annual volume of federally sponsored research of less than three hundred thousand dollars,

two: LOWER-MIDDLE: Having an annual volume of federally sponsored research of more than three hundred thousand dollars, but less than one million dollars,

three: MIDDLE: Having an annual volume of federally sponsored research of more than one million dollars, but less than seven million dollars,

four: UPPER-MIDDLE: Having an annual volume of federally sponsored research of more than seven

¹This information was provided by Robert Loycano and Lawrence A. Seymour of the Office of Economic and Manpower Studies at the National Science Foundation and is not yet in print. The data represented fourteen universities and their level of federal research and development obligations in science and engineering for fiscal year 1969.
<table>
<thead>
<tr>
<th>Category of Research Involvement</th>
<th>Amount of Federal Support*</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower</td>
<td></td>
<td>13,000</td>
</tr>
<tr>
<td>University A</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td>University B</td>
<td>130,000</td>
<td></td>
</tr>
<tr>
<td>University C</td>
<td>240,000</td>
<td></td>
</tr>
<tr>
<td>Lower Middle</td>
<td></td>
<td>600,000</td>
</tr>
<tr>
<td>University D</td>
<td>470,000</td>
<td></td>
</tr>
<tr>
<td>University E</td>
<td>500,000</td>
<td></td>
</tr>
<tr>
<td>University F</td>
<td>550,000</td>
<td></td>
</tr>
<tr>
<td>University G</td>
<td>870,000</td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td></td>
<td>5,290,000</td>
</tr>
<tr>
<td>University H</td>
<td>4,130,000</td>
<td></td>
</tr>
<tr>
<td>University I</td>
<td>5,020,000</td>
<td></td>
</tr>
<tr>
<td>University J</td>
<td>6,720,000</td>
<td></td>
</tr>
<tr>
<td>Upper Middle</td>
<td></td>
<td>13,500,000</td>
</tr>
<tr>
<td>University K</td>
<td>11,990,000</td>
<td></td>
</tr>
<tr>
<td>University L</td>
<td>15,020,000</td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td></td>
<td>24,900,000</td>
</tr>
<tr>
<td>University M</td>
<td>17,680,000</td>
<td></td>
</tr>
<tr>
<td>University N</td>
<td>31,910,000</td>
<td></td>
</tr>
</tbody>
</table>

*All university amounts of support have been rounded to the nearest $10,000.
million dollars, but less than sixteen million dollars,

five: UPPER: Having an annual volume of federally sponsored research of more than sixteen million dollars.

With two main exceptions (we sampled primarily state-supported universities and few of the universities in our sample had multiple campuses, although if one did, we collected data only from the central or main campus), this sample provided a fair representation in terms of size of the institution, volume of federally supported research, geographic location, and type of institution within this four state area and hopefully within the United States in general.

During stage one of the data collection a request letter accompanied by a copy of each instrument intended for each of the audiences was mailed to the directors of the offices for research services of fifteen universities. The original sample size was to have been fifteen universities but it was not possible to obtain the cooperation of all the universities approached.

Included with the questionnaires sent to the research administrators was a form requesting the following information: (a) the names and departmental affiliation of five faculty members who were currently engaged in the submission of sponsored research proposals on what was specified as an "active" basis; (b) the names and departmental affiliation of five members of the faculty who had
previously submitted research proposals for sponsorship, but who were not currently defined as "active" in sponsored research activities; (c) the top one or two positions in the university hierarchy above the position of the research administrator to which the latter reported concerning the activities of the office for research administration within the university.

In addition to the questionnaires and subject request forms, a personal note was included from the Director of the Office for Research Services at Western Michigan University to those directors of research offices with whom he was acquainted. It was hoped that the measure would help to expedite the process of collecting this data. Finally, a self-addressed, stamped envelope was provided for all recipients of the questionnaires. The second stage of data collection consisted of sending a request letter and an appropriate questionnaire to the faculty and administrator whose names had been submitted by the research administrator.

Since the academic calendars of the sample schools did not coincide with the beginning of the period of data collection (summer, fall, and winter of 1970), no follow-up procedures to the research administrators were instituted until six weeks after the mailing. After the six week period, five of the fifteen universities had responded, and a sixth refused to take part in the investigation. The remaining research administrators were contacted by phone by the
Director of the Office for Research Services at Western Michigan University. It was learned at that time that a second institution declined to participate in the project. Two replacement universities were selected for those institutions declining participation. By mid-October, 1970, the data collection situation had reached a critical point of impasse which had begun to impede further progress of the investigation. Five out of the current fifteen offices for research administration still had not returned the questionnaires and the names of the faculty and university administrators.

Somewhat better success was obtained from the faculty and university administrators. A follow-up letter had been sent to each member of the above two audiences six weeks after the initial questionnaires of stage two. The rate of return for these two audiences approximated seventy and sixty percent respectively.

The problem remaining was how to encourage the remaining research administrators to complete their questionnaires, since their lack of response decreased the research administrative sample and the potential faculty and university administrative portions of the sample by roughly thirty-three percent. The decision was made at that time to contact each of the remaining five research administrators by telephone and attempt to schedule a personal interview for the purposes of administering the questionnaire originally mailed to them.
As a result of the phone conversations, four of the five research administrators agreed to interview appointments. The fifth, the school originally in the upper category of research volume, could not be persuaded to cooperate in the project. This, the last refusal of participation, was not replaced and resulted in a final sub-total of fourteen institutions. Unfortunately, one of the research administrators did not, despite repeated letters and phone calls, include the names of the faculty and university administration personnel we requested. Therefore, this university, although included in the final sample, was not included in all of our tests. The actual number of university research administrators was fourteen; there were eighty-eight faculty members and sixteen university administrators, with the latter audience representing only nine schools.

The fact that we were able to secure appointments by telephone after the request letters and phone calls by the research administrator at Western Michigan University had failed was interesting. The underlying strategy for this procedure, which proved successful, was simply derived from our theoretical orientation concerning the nature of the role of the university research administrator. Essentially we were calling upon the five incumbents to execute a particular facet of the research administrator's role postulated within the theoretical orientation of this research, i.e., research
administrators are expected routinely to devote part of their time engaging in discussions about the research process with any prospective researcher. The site interviews proved successful in that both the data on the role incumbent as well as the names of members of the two significant audiences were obtained.

By the last week of December, 1970, all of the remaining faculty and university administrators had been sent appropriate questionnaires. Additional follow-up materials were mailed at two week intervals. This was done two times for all of the faculty and university non-respondents in the total sample. Thus by the end of January, 1971, the data collection procedures had been completed and the analysis initiated. The total period of time required for collection of data amounted to approximately twenty-one weeks, or roughly three times the amount of time originally intended.

Analysis

$H_1$: The greater the discrepancy between ideal faculty and actual departmental norms about research, the lower will be the faculty's estimations of congruency between their role expectations regarding the appropriate behavior for the research administrator and the latter's actual role behavior.

In the analysis of Hypothesis One, two items will be selected from the faculty questionnaires as measures of ideal faculty and actual departmental norms about research. (See items C and 1
in Appendix B) Since both the item measuring ideal faculty norms as well as the item measuring actual departmental norms were scored in rank order, from one to five, it was possible to construct a scale representing the degree of difference between the responses by faculty members to the two items. This measure will be referred to as the Index of Discrepancy throughout the remainder of this investigation.

The score on the Index of Discrepancy for each faculty member will be correlated with the individual's scaled response to the item measuring the faculty's estimations of the congruency between their expectations of appropriate role behavior and actual role behavior of the university research administrator. (See item 13, Appendix B) The correlation between the Index of Discrepancy and the congruency item is obtained through application of the Spearman Rank Correlation Coefficient statistical procedure.

The Index of Discrepancy is determined in the following manner. The difference is obtained between each individual's scored response on the item measuring one of the actual departmental norms about research. For example, if a respondent scored a three on the ideal faculty norm and a one on the actual departmental norm, his discrep-

ancy score would be two (three minus one, disregarding the sign); if the ideal faculty score was a four and the actual departmental score a one, the discrepancy score would be a three, and so on. This procedure is carried out for each respondent in our faculty audience.

The initial analysis of Hypothesis One requires two statistical operations: (A) The Spearman Rank Correlation Coefficient: \( r_s \) and (B) The Guttman Coefficient of Predictability: \( \Lambda \).

The Spearman Rank Correlation Coefficient is an estimate of the Pearson Product Moment Correlation and is particularly applicable to situations where "... the data are already in terms of rank orders" and/or when one is working with relatively small sample sizes.\(^1\)

Another important advantage of the \( r_s \) statistic is the ease with which it may be interpreted. Such interpretations of \( r_s \) are analogous to interpretations of Pearson's \( r \).\(^2\) Siegal, for example, notes that "... the sampling distributions of \( r \) and \( r_s \) are such that with a given set of data, both will reject the null hypothesis (that variables are unrelated in the population at the same level of

---


In order to obtain an indication of the frequency with which the relationship (obtained by the Spearman Rank Correlation Coefficient) is likely to occur, the Guttman Coefficient of Predictability \( \lambda \) is applied to the contingency tables presenting the distribution of the intersect of high and low discrepancy scores with high and low estimations of role congruency. In other words, \( \lambda \) will measure the frequency with which the relationship \( r_g \) can be expected to occur within this population.\(^2\)

\[ H_2: \quad \text{The greater the discrepancy between ideal faculty and actual departmental norms about research, the lower will be the faculty's evaluations of the research administrator's role behavior.} \]

In the analysis of Hypothesis Two, the same statistics used in \( H_1 \), the Spearman Rank Correlation Coefficient and the Guttman Coefficient of Predictability will be applied to the data. The data for the second hypothesis are the Index of Discrepancy scores for the faculty audience (computed during the analysis of Hypothesis One) and an item assessing the faculty's evaluations of the research administrator's role behavior. (See item 26, Appendix B)

\(^1\)Siegal, op. cit., p. 219.

H₃: The more frequently differences exist in role definitions held by three audiences within an institution, the lower will be the faculty's evaluation of the research administrator's role behavior within that institution.

The three audiences referred to in Hypothesis Three have been previously stated to be the university administration, the faculty, and the research administrators. The analysis of this hypothesis consists of applying the Pearson Product Moment Correlation (r) in order to determine whether a relationship exists between the frequency of differing audience expectations and audience evaluations of an incumbent's role behavior.

There will be eight operations required for testing Hypothesis Three. The role inventory items from which the independent variable frequency of differences in role definitions is determined, may be found in Appendix A, items 45 to 74, Appendix B, items 35 to 64, and Appendix C, items 26 to 35. The dependent variable, the differences in faculty evaluations of the research administrator's role behavior, is derived from the responses to an item asking the faculty to evaluate the professional behavior of the research administrator within their university. This item may be found in Appendix B, item 13.
Procedures for Testing Hypothesis Three

One: The initial operation for testing Hypothesis Three is to determine which behaviors are to be included in the role definition held for each audience for the research administrator. Although the analysis is being made among rather than within the three populations, many instances may arise in which there is considerable variation within an audience regarding whether a specific role expectation should be included as part of the research administrative role. The following example may clarify this possible problem.

Our faculty audience, for example, is responding to the possible role expectation, "Research administrators should provide editorial services for faculty research proposals." Their responses to this item are scored on a seven point Likert-type scale, ranging from "Definitely should not do" (1) to "Definitely should do" (7). In our example, assume that the following distribution of responses has occurred: Four "Definitely should do" (7), two "Should do" (6), three "Probably should do" (5), four "may or may not do" (4), one "Probably should not do" (3), two "Should not do" (2), and four "Definitely should not do" (1). Given the above distribution of responses, the question arises, should this item be included as part of the faculty audience's definition of the university research administrative role? In other words, what degree of consensus is necessary for an item to be included in a role definition, particu-
larly when, as in the example above, part of the faculty think the
expectation is part of the role definition, part do not, and the re-
mainder are undecided?

One solution to this question has been offered by Robin\(^1\) who,
following Newcomb\(^2\), suggests that we "... define consensus to be
agreement on those items about which the lower confidence limit
about the proportion of a given response is fifty percent or above
the .05 confidence level."\(^3\) The mechanisms of this procedure in-
volve programing the computer (PDP-10) to compare the means of
all responses to each item on the basis of contiguous choices on our
seven point Likert-type scale.

The resulting category will indicate which response presents
consensus of at least fifty percent of the audience in ninety-five
out of one hundred cases. This procedure permits us to arrive at
a measure of consensus and indicates where this consensus is
achieved. Accordingly, it gives us a more precise indication of
where on our seven point scale the majority of our respondents\(^1\)

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\(^1\)Robin, S. S., "A Comparison of Male-Female Roles in Engi-
neering," unpublished doctoral dissertation, Purdue University,
1963, p. 69.

\(^2\)Newcomb, T. M., Social Psychology (New York: Dryden

\(^3\)Robin, "A Comparison of Male-Female Roles in Engineering,"
op. cit., p. 69.
scores are located. It also reduces the possible bias which may result if we had occasion to assign direction to the middle choice (4) on the scale in those instances where a simple dichotomization of the two extremes would result in two equal categories.

Two: The mean scores are computed for all of the faculty's responses to each of the thirty role inventory items retained in the role definition.

Three: The mean scores are computed for all of the university administrator's responses to each of the thirty role inventory items retained in the role definition.

Four: The mean scores (actually the response as the number is only one) are computed for all of the research administrator's responses to each of the thirty role inventory items retained in the role definition.

Five: This step consists of assigning a code (either X or Y) to each of the means of the responses calculated in steps two, three, and four. The X code is given to all response means between 0 and 4.9; the Y code is given to all response means between 5 and 7.

Six: This step consists of totaling the coded responses for each item, separately, in order to attain an indication of the audience consensus about a given item. Any two and one combination of X's and Y's is considered as nonconsensus or a difference score.
For example, three X's or three Y's would indicate no difference; while one X and two Y's or two X's and one Y would indicate a difference. Note that no assumptions about the magnitude and/or direction of the difference is being considered at this point.

Seven: This step consists of summing the number of items for which a difference has been noted. This summation will provide a single representation of the differences in the responses of the three audiences to the thirty role inventory items by institution.

Eight: This step consists of applying the Pearson Product Moment Correlation statistic to the frequency of difference scores and the faculty responses to the role behavior evaluation item. (See item 13, Appendix B) The resulting correlation should indicate the degree of association between the frequency of differences in role expectations held by three audiences within an institution, and the faculty's evaluation of the role behavior of the research administrator within that institution.

\[ H_4: \] The greater the frequency of differences in research administrative role definitions by three audiences within an institution, the lower will be the job satisfaction expressed by the research administrator of that institution.

The test for the relationship between differences in role definitions held by three audiences and the research administrator's job satisfaction will be made by using the Pearson Product Moment
Correlation. The measure of frequency of differences has been obtained during the analysis of Hypothesis Three and will be utilized in the testing of the fourth hypothesis.

The dependent variable, a measure of the research administrator's job satisfaction, was obtained from an item asking all research administrators, "How satisfied are you with your role as research administrator at this university?" The response choices ranged from, "Very satisfied" to "Very unsatisfied" on a five point scale. This item may be found in Appendix A, item number 25.

\[ H_5: \] There will be an additive and cumulative effect among proposal output of universities and three variables: a measure of job satisfaction by the research administrators; discrepancies between ideal faculty and actual departmental research norms; and, the differences among three audiences in defining the role of the university research administrator.

Two of the three independent variables, the Index of Discrepancy between ideal faculty and actual departmental norms about research, and the differences among three audiences in defining the role of the university research administrator, have already been discussed in the analysis of the first four hypotheses. The same measures of these three variables will be employed in the analysis of Hypothesis Five. The dependent variable, proposal output among universities, was measured by computing the proportion of proposals accepted to those submitted for two fiscal years: 1967-68 and
1969-70. The specific items measuring proposal output categories may be found in Appendix A, items 28 through 35.

Hypothesis Five will be tested by the technique of multiple regression analysis proposed by Kelley, et al., (1969). Initially a criterion measure is secured (Y or Proposal Output), which may be conceived of as being determined by a multitude of diverse factors or conditions. The multiple regression analysis is an attempt to explain variations in a dependent variable (Proposal Output) on the basis of other theoretically relevant information (independent variables). In the present instance, the relevant variables are those which are concerned with the administration of sponsored research activities.

Those variables thought to be related to proposal output should provide some measure of explanation of the total variance in our sample of universities' proposal output. Accordingly, if a variable is presumed to be irrelevant to proposal output, then it should explain little to none of the variance in that dependent variable. In the present situation, our focus is only upon those variables thought to be theoretically relevant in explaining proposal output; however, the multiple regression technique also provides us with

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an indication of the relative contribution which each variable would make when placed into the regression model. Ideally, the greatest explanation of the variance of the dependent variable, combined with the fewest number of independent variables, is the objective when using this statistical procedure. In other words, the larger the multiple R, the larger the reduction in unexplained variance in our measure of proposal output among universities.

1 The following model, from Kelley, et al., op. cit., Chapter I, indicates the proposed relevant variables (labeled $x_1, \ldots, x_k$) which may be thought of as predictors of proposal output.

$$Y' = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e$$

Where:

- $a =$ a regression constant
- $b_1 =$ a least squares regression weight for the discrepancies between ideal faculty and actual departmental norms about research.
- $b_2 =$ a least squares regression weight for the differences among the three audiences as to definitions of the research administrative role.
- $b_3 =$ a least squares regression weight for the level of job satisfaction expressed by the role incumbent.
- $e =$ an error term, statistically controlled for in the equation above.
CHAPTER IV
FINDINGS

Introduction

The findings chapter contains three sections. In section one, we present a description of several general background characteristics of our samples of faculty, university administrators, and offices of research administration. In the second section, we will discuss the findings of the role inventory instrument concerning consensus and conflict in audience definitions of the role of university research administrator. Section three consists of testing the hypotheses which are designed to predict the effects of one form of role conflict on both the role behavior of the university research administrator and his job satisfaction.

Background Characteristics

The data presented in Table 2 describe our faculty sample according to major academic areas, number of respondents in each area, total number of proposals submitted in each area during 1969-70, and the total number of proposals which the respondents from each academic area have had funded. As depicted in Table 2, there were seventeen academic areas represented by our sample of university faculty. Three academic areas, engin-
<table>
<thead>
<tr>
<th>Academic Field</th>
<th>No. of Respondents</th>
<th>Proposals Submitted in 1969-70</th>
<th>Total No. of Proposals Funded</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Biology</td>
<td>12</td>
<td>33</td>
<td>104</td>
</tr>
<tr>
<td>Botany</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry</td>
<td>13</td>
<td>55</td>
<td>109</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Engineering</td>
<td>19</td>
<td>53</td>
<td>61</td>
</tr>
<tr>
<td>Forestry</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Geography</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Geology</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Management &amp; Plant Industries</td>
<td>4</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Medicine</td>
<td>6</td>
<td>14</td>
<td>24</td>
</tr>
<tr>
<td>Physics</td>
<td>5</td>
<td>8</td>
<td>21</td>
</tr>
<tr>
<td>Psychology</td>
<td>5</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Sociology</td>
<td>5</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Speech</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Special Centers*</td>
<td>9</td>
<td>17</td>
<td>57</td>
</tr>
<tr>
<td>Zoology</td>
<td>1</td>
<td>1</td>
<td>9</td>
</tr>
</tbody>
</table>

*There were six special centers: Natural Sciences, Water Resources, Governmental Studies, Reading, Animal Resources, and an Agricultural Station.

N = 88
eering, chemistry and biology were represented by one-half of our sample of faculty. These three disciplines also contained almost one-half of the proposals submitted during 1969-70 as well as had slightly more than one-half of the total number of funded proposals held by our faculty sample.

Our interpretation of the data presented in Table 2 is limited by our lack of specific information in three areas: one, the mean numbers of faculty who are concentrated in the various academic areas across the nation's universities; two, the average number of proposals submitted during 1969-1970 and the total number of proposals funded in the seventeen academic areas represented in our sample within the institutions we sample; three, the national average of proposals submitted during 1969-70 and the total funded within the seventeen academic areas represented in our sample.

We are, however, able to draw at least two general conclusions based upon our discussion of the literature on research administration (Chapter I) and from our rationale guiding the drawing of our faculty sample. First, as we discussed in the first chapter, it is not uncommon to find the largest proportion of proposal submission and funding occurring within the "hard sciences," i.e., physics, chemistry, biology, engineering, etc. In fact, we indicated in that discussion that this very concentration of sponsored research activities within these areas is often viewed as a negative
effect of an institution's involvement with sponsored research. Therefore, the fact that one-half of our respondents were drawn from these areas, "hard sciences," does not alarm us. It is possible that the perspectives on the role of the university administrator held by the faculty in science and engineering are substantially different from those held by faculty in other academic areas. Without additional information, however, it is extremely difficult to predict how such differences may affect the results of this investigation. The distribution of faculty by academic area used in this investigation may warrant changing in future research on university research administration.

Second, in the discussion of our method of selecting the faculty audience, it will be remembered that we were not concerned with achieving a sample representative of the faculty within each university. Rather we needed an audience which was meaningful for the research administrator, i.e., engaged in significant interaction with that position. To achieve this objective, we sample faculty members on the basis of the names submitted to us by each research administrator within each university. Therefore, those faculty who constituted the most significant audiences for our sample of research administrators were very likely obtained through asking the research administrators themselves to provide the names.
In Chapter III, we indicated that each research administrator had been requested to provide us with the names of ten faculty of his university; five of whom he defined as "actively involved" with sponsored research and five who had previously been involved, but whom the research administrator did not now regard as "active."

To examine the degree to which there was congruence between the research administrator's definitions of faculty "active" or "non-active" in sponsored research and the faculty's self definitions of involvement, we asked each faculty respondent the following question: "Are you now actively engaged in sponsored research activities?"

Based upon the faculty's responses to the above question, we concluded that there is a considerable disparity between faculty and research administrators' definitions regarding whether a faculty member is "actively" involved in sponsored research activities. Where we would have expected by chance to find approximately fifty percent (forty-four out of eighty-eight) of the faculty respondents answering "No" to the preceding item, we found only slightly more than one quarter (twenty-seven percent) of these responses.

One may interpret this disparity as suggesting that our attempt to sample a broad section of those faculty comprising the significant audience for the university research administrator may not have been entirely successful. There are, however, a number of
alternative explanations for the above finding. First, there are obvious limitations built into our selection of the terms "active" and "involvement with sponsored research." While we attempted to specify our terms in our request to the sample of research administrators (see Appendix F) by limiting involvement to proposal submissions, we did not do so with the faculty audience. Furthermore, many faculty may define assisting graduate students in their research and/or working on yet unsubmitted research proposals as "active" involvement with sponsored research activities. Also, since all of the names submitted to us by the research administrators consisted of individuals who had been or were currently involved in proposal submission, there may be a bias resulting from those individuals' definitions of the faculty role. In other words, regardless of their actual involvement with sponsored research, their role definition may have influenced their perceptions of their own involvement with sponsored research activities.

Finally, our university research administrators, themselves, may have been either incorrect in their assessments of who were active and non-actively involved faculty members and/or they may have been too hasty in their selections of faculty according to our criteria, relying instead upon the first ten faculty names which came to mind.

Regardless of which reason or combination of reasons accounts
for our finding of a discrepancy in this area, it is our opinion that
the effects of this discrepancy upon the outcome of this investigation
will be negligible. Even if, for example, a research administrator
selected the first ten faculty names which came to mind, we would
still have achieved a significant audience for sources of role expecta-
tions for the position of research administrator. Furthermore,
while subsequent analysis of our data may bring to light contradic-
tory evidence, there appears at the present time to be only one
association between academic area and faculty perceptions of in-
volvement. Chemistry faculty all defined themselves as actively
involved with sponsored research. On the other hand, biology and
engineering faculty were not any different in their perceptions of
involvement than were members of the other academic areas.

The data in Table 3 indicate the office titles of our sample of
university administrators and their frequency of involvement with
the office of research administration. This latter information was
collected by asking each respondent in our university administra-
tion sample to answer the following item: (see item A, Appendix C)

**Frequency of interaction with the office of research activities**

a. I am very frequently involved with the office of research
activities.
b. I am frequently involved with the office of research activities.
c. I am occasionally involved with the office of research
activities.
d. I am only rarely involved with the office of research
activities.
<table>
<thead>
<tr>
<th>Title of Office*</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Occasionally involved</td>
</tr>
<tr>
<td>President</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>President</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>President</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>Vice President for Business &amp; Finance</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>Assistant Vice President for Finance</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>Vice President for Academic Affairs</td>
<td>Very frequently involved</td>
</tr>
<tr>
<td>Provost and Vice President for Academic Affairs</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>Assistant Vice President for Research Development</td>
<td>Very frequently involved</td>
</tr>
<tr>
<td>Vice President for University Development</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>Vice President and Provost</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>Vice Chancellor for Academic Affairs</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>Assistant Dean for Research &amp; Advanced Studies</td>
<td>Very frequently involved</td>
</tr>
<tr>
<td>Dean of the Graduate School</td>
<td>Frequently involved</td>
</tr>
<tr>
<td>Vice President for Academic Affairs</td>
<td>Very frequently involved</td>
</tr>
<tr>
<td>Vice President for Academic Affairs</td>
<td>Frequently involved</td>
</tr>
</tbody>
</table>

*Office titles are all those reported by respondents.

**Respondents represent nine institutions.

N = 16
e. I am never involved with the office of research activities.

The data in the above table indicate that all but one of our respondents in the university administrative audience were at least frequently involved with the office of research services at their institution. The frequency of the interaction plus the position of these respondents within the university hierarchy lead us to conclude that they did, in fact, constitute a significant audience for the university research administrator. While we did not attempt a systematic examination of the organizational structure of each of the institutions within our sample, the nature of the titles reported by our respondents strongly suggests that they represented positions above that of university research administrator in the majority of the cases.

As part of the questionnaire administered to our sample of university research administrators, we included several items designed to provide additional information about the characteristics of their offices. The general content of these questions was similar to that used by D'Agostino, et al., "Profile of a Research Administrator," however, exact comparisons between their study and the present

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D'Agostino, et al., op. cit., p. 13. (Broadly comparing our categories of office titles with those found by these authors, their findings were: .04% Research Administrator, .15% Director, .03% Coordinator, .24% Manager, .09% Administrative Officer, .013% Vice President, .10% Administrative (or Staff) Assistant, and .03% Grants and Contract Officer. They did not have the Vice Provost category.)
one may be unrealistic due to the substantial differences in size and purpose of both samples. (Their sample size was 221 and they did not restrict their population to university research administrators.)

The first question we asked concerned the title of the director of the office. (See item 4, Appendix A) These data are presented in Table 4.

As Table 4 indicates, the majority (almost eighty percent) of our respondents fall within three title categories; Vice President, Director and Coordinator. An interesting point is that the most selected office title, Vice President, indicates that many of our research administrators occupied positions located rather firmly within the upper university administrative hierarchy. By way of general comparison with the D'Agostino, et al., study, only about forty percent of their respondents fell within the same title category. Interestingly, less than one percent of their respondents had the title of Vice President.² Our other categories, Vice Provost and Grants and Contract Officer were each selected by one of respondents.

While the majority of our respondents fell within three office

¹Ibid.

²Ibid.
TABLE 4

TITLES OF THE DIRECTOR OF THE OFFICES OF RESEARCH ADMINISTRATION

<table>
<thead>
<tr>
<th>Title</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Administrator</td>
<td>0</td>
</tr>
<tr>
<td>Director</td>
<td>4</td>
</tr>
<tr>
<td>Coordinator</td>
<td>3</td>
</tr>
<tr>
<td>Manager</td>
<td>0</td>
</tr>
<tr>
<td>Administrative(or Business) Officer</td>
<td>0</td>
</tr>
<tr>
<td>Vice President</td>
<td>5</td>
</tr>
<tr>
<td>Administrative(or Staff) Assistant</td>
<td>0</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
</tr>
<tr>
<td>Vice Provost</td>
<td>1</td>
</tr>
<tr>
<td>Grants and Contract Officer</td>
<td>1</td>
</tr>
</tbody>
</table>

N = 14

title categories, there does not appear to be any association between the title of an office and the volume of research categories within which we initially classified our sample of universities. As may be noted in Table 5, the only departure from this feature was that the Vice President titles appeared in all of the "middle" categories.

Another characteristic which interested us was the length of time during which the offices for research administration had...
TABLE 5

TITLES OF OFFICES OF RESEARCH ADMINISTRATION BY UNIVERSITY VOLUME OF RESEARCH

<table>
<thead>
<tr>
<th>Category of Office Title</th>
<th>Category of Research Volume</th>
<th></th>
<th></th>
<th></th>
<th>N = 14</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower</td>
<td>Lower-Middle</td>
<td>Middle</td>
<td>Upper-Middle</td>
<td>Upper</td>
</tr>
<tr>
<td>Director</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Coordinator</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vice President</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Vice Provost</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Grants/Contract Officer</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

existed. As will be remembered from our discussions in Chapters I and II, we speculated that the presence and form of role conflict might be related to the length of time the position of university research administrator had been in existence within the institution.

We thought, for example, that the newer offices might experience more intense and more frequent role conflict as the definitions of the research administrative role were in the process of being formulated by the significant audiences interacting with the position. Furthermore, we speculated that the types of role expectations as well as the nature of the role conflicts might vary between newer vs. more established offices of research administration. (These lines of inquiry will be pursued in later analysis of

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the data which will not appear in the present research.)

Also discussed was the notion that the position of university research administrator was a relatively newly created and in some respects alien position within most institutions of higher learning. In Table 6 we present the duration of the offices in our sample.

TABLE 6
APPROXIMATE TIME WHEN OFFICES OF RESEARCH ADMINISTRATION WERE ESTABLISHED

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Number of Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to 1945</td>
<td>1</td>
</tr>
<tr>
<td>1945 - 1950</td>
<td>1</td>
</tr>
<tr>
<td>1951 - 1955</td>
<td>1</td>
</tr>
<tr>
<td>1956 - 1960</td>
<td>5</td>
</tr>
<tr>
<td>1961 - 1965</td>
<td>4</td>
</tr>
<tr>
<td>After 1965</td>
<td>2</td>
</tr>
</tbody>
</table>

N = 14

In the table below, we indicate the date of office establishment according to the category of university involvement with research.

As may be noted from the data presented in Table 7, the majority of the offices we sampled were fifteen years old or less (our data having been collected during 1970). More interesting, however, than the eleven out of fourteen schools which were a product of the
TABLE 7
APPROXIMATE TIME WHEN OFFICES OF RESEARCH ADMINISTRATION WERE ESTABLISHED BY CATEGORY OF INSTITUTIONAL INVOLVEMENT WITH RESEARCH

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Lower</th>
<th>Lower-Middle</th>
<th>Middle</th>
<th>Upper-Middle</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to 1945</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1945 - 1950</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1951 - 1955</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1956 - 1960</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1961 - 1965</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>After 1965</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

N = 14

post middle "fifties," was the apparent clustering of length of existence and volume of sponsored research involvement. The data in Table 7 indicate that with one exception both of our lower categories of research involvement have comparatively newly established offices of research administration. Beginning with our middle category, a trend appears depicting an increased length of existence combined with an increased volume of sponsored research involvement.

One can only speculate as to whether any association exists between length of existence of the office of research administration,
magnitude of involvement with sponsored research, and role conflict. However, the trend of office establishment and involvement with sponsored research suggests an area for future analysis of our data.

Another background characteristic of our sample of offices which interested us is the size of the office budget. One of our original intentions was to learn if any relationship was present between the size of the office budget and the output of proposals within an institution. Although the latter data are not available in usable form, the size of an office's budget may still be relevant to a variety of variables. Some of the areas of relevance will be discussed later. The data presented in Table 8 indicate the number of offices sampled according to the size of their operating budgets.

The data presented in Table 8 reveal that the bulk of the offices we sampled (twelve out of thirteen reporting) had annual budgets falling within the broad range of between ten thousand and one hundred and fifty thousand dollars. To put this information into perspective, Table 8 depicts the annual office budgets according to category of institutional involvement with sponsored research.

The data in Table 8, while presenting no one to one relationship, do support the 'common-sense' speculation that the greater an institution's involvement with sponsored research, the larger, in most instances, will be the operating budget of its office of research.
TABLE 8

APPROXIMATE ANNUAL OPERATING BUDGET FOR OFFICES
SAMPLED DURING 1969-70

<table>
<thead>
<tr>
<th>Size of Budget</th>
<th>Number of Institutions*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than $10,000</td>
<td>1</td>
</tr>
<tr>
<td>Between $10,000 and $50,000</td>
<td>5</td>
</tr>
<tr>
<td>Between $50,000 and $100,000</td>
<td>2</td>
</tr>
<tr>
<td>Between $100,000 and $150,000</td>
<td>4</td>
</tr>
<tr>
<td>Between $150,000 and $200,000</td>
<td>0</td>
</tr>
<tr>
<td>More than $250,000</td>
<td>1</td>
</tr>
</tbody>
</table>

* One institution did not report this information.
N = 14

services.

The last background characteristic of our offices or research services is the size of the staff. Shown in Table 9 are the staff sizes at the institutions we sampled. Our figures for this measure are the summaries from item 9, Appendix A.

As indicated in Table 9 there is a wide range in the distribution of offices by size of staff category. Table 10 compares the size of the staff with our classification of institutional involvement with sponsored research. The data, while not conclusive, do indicate that one is more likely, according to our sample, to find larger staffs in research service offices within universities having...
larger volumes of sponsored research.

TABLE 9

STAFF SIZES AT OFFICES OF RESEARCH SERVICES*

<table>
<thead>
<tr>
<th>Size of Staff</th>
<th>Number of Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 or less</td>
<td>1</td>
</tr>
<tr>
<td>3 - 4</td>
<td>3</td>
</tr>
<tr>
<td>5 - 6</td>
<td>2</td>
</tr>
<tr>
<td>7 - 8</td>
<td>2</td>
</tr>
<tr>
<td>9 - 10</td>
<td>2</td>
</tr>
<tr>
<td>11 - 12</td>
<td>2</td>
</tr>
<tr>
<td>13 - 14</td>
<td>0</td>
</tr>
<tr>
<td>15 and above</td>
<td>2</td>
</tr>
</tbody>
</table>

*Our description of staff was: (see item 9, Appendix A)
  Director
  Associate Director
  Assistant Director
  Administrative Assistant
  Secretaries
  Bookkeepers and Clerks
  Trainees
  Accountants
  Others

N = 14
<table>
<thead>
<tr>
<th>Size of Staff</th>
<th>Lower</th>
<th>Lower-Middle</th>
<th>Middle</th>
<th>Upper-Middle</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 or less</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3 - 4</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5 - 6</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7 - 8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9 - 10</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>11 - 12</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>13 - 14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15 and above</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

N = 14
Role Inventory

Early in Chapter I, we set forth a number of questions which this investigation would address itself to. One of those questions, it will be recalled, was:

How is the role of the university research administrator defined by the significant audiences who interact with the role incumbent within the social structure of the university?

In order to answer this question, we devised a role inventory instrument and administered it to each of our three audiences. As discussed earlier, this instrument asked each respondent in our three audiences to respond to thirty possible role expectations for the role of university research administrator. For example, the faculty audience was asked to indicate whether research administrators should provide editorial services for faculty research proposals. Their responses could range from "definitely should not do" (1) to "definitely should do" (7) on a seven point Likert-type scale. (See Appendix, items 1 - 30)

Recalling our discussion in Chapter III, we were originally faced with the problem of determining what degree of consensus was necessary for any given item to be included in the research administrative role as viewed by each of our three audiences. One solution to this question has been offered by Robin who, following

Newcomb, suggests that we "define consensus to be agreement on those items about which the lower confidence limits around the proportion of a given response is fifty percent or at least the .05 confidence level." As noted earlier, our procedures for testing the items involved programing a PDP-10 computer to compare the means of all responses to each item on the basis of all contiguous choices on our seven point Likert-type scale.

That procedure resulted in our obtaining a category which indicated which response depicted consensus of at least one half of any audience in ninety-five out of every one hundred cases. It is only those items meeting the fifty percent consensus limit which we have elected to include in the role definition by an audience for the role of university research administrator. It is important to note, moreover, that this procedure results in a very conservative indication of audience role definitions. This is particularly cogent for instances wherein one finds conflicting role expectations across the three audiences, as it means that at least half of the members within an audience have specified the expectation as a behavior the research administrator either should or should not do.

The distribution of the proportions of faculty, research admin-
I l l

istrators, and university administrators' responses to the thirty role expectations are presented in Tables 11, 12 and 13 respectively.

Table 11 describes the confidence limits about the consensuality of the faculty's responses to the thirty role expectation items. It may be observed in this table that fourteen out of the thirty role expectations received less than our stipulated fifty percent consensus and therefore are not included in our interpretation of the faculty's definition of the role of the university research administrator.

Table 12 shows the confidence limits about the consensuality of the research administrators' responses to our thirty role expectations. Again, by noting the number of asterisks, we find that sixteen of the role expectations with enough audience consensus to be included in our interpretation of the research administrators' definition of the role of university research administrator. This finding is noteworthy in that it demonstrates that even the incumbents of the research administrative position could agree as an audience with only slightly more than half of the role expectations for their position. It should also be remembered that our response categories provide choices for an audience to stipulate that an expectation should not be a part of the role. The lack of consensus we are describing pertains to lack of agreement to both inclusion and
TABLE 11

CONSENSUALITY OF THE FACULTY RESPONSES TO THE ROLE INVENTORY INSTRUMENT

<table>
<thead>
<tr>
<th>Item</th>
<th>Response**</th>
<th>Confidence Limits*</th>
<th>Not Included in Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6,7</td>
<td>.34 - .55</td>
<td>*</td>
</tr>
<tr>
<td>2</td>
<td>6,7</td>
<td>.86 - .98</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6,7</td>
<td>.58 - .78</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6,7</td>
<td>.63 - .82</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6,7</td>
<td>.47 - .68</td>
<td>*</td>
</tr>
<tr>
<td>6</td>
<td>6,7</td>
<td>.58 - .77</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>6,7</td>
<td>.65 - .84</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>6,7</td>
<td>.50 - .72</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6,7</td>
<td>.71 - .88</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>6,7</td>
<td>.31 - .52</td>
<td>*</td>
</tr>
<tr>
<td>11</td>
<td>4,5</td>
<td>.27 - .49</td>
<td>*</td>
</tr>
<tr>
<td>12</td>
<td>6,7</td>
<td>.33 - .55</td>
<td>*</td>
</tr>
<tr>
<td>13</td>
<td>6,7</td>
<td>.49 - .70</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>6,7</td>
<td>.79 - .93</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>1,2</td>
<td>.28 - .49</td>
<td>*</td>
</tr>
<tr>
<td>16</td>
<td>6,7</td>
<td>.45 - .66</td>
<td>*</td>
</tr>
<tr>
<td>17</td>
<td>6,7</td>
<td>.35 - .57</td>
<td>*</td>
</tr>
<tr>
<td>18</td>
<td>6,7</td>
<td>.50 - .71</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>6,7</td>
<td>.63 - .82</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>4,5</td>
<td>.49 - .70</td>
<td>*</td>
</tr>
<tr>
<td>21</td>
<td>6,7</td>
<td>.54 - .74</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>6,7</td>
<td>.57 - .77</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>6,7</td>
<td>.61 - .81</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>6,7</td>
<td>.49 - .70</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>4,5</td>
<td>.30 - .51</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>6,7</td>
<td>.56 - .76</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>6,7</td>
<td>.58 - .78</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>6,7</td>
<td>.32 - .53</td>
<td>*</td>
</tr>
<tr>
<td>29</td>
<td>6,7</td>
<td>.52 - .73</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>6,7</td>
<td>.35 - .57</td>
<td>*</td>
</tr>
</tbody>
</table>

*All confidence limits at .05. N = 88

**The response choices for Tables 11, 12 and 13 were:

(1) Definitely should not do
(2) Should not do
(3) Probably should not do
(4) May or may not do
(5) Probably should do
(6) Should do
(7) Definitely should do

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### TABLE 12

**CONSENSUALITY OF THE RESEARCH ADMINISTRATOR RESPONSES TO ROLE INVENTORY INSTRUMENT**

<table>
<thead>
<tr>
<th>Item</th>
<th>Response**</th>
<th>Confidence Limits*</th>
<th>Not Included in Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1, 2, 6, 7</td>
<td>.17 - .69</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6, 7</td>
<td>.39 - .89</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6, 7</td>
<td>.48 - .95</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6, 7</td>
<td>.67 - 1.04</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>6, 7</td>
<td>.12 - .65</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6, 7</td>
<td>.57 - 1.00</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>6, 7</td>
<td>.67 - 1.04</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>6, 7</td>
<td>.30 - .86</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>6, 7</td>
<td>.67 - 1.04</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1, 2, 6, 7</td>
<td>.17 - .69</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>1, 2</td>
<td>.19 - .73</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>6, 7</td>
<td>.57 - 1.00</td>
<td></td>
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<td>13</td>
<td>6, 7</td>
<td>.79 - 1.06</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>6, 7</td>
<td>.67 - 1.04</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>6, 7</td>
<td>.17 - .69</td>
<td></td>
</tr>
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<td>16</td>
<td>6, 7</td>
<td>.57 - 1.00</td>
<td></td>
</tr>
<tr>
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<td>6, 7</td>
<td>.24 - .76</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>6, 7</td>
<td>.67 - 1.04</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>6, 7</td>
<td>.79 - 1.06</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>4, 5</td>
<td>.24 - .76</td>
<td></td>
</tr>
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<td>21</td>
<td>6, 7</td>
<td>.57 - 1.00</td>
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<td>22</td>
<td>6, 7</td>
<td>.79 - 1.06</td>
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<td>6, 7</td>
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</tr>
<tr>
<td>30</td>
<td>6, 7</td>
<td>.24 - .76</td>
<td></td>
</tr>
</tbody>
</table>

*All confidence limits at .05 level.

**See Table 11

N = 14

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exclusion of a role expectation. Therefore, the sixteen items not receiving consensus by the research administrative audience are indicative of an unclearly defined role, rather than merely sixteen items which this audience feels are not part of the role.

Table 13 presents the confidence limits about the consensus of university administration responses to the thirty role expectations. As with the degree of consensus exhibited by our other two audiences, the asterisks in Table 11 indicate that the university administrators were not in agreement over fourteen of the role expectations.

In Table 14 we have presented a composite picture of the confidence limits about the comparison of responses by all three of our audiences. As the table indicates, there are only six items common to all three audiences in which no consensus (fifty percent) could be achieved. Thus, while each audience had no consensus regarding roughly one-half of the items, only one-fifth of the items having no consensus were common to all three groups. Our interpretation of this finding is that at least eighty percent of the items we included in the role inventory instrument were of general relevance to the role of university research administrator.

We have chosen to divide the remainder of our discussion of the findings of the role inventory instrument into three sections:


**TABLE 13**

CONSENSUALITY OF UNIVERSITY ADMINISTRATION RESPONSES TO THE ROLE INVENTORY INSTRUMENT

<table>
<thead>
<tr>
<th>Item</th>
<th>Response**</th>
<th>Confidence Limits*</th>
<th>Not Included in Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6, 7</td>
<td>.31 - .83</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>6, 7</td>
<td>.81 - 1.06</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>6, 7</td>
<td>.51 - .96</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6, 7</td>
<td>.69 - 1.04</td>
<td></td>
</tr>
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<td>6, 7</td>
<td>.15 - .65</td>
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<td>6, 7</td>
<td>.28 - .79</td>
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<td>.43 - .91</td>
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<td>.81 - 1.06</td>
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<td></td>
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<tr>
<td>16</td>
<td>6, 7</td>
<td>.60 - 1.00</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>6, 7</td>
<td>.28 - .79</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>6, 7</td>
<td>.35 - .85</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>6, 7</td>
<td>.60 - 1.00</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>6, 7</td>
<td>.60 - 1.00</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>6, 7</td>
<td>.51 - .96</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>6, 7</td>
<td>.69 - 1.04</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>6, 7</td>
<td>.81 - 1.06</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>6, 7</td>
<td>.51 - .96</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>6, 7</td>
<td>.28 - .79</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>6, 7</td>
<td>.28 - .79</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>6, 7</td>
<td>.60 - 1.00</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>6, 7</td>
<td>.28 - .79</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>6, 7</td>
<td>.35 - .88</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>4, 5</td>
<td>.27 - .81</td>
<td></td>
</tr>
</tbody>
</table>

*All confidence limits at .05 level.

**See table 11.

N = 16

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TABLE 14
A COMPARISON OF RESPONSES TO THE ROLE INVENTORY INSTRUMENT BY ALL THREE AUDIENCES

<table>
<thead>
<tr>
<th>Item</th>
<th>Faculty Confidence Limits</th>
<th>Research Administrators Confidence Limits</th>
<th>University Administration Confidence Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6, 7 .34-.55 *</td>
<td>1, 2, 6, 7 .17-.69 *</td>
<td>6, 7 .31-.83 *</td>
</tr>
<tr>
<td>2</td>
<td>6, 7 .86-.98</td>
<td>6, 7 .39-.89 *</td>
<td>6, 7 .81-.106</td>
</tr>
<tr>
<td>3</td>
<td>6, 7 .58-.78</td>
<td>6, 7 .48-.95 *</td>
<td>6, 7 .51-.96</td>
</tr>
<tr>
<td>4</td>
<td>6, 7 .63-.82</td>
<td>6, 7 .67-.04 *</td>
<td>6, 7 .69-.04</td>
</tr>
<tr>
<td>5</td>
<td>6, 7 .47-.68</td>
<td>6, 7 .12-.65 *</td>
<td>6, 7 .15-.65</td>
</tr>
<tr>
<td>6</td>
<td>6, 7 .58-.77</td>
<td>6, 7 .57-.00 *</td>
<td>6, 7 .28-.79</td>
</tr>
<tr>
<td>7</td>
<td>6, 7 .65-.84</td>
<td>6, 7 .67-.04 *</td>
<td>6, 7 .43-.91</td>
</tr>
<tr>
<td>8</td>
<td>6, 7 .50-.72</td>
<td>6, 7 .30-.86 *</td>
<td>4, 5 .15-.65</td>
</tr>
<tr>
<td>9</td>
<td>6, 7 .71-.88</td>
<td>6, 7 .67-.04 *</td>
<td>6, 7 .54-.100</td>
</tr>
<tr>
<td>10</td>
<td>6, 7 .31-.52</td>
<td>1, 2, 6, 7 .17-.69 *</td>
<td>6, 7 .21-.72</td>
</tr>
<tr>
<td>11</td>
<td>4, 5 .27-.49 *</td>
<td>1, 2 .19-.73 *</td>
<td>1, 2 .25-.84</td>
</tr>
<tr>
<td>12</td>
<td>6, 7 .33-.55 *</td>
<td>6, 7 .57-.00 *</td>
<td>6, 7 .51-.96</td>
</tr>
<tr>
<td>13</td>
<td>6, 7 .49-.70 *</td>
<td>6, 7 .79-.06 *</td>
<td>6, 7 .60-.00</td>
</tr>
<tr>
<td>14</td>
<td>6, 7 .79-.93</td>
<td>6, 7 .67-.04 *</td>
<td>6, 7 .81-.06</td>
</tr>
<tr>
<td>15</td>
<td>1, 2 .28-.49</td>
<td>6, 7 .17-.69 *</td>
<td>4, 5 .17-.69</td>
</tr>
<tr>
<td>16</td>
<td>6, 7 .45-.66</td>
<td>6, 7 .57-.00 *</td>
<td>6, 7 .60-.00</td>
</tr>
<tr>
<td>17</td>
<td>6, 7 .35-.57</td>
<td>6, 7 .24-.76 *</td>
<td>6, 7 .28-.79</td>
</tr>
<tr>
<td>18</td>
<td>6, 7 .50-.71</td>
<td>6, 7 .67-.04 *</td>
<td>6, 7 .35-.85</td>
</tr>
<tr>
<td>19</td>
<td>6, 7 .63-.82</td>
<td>6, 7 .79-.06 *</td>
<td>6, 7 .60-.00</td>
</tr>
<tr>
<td>20</td>
<td>4, 5 .49-.70 *</td>
<td>4, 5 .24-.76 *</td>
<td>6, 7 .60-.00</td>
</tr>
<tr>
<td>21</td>
<td>6, 7 .54-.74</td>
<td>6, 7 .57-.00 *</td>
<td>6, 7 .51-.96</td>
</tr>
<tr>
<td>22</td>
<td>6, 7 .57-.77</td>
<td>6, 7 .79-.06 *</td>
<td>6, 7 .69-.04</td>
</tr>
<tr>
<td>23</td>
<td>6, 7 .61-.81</td>
<td>6, 7 .79-.06 *</td>
<td>6, 7 .81-.06</td>
</tr>
<tr>
<td>24</td>
<td>6, 7 .49-.70 *</td>
<td>6, 7 .67-.04 *</td>
<td>6, 7 .51-.96</td>
</tr>
<tr>
<td>25</td>
<td>4, 5 .30-.51 *</td>
<td>6, 7 .24-.76 *</td>
<td>6, 7 .28-.79</td>
</tr>
<tr>
<td>26</td>
<td>6, 7 .56-.76</td>
<td>6, 7 .48-.95 *</td>
<td>6, 7 .28-.79</td>
</tr>
<tr>
<td>27</td>
<td>6, 7 .58-.78</td>
<td>6, 7 .31-.83 *</td>
<td>6, 7 .60-.00</td>
</tr>
<tr>
<td>28</td>
<td>6, 7 .32-.53 *</td>
<td>6, 7 .39-.89 *</td>
<td>6, 7 .29-.79</td>
</tr>
<tr>
<td>29</td>
<td>6, 7 .52-.73</td>
<td>6, 7 .24-.76 *</td>
<td>6, 7 .35-.88</td>
</tr>
<tr>
<td>30</td>
<td>6, 7 .35-.57 *</td>
<td>6, 7 .24-.76 *</td>
<td>4, 5 .27-.81</td>
</tr>
</tbody>
</table>

*Items not included in an audience's definition of the role.
1Number of Faculty Audience: 88
2Number of Research Administrative Audience: 14
3Number of University Administration Audience: 16

All confidence limits at .05 level.
1. Common Expectations Across Three Audiences

2. Distinctive Expectations Between Any Two Audiences
   a. Research Administrators and Faculty Members
   b. Research Administrators and University Administration
   c. University Administration and Faculty Members

3. Distinctive Expectations By Any One Audience
   a. Research Administrators
   b. Faculty Members
   c. University Administration

1. Common Expectations

By common expectations, we are referring to the total set of role expectations which most generally represent our three audiences' definitions regarding what any research administrator "ought to do." As Table 15 indicates, there were seven items from the thirty presented in the role inventory instrument which our three audiences would incorporate into a general research administrative role.

Strongest consensus was achieved in the area of information-dissemination, i.e., "Brief faculty members about potential sponsorship outside of their university." More than seventy-five selected the "should do" to "definitely should do" response for this item, indicating that informing faculty members with sponsor information can be regarded as a significant input for any institution's volume of research. Certainly, it is necessary for any institution's faculty to possess the interest and capabilities for conducting research. How-
ever, it may often be the case that a research administrator's suggestions of available monies and/or new, or previously non-researching, faculty's involvement with the research process.

Substantial support, seventy-three percent, was given to "recommend and/or adopt administrative procedures designed to meet both university and sponsor requirements." Clearly our three audiences were not of the opinion that any function as important to the university as sponsored research could be left unregulated or uncoordinated. Such procedures as periodic progress reports from faculty researcher to sponsor, assurance that actual costs to the university are met, and that the research is completed as stipulated are but a few examples of areas where administrative coordination may be required.

Somewhat less consensus, although still a definite two-thirds of those sampled, was present for the next three expectations in Table 15. These three role expectations all represent behaviors associated with the early stages of sponsored research. The university administration, faculty, and research administrators themselves all expected the role to include providing services for three facets of securing research (sponsor selection, proposal preparation, and follow-up information on proposals), and for assisting the faculty by providing expertise in contract and grant negotiations.
### TABLE 15

**RANK ORDER OF RESPONSES OF COMMON ROLE EXPECTATIONS OF TOTAL RESPONSES OF THREE AUDIENCES COMBINED FOR ITEMS TO BE INCLUDED IN THE RESEARCH ADMINISTRATIVE ROLE**

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Percent Total*</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief faculty members on potential sponsorship outside of their university</td>
<td>76%</td>
<td>Should to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>definitely</td>
</tr>
<tr>
<td></td>
<td></td>
<td>should do</td>
</tr>
<tr>
<td>Recommend and/or adopt administrative procedures designed to meet both</td>
<td>73%</td>
<td>Should to</td>
</tr>
<tr>
<td>university and sponsor requirements</td>
<td></td>
<td>definitely</td>
</tr>
<tr>
<td></td>
<td></td>
<td>should do</td>
</tr>
<tr>
<td>Provide faculty members with assistance in the preparation of proposals</td>
<td>68%</td>
<td>Should to</td>
</tr>
<tr>
<td>and in the selection of the most appropriate sponsors</td>
<td></td>
<td>definitely</td>
</tr>
<tr>
<td></td>
<td></td>
<td>should do</td>
</tr>
<tr>
<td>Assist in the negotiating of grants and/or contract terms in the best</td>
<td>67%</td>
<td>Should to</td>
</tr>
<tr>
<td>interests of both the faculty and the university</td>
<td></td>
<td>definitely</td>
</tr>
<tr>
<td></td>
<td></td>
<td>should do</td>
</tr>
<tr>
<td>Provide follow-up services for determining the current status of pending</td>
<td>66%</td>
<td>Should to</td>
</tr>
<tr>
<td>proposals</td>
<td></td>
<td>definitely</td>
</tr>
<tr>
<td></td>
<td></td>
<td>should do</td>
</tr>
<tr>
<td>Review and report on the current status of state and federal legislation</td>
<td>64%</td>
<td>Should to</td>
</tr>
<tr>
<td>relevant to sponsored research</td>
<td></td>
<td>definitely</td>
</tr>
<tr>
<td></td>
<td></td>
<td>should do</td>
</tr>
<tr>
<td>Take the responsibility for getting the signatures which comprise the</td>
<td>54%</td>
<td>Should to</td>
</tr>
<tr>
<td>formal agreement of the university to both researcher and sponsor</td>
<td></td>
<td>definitely</td>
</tr>
<tr>
<td></td>
<td></td>
<td>should do</td>
</tr>
</tbody>
</table>

*Percent totals based upon confidence limits at .05 level.
The numbers within the three audiences are: Faculty = 88; Research Administrators = 14; University Administration = 16.
Sixty-four percent of our three audiences felt that the research administrative role "should" to "definitely should" review and report on the current status of state and federal legislation relevant to sponsored research. This role expectation may be considered as one aspect of the general expectation of keeping faculty members informed relative to the development of fundable research proposals.

Only about half, fifty-four percent, of our respondents felt that a research administrator should "take the responsibility for getting the signatures which comprise the formal agreement of the university to both researcher and sponsor." Whether one views this expectation as falling within the realm of proposal assistance and/or of grant and contract negotiation, it does represent a very specific type of behavior. Perhaps our lower audience consensus on this item reflects the realities of a growing bureaucratization of our modern universities. Procuring "official" signatures may be simply considered as something which routinely occurs within the system channels and does not constitute one position's specific role.

Data we have presented in Table 15 reveal considerable agreement across our three audiences on most of these seven role expectations. It was not surprising, however, that the highest consensus was achieved regarding the two most general items: informing the faculty about potential sponsors and insuring that the requirements of all parties to the research are fulfilled. Neither expectation
provided details on particular behaviors necessary to accomplish these tasks. In fact, we find that as the behaviors required become more specific, somewhat less consensus is present.

2. Distinctive Role Expectations Between Any Two Audiences

a. Research Administrators and Faculty. Three of the remaining twenty-three items of the Role Inventory Instrument were expectations both the research administrators and faculty would include in the role. (See Table 16)

The first of these, "Make personal contacts with faculty members regarding potential sponsorship for their research interests," was supported by two-thirds of both audiences. This role expectation defines a specific behavior for implementing the general information-dissemination expectation which was held by all three audiences. Personal contacts between the research administrator and the faculty may provide, in addition to information, the opportunity for the research administrator to encourage faculty participation with sponsored research. Cyuro's (1969) conclusions, in a study of the effectiveness of research stimulation in a university setting, lends support to this latter speculation. One major conclusion of his study was that personal interaction between the research administrator and the faculty member constituted the most significant factor related to research productivity. (See Table 16)

Fifty-nine percent of both audiences felt the research admin-
TABLE 16

RANK ORDER OF RESPONSES OF DISTINCTIVE ROLE EXPECTATIONS BETWEEN RESEARCH ADMINISTRATORS AND FACULTY MEMBERS*

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Percent Total**</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make personal contacts with faculty members regarding potential sponsorship for their research interests</td>
<td>66%</td>
<td>Should to definitely should do</td>
</tr>
<tr>
<td>Engage in policy-making decisions about the nature and conduct of sponsored research activities</td>
<td>59%</td>
<td>Should to Definitely should do</td>
</tr>
<tr>
<td>Publish procedural and/or policy manuals for sponsored research activities</td>
<td>58%</td>
<td>Should to definitely should do</td>
</tr>
</tbody>
</table>

*Faculty, N = 88; Research Administrator, N = 16

**All percent totals based upon confidence limits at .05 level.

...
ity, did not incorporate the expectation into the research administrative role, thus increasing the possibility of conflict.

Fifty-eight percent of these audiences thought the research administrative role should include publishing "procedural and/or policy manuals for sponsored research activities." This is consistent with the general role expectation of providing some measure of coordination for the research process.

b. Research Administrators and University Administration.

Highest consensus, seventy percent, of these two audiences expected the research administrator to "recommend the salary schedules for the staff members of the Office of Research Services." While this may be viewed as policy-making, it is so only in the most limited sense. Only approximately one-half of these audiences supported the rather detailed role behavior related to policy-making: "serve as a voting member on research policies' councils, committees, etc." Thus, as consistent with the majority of our findings, a substantial percent of these audiences do not support policy-making expectations for this role. (Refer to Table 17)

Almost sixty percent of these audiences responded "should" to "definitely should do" on the specific administrative item, "handle patent matters involving sponsored research activities" and the information item, "encourage members of the faculty in pursuing research activities consistent with both their own inter-
### TABLE 17
RANK ORDER OF RESPONSES OF DISTINCTIVE ROLE EXPECTATIONS BETWEEN RESEARCH ADMINISTRATORS AND UNIVERSITY ADMINISTRATION*

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Percent</th>
<th>Total Response</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommend the salary schedules for the staff members of the Office of Research Services</td>
<td>70%</td>
<td></td>
<td>Should to definitely should do</td>
</tr>
<tr>
<td>Handle patent matters involving sponsored research activities</td>
<td>59%</td>
<td></td>
<td>Should to definitely should do</td>
</tr>
<tr>
<td>Encourage members of the faculty in pursuing research activities consistent with both their own interests and the goals of the university</td>
<td>60%</td>
<td></td>
<td>Should to definitely should do</td>
</tr>
<tr>
<td>Serve as a voting member on research policies councils, committees, etc.</td>
<td>54%</td>
<td></td>
<td>Should to definitely should do</td>
</tr>
</tbody>
</table>

*Research Administrators: N = 14; University Administration = 16

ests and the goals of the university."

c. Faculty and University Administrators. Highest consensus for any item in our Role Inventory Instrument, eighty-four percent, was achieved for "brief faculty members about internal funding agencies and/or facilities within their own university."

Fifty-nine percent of both audiences expected the research administrator should involve "members of the faculty in visits with both federal and non-federal potential sponsors." Significantly, about
half, fifty-five percent, of the university administrative and faculty audiences expected the research administrator to "conduct, contact and grant agreements on behalf of the university." (Refer to Table 18)

**TABLE 18**

**RANK ORDER OF RESPONSES FOR DISTINCTIVE ROLE EXPECTATIONS BETWEEN FACULTY AND UNIVERSITY ADMINISTRATORS***

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Percent</th>
<th>Total Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief faculty members about internal funding agencies and/or facilities within their own university</td>
<td>84%</td>
<td>Should to definitely should do</td>
</tr>
<tr>
<td>Involving members of the faculty in visits with both federal and non-federal potential sponsors</td>
<td>59%</td>
<td>Should to definitely should do</td>
</tr>
<tr>
<td>Conduct contract and grant agreements on behalf of the university</td>
<td>55%</td>
<td>Should to definitely should do</td>
</tr>
</tbody>
</table>

*Faculty: N = 88; University Administration: N = 16

3. Distinctive Role Expectations by Any One Audience

a. Research Administrators. There were no role expectations presented in our inventory which the research administrators alone would have included in the role. Perhaps this is the most significant of the preliminary findings. For example, it suggests that the research administrators themselves are not in agreement with their own role expectations. This finding may be interpreted...
in a number of ways. It may be that due to their institional location, they have not found a method of resolving the contradictory role expectations surrounding them. For example, if they define the role of research administrator as residing within the upper administrative positions, yet find it expedient to occasionally engage in role behaviors befitting a position defined as residing within the lower sector of university positions (closer to those of faculty) it may be impossible for them to arrive at a "typical" role, located in either one or the other of the surrounding sectors. In other words, they cannot be part of the upper administrative position sector and part of the lower position sector at the same time, hence the conflict cannot be resolved.

On the other hand, one might speculate that they might do well to be attuned to the faculty and university expectations since there is at least some consensus of expectations and perceptions from those audiences.

There are three role expectations distinctive to the faculty audience. (Refer to Table 19) Consensus on the three items indicate that only approximately half of the faculty would include these expectations in the role. Research administrators should "serve as a liaison between the faculty and the administration of the university concerning matters pertinent to the research process;" "discuss potential sponsors during faculty and/or departmental
TABLE 19

RANK ORDER OF RESPONSES FOR DISTINCTIVE ROLE EXPECTATIONS BY THE FACULTY

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Percent Total</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serve as a liaison between the faculty and the administration of the university concerning matters pertinent to the research process</td>
<td>56%</td>
<td>Should to Definitely should do</td>
</tr>
<tr>
<td>Discuss potential sponsors during faculty meetings and/or departmental meetings</td>
<td>52%</td>
<td>Should to Definitely should do</td>
</tr>
<tr>
<td>Compute the indirect cost rates for faculty proposals</td>
<td>50%</td>
<td>Should to Definitely should do</td>
</tr>
</tbody>
</table>

meetings," and "compute the indirect cost rates for faculty proposals." The specific nature of each behavioral expectation combined with the low consensus within the one audience suggest the likelihood of conflict not only within the faculty audience, but also among the other audiences which did not achieve even this low consensus.

c. University Administration. There was only one distinctive role expectation which was unique to the university administrative audience. In their definition of the research administrative role, sixty percent of this audience thought the incumbent should "accompany researchers on pre-submission of proposal contacts with sponsors." (Refer to Table 20)
TABLE 20

RANK ORDER OF RESPONSES FOR DISTINCTIVE ROLE EXPECTATIONS BY UNIVERSITY ADMINISTRATORS

<table>
<thead>
<tr>
<th>Expectation</th>
<th>Percent</th>
<th>Total</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accompany researchers on pre-submission of proposal contracts with sponsors</td>
<td>60%</td>
<td></td>
<td>Should to definitely Should do</td>
</tr>
</tbody>
</table>

During the preceding discussion, we have been analyzing areas of consensus and conflict across our three audience's definitions of the university research administrative role. At this juncture, we would like to, in a sense, "place the pieces of the puzzle together" and present a composite picture of the role of university research administrator.

In general, our three audiences defined the research administrative role as one designed to facilitate faculty research while at the same time providing some measure of organizational management for the entire research process within the university.

All three of our audiences defined the research administrative role as including some provision for assisting the faculty with developing research proposals and aiding them in the selection of the most appropriate sponsors. They viewed the role as including follow-up services for determining the current status of pending proposals; however, did not expect the research administrator to
provide editorial or typing services for faculty research proposals.

The research administrators did not agree with the university administrators and the faculty's expectation that they conduct contract and grant agreements in behalf of their university. All three audiences did, however, define the role as including the responsibility for getting the signatures which comprise the formal agreement of the university to both the researcher and the sponsor. Furthermore, the three audiences expected the research administrator to assist in the negotiating of grants and/or contracts in the best interests of both the faculty and the university.

The research administrators of the university did not agree with the university administrators and the faculty's definition of the role as one including briefing the faculty about internal funding agencies and/or facilities within their own university; although all three audiences expected the role to include briefing faculty about potential sponsorship outside of their university. None of our respondents expected the research administrator to engage in accounting procedures for university research activities or to directly handle patent matters involving sponsored research activities. The faculty were not in agreement with the other two audiences in their requirement that the research administrator compute the indirect cost rates for faculty proposals.

While all of the respondents expected the role to include recom-
mending and/or adopting administrative procedures designed to meet both university and sponsor requirements, the university administration did not agree with the faculty and the research administration that the role included engaging in university policy-making decisions about the nature and conduct of sponsored research activities. The faculty, however, were alone in their rejection of the research administrator sitting on research policy committees and councils as voting members.

All of our audiences expected the research administrator to review and report on the current status of state and federal legislation relevant to sponsored research. Only faculty members expected the research administrator to discuss potential sponsors during faculty meetings, although the research administrators and the faculty agreed that the role included making personal visits to faculty members to discuss potential sponsorship for faculty research interests.

In the area of decision-making and sponsored research management, none of our three audiences defined the role as one including working with department chairmen and the university administration towards securing release time and sabbaticals for faculty engaged in sponsored research activities. All three audiences were also in agreement that the role does not include engaging in policy-making decisions regarding the awarding of university monies available for internal grants and fellowships among departments. The faculty
were alone in their expectation that the research administrator serve as a liaison between the faculty and the administration of the university concerning matters pertinent to sponsored research. None of our respondents expected the role to encompass helping department heads to devise rationales for increasing the sizes of their staffs.

Our respondents were all in agreement that the research administrator should not prepare budget estimates of forecasted income and expenses for sponsored research or engage in surveillance of performance of sponsored research activities to insure that faculty researchers meet the requirements of sponsors. Interestingly, the faculty audience did not agree with university administrators and the research administrators regarding the latter encouraging members of the faculty in pursuing research activities consistent with both faculty goals and the goals of the university.

While the faculty and the university administrators agreed that the research administrator should involve members of the faculty in visits with both federal and non-federal potentials, only the university administration expected the research administrator to accompany the faculty on pre-submission of proposal contacts with sponsors.

Finally, the research administrators and the faculty agreed that the former should publish procedural and/or policy manuals.
related to the conduct of research within the university and the re-
search administrators and the university administration agreed that
the research administrator should recommend the salary schedules
for the staff members of his office.

In general, one can easily note that the major areas of consist-
tent role definition agreement are achieved in the areas of inform-
ing the faculty about potential sponsors and in providing them with
general assistance in the preparation of their research proposals.
Most of the expectations not included in the role were those which
specifically indicated the behavior necessary to implement the above
two general role expectations. It is important to bear in mind that
expectations we have discussed as not in the role were ones which
one or more audiences did not achieve fifty percent or more con-
sensus. Thus, to be semantically precise, these expectations
should be regarded as ones in which consensus was not achieved
rather than expectations which were prohibited by one or more of
our significant audiences.

Testing the Hypotheses

The five hypotheses in this section are tested in the order in
which they appeared in Chapter III.

HYPOTHESIS I: The greater the discrepancy between ideal
faculty and actual departmental norms about research, the
lower will be the faculty's estimations of congruency between their role expectations and those of the research administrator for the latter's role.

As discussed in Chapter III, this hypothesis was to be treated by the Spearman Rank Correlation Coefficient and the Guttman Coefficient of Predictability. These statistics were used to measure the association between an individual's score on the Index of Discrepancy and his response to an item assessing faculty estimations of the congruency between role expectations by two audiences (r_s) as well as the frequency with which we could expect a particular rank order relationship to occur within that population (\( \cdot \)).

The analysis of the data revealed the (r_s) correlation of -.67, indicating a strong association in the predicted direction between the score by a faculty on the Index of Discrepancy and the faculty estimations of the congruency between their role expectations for the research administrative position and those of the position's incumbent. The relationship measured was found to be statistically significant at the .05 level.

The estimate of the frequency with which the (r_s = -.67) association between the two variables was likely to occur was .15. In other words, while the Spearman Rank Correlation Coefficient of -.67 indicated that we could expect to find higher ideal-actual
research norms to be associated with lower estimations of role con-
gruency roughly forty-five percent of the time in ninety-five out of
one hundred observations, the Guttman Coefficient of Predictability
indicated that approximately twenty-three percent of the time we
could expect to find the highest discrepancy scores (5) to be asso-
ciated with the lowest role congruency scores (4); the next highest
(4) with the next lowest (2), and so on.

Two important conclusions may be drawn from the above find-
ings. First, support for the first hypothesis demonstrates the theo-
retical utility of our basic role model (see Chapter II). It will be
recalled from our earlier discussion that the above mentioned model
proposed a method of predicting the behavior of a position's incum-
bent on the basis of role expectations held by significant audiences
in conjunction with any intervening effects of role conflict.

By asking an audience the extent to which they perceive a posi-
tion incumbent's expectations for a given role to be congruent with
the expectations they, themselves, hold for the same role, we are
(in addition to examining audience role conflict) indirectly obtaining
a measure of that audience's evaluations of the role incumbent's role
behavior! Although many factors may influence an audience's per-
ceptions of role congruency, we contend that one of the major in-
fluences is the nature of the social interaction between the audience
and the position's incumbent.
To the degree to which members of an audience interpret both their own and the role incumbent's role expectations as similar, we maintain that they are evaluating his behavior as satisfactory, i.e., the incumbent is fulfilling the expectations they hold for the role. The converse to this statement is also the case. That is, if an audience perceives their and the role incumbent's role expectations as incongruous, they are at the same time evaluating the incumbent's role behavior as unsatisfactory.

Thus, we appear to have two factors present. One, there is conflict between an audience's expectations for a position and their perceptions of what the incumbent's expectations are. Two, we have the translation of this definitional conflict into low evaluations of the incumbent's role behavior. The next question is that feature of the social system gives rise to this twofold phenomenon.

The antecedent condition is a situational or social context variable, the ideal-actual research norm discrepancy existing between the faculty and their department. This discrepancy, as a social context variable, serves to impede the ability of the role incumbent (the university research administrator) to successfully meet the expectations held for his role by the faculty audience. For example, if we have a high discrepancy between ideal-actual research norms, then there are certainly going to be handicaps confronting faculty research aspirations. The research administrator may bear the
brunt of the effects of departmental handicaps upon the faculty's ability to have their research funded and/or carried to completion, i.e., the research administrator may be seen as not providing enough proposal assistance, sponsorship information, and the like. In other words, it is not the actual role behavior of the research administrator which always leads to unsatisfactory audience evaluations, but often what they believe he should be doing, particularly in light of internal inconsistencies within their own departments.

This brings us to the second conclusion drawn from the findings of the first hypothesis; implications for the research administrator. While the specific conditions discussed above will vary from university to university, the notion that social contest or "system" conflict may affect evaluations of the research administrator's role behavior merits consideration in the daily operations of offices for the administration of sponsored research. One of the first steps might be for the research administrator to learn the particular nature of ideal-actual faculty/departmental discrepancies. (Up to this point, we have only used as an example situations wherein the faculty had high ideal research norms and the department, low actual research norms. It is possible for the converse to be the case, i.e., low faculty research norms and high actual departmental norms. In this situation one would still have a discrepancy, hence situational conflict.)
HYPOTHESIS II: The greater the discrepancy between ideal faculty and actual departmental norms about research, the lower will be the faculty's evaluations of the research administrator's role behavior.

This hypothesis was tested with the same statistics as were used in Hypothesis I; the Spearman Rank Correlation Coefficient and the Guttman Coefficient of Predictability. For Hypothesis II, the $r_s = -.22$ and the Guttman Coefficient of Predictability was $= .10$; however, these associations were not found to be significant at the .05 level. Therefore, we conclude that this hypothesis was not supported.

HYPOTHESIS III: The more frequently differences exist in role definitions held by three audiences within an institution, the lower will be the faculty's evaluations of the research administrator's role behavior within that institution.

The above hypothesis was tested with the Pearson Product Moment Correlation statistic. The data analyzed consisted of three audiences within nine institutions. This hypothesis was not supported. The association ($r = .44$) was in the predicted direction; however, the association was not significant at the .05 level.
HYPOTHESIS IV: The greater the frequency of differences in research administrative role definitions by three audiences within an institution, the lower will be the job satisfaction expressed by the research administrator of that institution.

The data analyzed consisted of three audiences within nine institutions. This hypothesis was not supported. The association of \( r = 0.36 \) was not found to be significant at the 0.05 level.

HYPOTHESIS V: There will be an additive and cumulative effect among proposal output of universities and three variables: a measure of job satisfaction by the research administrators; the discrepancies between ideal faculty and actual departmental research norms; and, the differences among three audiences in defining the role of university research administrator.

As noted in Chapter III, this hypothesis was to be tested by a multiple regression analysis. However, due to insufficient measurement of the data on proposal output and incomplete responses from our research administrative audiences, this hypothesis could not be tested.

Because of our inability to test the fifth hypothesis and because of our predicted, yet not significant associations, discussed earlier.
between the presence of role conflict and audience evaluations of role behavior, we have added a sixth hypothesis.

This research hypothesis states: There will be an additive and cumulative effect among faculty evaluations of the research administrator's professional behavior and four variables: The Index of Discrepancy, Faculty Estimations of Role Congruency, Adequacy of Sponsor Information, and Adequacy of Proposal Assistance.

The adequacy of sponsor information was operationally specified as the response from each faculty member to the question, "Do you feel that the Office of Research Services within your university is providing enough information regarding potential research sponsors for faculty research?" (See item 8, Appendix B) There were five possible responses to this item. They were:

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>a. Yes definitely</td>
</tr>
<tr>
<td>4</td>
<td>b. Yes probably</td>
</tr>
<tr>
<td>3</td>
<td>c. Not sure either way</td>
</tr>
<tr>
<td>2</td>
<td>d. Probably not</td>
</tr>
<tr>
<td>1</td>
<td>e. Definitely not</td>
</tr>
</tbody>
</table>

The adequacy of proposal assistance was operationally specified as the response from each faculty member to the question, "In your opinion, do you feel that the Office of Research Services within your university is providing enough assistance in the preparation of proposals to sponsors and in the selection of the most appropriate
sponsors?" (See item 9, Appendix B) There were five possible responses to this question. They are indicated below.

<table>
<thead>
<tr>
<th>Score</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>a. Yes definitely</td>
</tr>
<tr>
<td>4</td>
<td>b. Yes probably</td>
</tr>
<tr>
<td>3</td>
<td>c. Not sure either way</td>
</tr>
<tr>
<td>2</td>
<td>d. Probably not</td>
</tr>
<tr>
<td>1</td>
<td>e. Definitely not</td>
</tr>
</tbody>
</table>

The regression technique is the same that was to be applied to the testing of Hypothesis V. This technique is discussed in Chapter III. The model depicted below indicates the proposed relevant variables which may be thought of as predictors of faculty evaluations of the research administrator's role behavior.

\[ Y = a + b_1x_1 + b_2x_2 + b_3x_3 + e \]

Where:

- \( a \) = a regression constant
- \( b_1 \) = a least squares regression weight for the discrepancies between ideal faculty and actual departmental norms about research.
- \( b_2 \) = a least squares regression weight for faculty estimations of congruency in their role expectations and those of the research administrator for the latter's role.
- \( b_3 \) = a least squares regression weight for the faculty's assessments of adequacy in sponsorship information from the Office of Research Services at their institution.
- \( b_4 \) = a least squares regression weight for the faculty's assessments of adequacy in proposal assistance by the Office of Research Services at their institution.
e = an error term, statistically controlled for in the equation above.

TABLE 21
RESULTS OF THE REGRESSION ANALYSIS OF VARIABLES USED IN THE PREDICTION OF FACULTY EVALUATIONS OF THE ROLE BEHAVIOR OF THE UNIVERSITY RESEARCH ADMINISTRATOR

<table>
<thead>
<tr>
<th>Beta Weights</th>
<th>Regression Constant</th>
<th>Multiple r</th>
<th>Explained Variance r²</th>
</tr>
</thead>
<tbody>
<tr>
<td>( b_1 = -0.38 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( b_2 = 0.17 )</td>
<td></td>
<td>0.79</td>
<td>0.81</td>
</tr>
<tr>
<td>( b_3 = 0.39 )</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( b_4 = 0.32 )</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ F \text{ Test of } b_1 = b_2 = b_3 = \ldots b_n = 0 \]
\[ F = 37.98282^* \]

*Significant at \( = 0.05 \) with \( 4/80 \) degrees of freedom

As the data in Table 21 indicate, our added research hypothesis enables us to explain sixty-six percent of the variance in faculty evaluations of the role behavior of the university research administrator on the basis of four variables. While the beta weights for each of our four predictor variables are not large, there apparently exists an interaction effect among the variables when predicting evaluations of role behaviors.

The hypothesis was supported and the regression model, INDEX OF DISCREPANCY + ESTIMATES OF ROLE CONGRUENCY +
INFORMATION/ADEQUACY OF SPONSORS + ASSISTANCE/
ADEQUACY OF PROPOSALS ------------ EVALUATIONS OF
ROLE BEHAVIOR, was significant at the .05 level.
CHAPTER V

CONCLUSIONS

Discussion

In general, the findings of this investigation indicate that some consensus does exist across our three audiences in their definitions of the research administrative role. On the basis of the descriptive information about the research administrative role, which we collected with the role inventory instrument, it was found that research administrators are expected by three audiences (faculty, university administration, and the research administrators themselves) to provide assistance to the faculty in proposal preparation and provide them with the necessary information on potential sponsors both within and outside of their university. Furthermore, some degree of coordination or management of the research process within the university is viewed as a necessary part of the research administrative role.

It is important to note, however, that when presented with the more specific behavioral expectations with which to implement the above general role definition, the consensus across the three audiences declined substantially. Furthermore, as the role expectations became more behavioral-specific, the percentages of consensus
became more audience specific.

Both the faculty and the university audience tended to define the research administrative role as involving more direct assistance for the faculty in proposal preparation and sponsorship information than did the research administrators themselves. In general, none of the audiences defined the role as including a significant degree of policy determination. The two exceptions were the seventy percent consensus by the research administrators and the university administrative audiences regarding the specific, but not significant policy role of recommending staff salaries and the somewhat less than sixty percent consensus by the research administrators and faculty audiences over the very generally stated expectation of "making policy decisions" regarding the "nature" of sponsored research activities.

Given that many of the expectations designed to implement the general role definitions described above are supported with varying degrees of consensus across many varying audience combinations, it seems reasonable to expect considerable role conflict in the definition of the research administrative role. Clearly the successful role behaviors of the research administrator will greatly depend upon the nature and frequency of audience conflicts over role expectations within each institution.

As demonstrated by the results of those of our research hypoth-
supported (I, VI), the effects of audience role conflict, either structurally induced as in our example of ideal faculty vs. actual departmental norms about research or within and among universities, will be associated with unsatisfactory evaluations of the research administrator's role behavior. Moreover, there exists a tendency for the effects of role conflict to be additive in nature and, to a certain degree, subject to value hierarchies within the role expectations themselves. This notion of a centrality among the role expectations constituting an audience's definition of a role was apparent in the findings of the substitution hypothesis in which we tested the additive and cumulative effects of role conflicts upon an incumbent's role behavior. In those instances wherein a role expectation of a particular audience is held in relatively high consensus, suggesting greater centrality in their definition of the role, the effects of definitional conflict appear to be more intense.

Finally, while it was not our central objective to pursue in depth the effects of role conflict upon the role incumbent, we did find discernible effects of role conflict upon the job satisfaction of the role incumbent. While modest in magnitude, we did find that even when not controlling for the multitude of factors which affect how satisfied an individual is with his job, a meaningful amount of the variance in job satisfaction could be accounted for using only a portion of our conceptualization of role conflict.
Implications for Research Administration

Although mainly theoretical, we are of the opinion that the results of this study are potentially meaningful for those engaged in research administration as well as those who interact on a regular basis with research administrators.

First, our exploratory study is one of the few attempts to examine systemically and theoretically what persons relevantly associated with the processes of sponsored research actually expect a research administrator to do, both for them and for the university as an organization. By abstracting the individual research administrator from primary consideration, we were able to consider questions of a normative nature which were not solely dependent upon the personal "style" of the incumbent of the position. In so doing, we suggested several problem areas not directly under the control of the research administrator, but whose existence as problem areas had ramifications for his behavior.

Second, by providing a description of the research administrative role as significant audiences view it, we have indirectly indicated how some of the expectations could be met. We noted, for example, that the processes of communicating audience expectations may be at the heart of any role conflict impinging upon a research administrator's role behavior. Buchtel has recently examined the findings of our role inventory analysis and compiled
a series of action-oriented examples of the "types of communication that are appropriate to the fulfillment of the activities" (expectations).

Whether the findings of this study will actually affect the behaviors of university research administrators is problematic. Certainly more elaborate and conclusive research in this area would be required in the future if any tangible results are to be expected.

Implications for Role Theory

In Chapter I of this thesis, we stated that one of the objectives of this investigation was to test a number of theoretical propositions derived from one approach to role theory. That approach, it will be recalled, was the Lintonian orientation. One of our main concerns was an attempt to apply Linton's normative structural approach to role for the investigation of complex work organizations.

Selecting the university as our complex work organization, we proceeded to develop a rationale with which the various positions within the social structure of the university could be examined on the basis of significant audience definitions of position roles. In doing this, we drew a number of parallels between the concepts

commonly used in the analysis of complex work organizations and those central to our conceptualization of role theory. At that time, we postulated that by using role theory concepts in conjunction with a work organization conceptualization of the American university, certain problems germane to both approaches could be fruitfully explored. Our focus was on the behavior of incumbents of positions within the social structure of the institution, specifically the behaviors of the research administrators.

We also provided a theoretical model designed to explain discrepant or conflict-modified behavior within the organization. Our basic model, \( E \rightarrow R \rightarrow C \rightarrow B \), stated that audience expectations determine the role for a position, and that the presence of role conflict interfered with the role definition, therefore affecting the behavior of the position's incumbent.

The findings of this study supported the above model. We found it possible to provide a normative picture of the role under examination (from the perspective of significant audiences) which was not limited by the variations stemming from the particular individuals who occupied the position. Furthermore, we found strong supportive associations between the presence of our conceptualization of role conflict and audience evaluations of the behaviors of positions' incumbents.

Through considering expectations for positions, as opposed to
expectations for specific individuals, we were able to delineate a
general, normative picture of the role of university research ad-
ministrator which hopefully could be applied to a wide range of
institutions. Not completely ignoring the particular individuals
who occupied research administrative positions, we also attempted
to account for a meaningful amount of the variance in individual
expressions of job satisfaction. In doing this, we specified cer-
tain conditions which were likely to reduce individuals' satisfac-
tions with their jobs; conditions which, regardless of which persons
held the job, were likely to be associated with both lower job satis-
faction and lower evaluations of job performance. Our hypotheses,
while not significant, were in the predicted direction, thus pointing
the way to further inquiry.

On the basis of our findings, we concluded that the Lintonian
approach to role, combined with modifications by Gross, et al., and
others, could be fruitfully applied to increase our understanding of
the behaviors occurring within complex work organizations.

Suggestions for Further Research

The research we undertook was exploratory in nature, hence
only a small portion of the theoretical model we proposed in Chap-
ter II was tested empirically. To enlarge upon the findings of this
investigation and to increase our general understanding of university
research administrators necessitates, at the very minimum, the examination of those portions not tested.

How much more explanatory utility, empirical examination of the other three social contexts (ideal vs. actual administrative norms about research; length of the existence of the research administrative position within the university; and, the location of the research administrative role in the university hierarchy) could provide, is problematic. Certainly the substantial support demonstrated by our findings would seem to warrant future exploration of the entire role/role conflict model. That we were able to explain over eighty percent of the variance in audience evaluations of the research administrator's behavior was in itself a noteworthy demonstration of the saliency of our theoretical model.

Future possibilities for research using the model provided in this investigation might include the following expansion of the model:

\[
\begin{array}{c}
E \rightarrow R \rightarrow C \\
\end{array}
\]

\[
\begin{array}{c}
Ep \rightarrow Rp \rightarrow Cp \\
\end{array}
\]

The above model provides for inclusion of the incumbent's perceptions of audience expectations, Ep, his perceptions of the role, Rp, and his perceptions of role conflict, Cp. Not only does the above model offer another dimension to our understanding of
individual behavior (how the incumbent interprets it), but it also provides the means for statistically comparing the predictive utility of a normative-structural approach to role and one more social-psychological. This could be accomplished through using path analysis\(^1\) on the above model or by converting the model into two regression models and applying Melichar's least-squares analysis to both models.\(^2\)

**Limitations**

Interpreting findings generated by much of the research conducted in sociology must generally be done with some degree of caution. Certainly this is the case in exploratory investigations such as we have presented in our discussion. There are several shortcomings in the present study whose effects upon our findings can only be speculated upon at this time, although they would merit special consideration in any future attempt to replicate and expand this research.

Probably the major weakness of this research is in the sample. Dealing with a very amorphous population at the onset of our investi-


gation, we endeavored to select a sample based upon representative criteria. Our final sample, however, met representativeness only in the most general sense. Time and financial limitations forced us to restrict our university sample to four midwestern states. Lack of cooperation from the research administrators in our sample further restricted the number of large institutions included in our final sample. Almost all of the institutions in our sample were state supported and not of the "multiversity" size or character. Finally, we included only one religiously affiliated institution.

Within each institution, again time and money allowed us to sample only ten faculty members, and not more than two university administrators. These individuals were selected for us by the research administrators within each institution sampled. Thus, while we specified discriminating criteria for the research administrators to base their selections (levels of participation in proposal submission), the resulting sample of faculty members may have been biased. In addition, many of our measures were based upon a single item.

The size of our sample for all three audiences was designed primarily for the exploratory nature of the investigation; however, it is our opinion that it probably contributed to the lack of significance in some of the research hypotheses. The limited number of universities selected, the possible bias in selection of our faculty
audiences, and the small number of faculty in our sample, combine
to make us reluctant to generalize our findings to greater than our
samples, except in the most abstract sense.

Our rate of questionnaire return may have been a handicap,
although it is impossible to forecast what impact an increase of ten
to twenty percent would have had upon our findings. It is our opin­
ion that we were fortunate to achieve the rate of return we did.
With the voluminous increases in the use of mailed questionnaires,
the limited amount of time persons in university administration
have for completing them, and the possibility of some of the faculty
being off campus during the term we collected our data, our return
rates of over sixty-five percent for all three audiences was more
than likely good.

Finally, our role inventory instrument and other audience­
specific questionnaires were only first attempts to the collection
of more rigorous data. Future revisions of the instruments accord­
ing to word clarity and possibly a factor analysis of the items might
provide more cogent data in future research. However, even in its
present form, the data which we collected, independently from the
three audiences, is in most respects unique in the literature on
research administration.
Final Notes and Observations

The research we have reported upon attempted to provide a description of the role of the university research administrator as well as to test a number of theoretical propositions arising out of one approach to role theory. In doing so, we hope to have provided some insight into the research administrative role and to have successfully demonstrated the fruitfulness of the perspective of role theory we selected.
APPENDIX A

QUESTIONNAIRE FOR THE RESEARCH ADMINISTRATOR

1. Name of the institution: ____________________________________
2. Address of the institution: __________________________________
3. Title of the office: _________________________________________
4. Title of the director of the office:
   a. Research Administrator   e. Administrator (or business)
   b. Director                f. Vice-President
   c. Coordinator             g. Administrative (or staff) Asst.
   d. Manager                h. Other (please specify)
5. To whom your office reports: _________________________________
6. Approximate time when the office was established:
7. Approximate total annual operating level of all sponsored
   research activities (exclusive of construction and major capital
   a. Less than 1 million d. Between 20 and 40 million
   b. Between 1 and 5 million e. Between 40 and 80 million
   c. Between 5 and 20 million f. More than 80 million
8. Approximate annual operating budget for your office during 1969-70:
   a. Less than $10,000 d. Between $100,000 & $150,000
   b. Between $10,000 and $50,000 e. Between $150,000 & $200,000
   c. Between $50,000 and $100,000 f. More than $250,000
9. Size and description of your staff:
   Director: _______; number ______
   Associate director _______; number ______
   Administrative assistant: _______; number ______
   Secretaries: _______; number ______
   Bookkeepers and clerks: _______; number ______
   Trainees: _______; number ______
   Accountants: _______; number ______
   Others: _______; number ______
10. Total number of research proposals submitted for 1967-1968:
    a. 0 - 25                             d. 100 - 150
    b. 25 - 50                            e. 150 - 200
    c. 50 - 100                           f. 200 and above
11. Total number of research proposals declined for 1967-1968:
    a. 0 - 25                             d. 100 - 150
    b. 25 - 50                            e. 150 - 200
    c. 50 - 100                           f. 200 and above

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12. Total number of research proposals accepted for 1967-1968:
   a. 0 - 25  d. 100 - 150
   b. 25 - 50  e. 150 - 200
   c. 50 - 100  f. 200 and above

13. Total number of research proposals pending for 1967-1968:
   a. 0 - 25  d. 100 - 150
   b. 25 - 50  e. 150 - 200
   c. 50 - 100  f. 200 and above

14. Total number of research proposals submitted for 1969-1970:
   a. 0 - 25  d. 100 - 150
   b. 25 - 50  e. 150 - 200
   c. 50 - 100  f. 200 and above

15. Total number of research proposals declined for 1969-1970:
   a. 0 - 25  d. 100 - 150
   b. 25 - 50  e. 150 - 200
   c. 50 - 100  f. 200 and above

16. Total number of research proposals accepted for 1969-1970:
   a. 0 - 25  d. 100 - 150
   b. 25 - 50  e. 150 - 200
   c. 50 - 100  f. 200 and above

17. Total number of research proposals pending for 1969-1970:
   a. 0 - 25  d. 100 - 150
   b. 25 - 50  e. 150 - 200
   c. 50 - 100  f. 200 and above

18. In your opinion, are the facilities for your office adequate for
    the successful performance of your duties as research admin-
    istrator:
    a. Yes, definitely  d. Probably not
    b. Yes, probably    e. Definitely not
    c. Uncertain

19. In your opinion, is the staff you have adequate for the success-
    ful performance of your duties as research administrator?
    a. Yes, definitely  d. Probably not
    b. Yes, probably    e. Definitely not
    c. Uncertain

20. In your opinion, do the university administration and the
    faculty agree as to the degree of involvement of the institution
    with sponsored research activities?
    a. Yes, definitely  d. Probably not
    b. Yes, probably    e. Definitely not
    c. Uncertain

21. In your opinion, to what extent are the expectations of the
    faculty about the role of the research administrator congruent
    with your own?
    a. They are not congruent with my own.
    b. They are congruent about 25% of the time.
c. They are congruent about 50% of the time.
d. They are congruent about 75% of the time.
e. They are congruent about 90% of the time.
f. They are always congruent with my own.

22. In your opinion, to what extent are the expectations of the university administration about the role of the university research administrator congruent with your own?
   a. They are not congruent with my own.
b. They are congruent about 25% of the time.
c. They are congruent about 50% of the time.
d. They are congruent about 75% of the time.
e. They are congruent about 90% of the time.
f. They are always congruent with my own.

23. In general, do you feel that the faculty have a realistic view of what a research administrator should be doing?
   a. Yes, definitely
d. Probably not
   b. Yes, probably
e. Definitely not
   c. Uncertain

24. In general, do you feel that the university administration has a realistic view of what a research administrator should be doing?
   a. Yes, definitely
d. Probably not
   b. Yes, probably
e. Definitely not
   c. Uncertain

25. Generally speaking, how satisfied are you with your role as research director at the university in which you are currently employed?
   a. Very satisfied
d. Unsatisfied
   b. Satisfied
e. Very unsatisfied
   c. Only moderately satisfied

26. Assume for the moment that you are leaving your present position at your university and are moving into a similar role at another university. Please rank the following items from most (1) to least (8) as important reasons for your job change.
   a. Salary
   b. Relationships between yourself and faculty
c. Relationships between yourself and the university administration
d. b and c
e. Higher status position at another institution
   f. Better office facilities
g. Better staff facilities
   h. A more prestigious university
APPENDIX B

QUESTIONNAIRE FOR THE FACULTY

Name: _________________________________________________________________

Institution: ___________________________________________________________

Department: __________________________________________________________

Approximate number of research proposals you have submitted
during 1968-1969: ___________________________________________________

Approximate number of research proposals you have submitted
during 1969-1970: ___________________________________________________

Approximate total number of research proposals you have hadfunded: _______________________________________________________________

Are you now actively engaged in sponsored research activities?
Yes _____  No _____

Do you expect to be engaged in sponsored research activities within
the near future?
  a. Yes, definitely  d. Probably not
  b. Yes, probably   e. Definitely not
  c. Not sure

Do you feel that research activity is an important part of the
faculty role?
  a. Yes, definitely  d. Probably not
  b. Yes, probably   e. Definitely not
  c. Not sure

FACULTY QUESTIONNAIRE

1. Does your department recommend that release time be provided
for faculty members engaged in sponsored research activities?
  a. Yes, always  d. Yes, but only in rare instances
  b. Yes, in most instances e. No, not at all
  c. Yes, occasionally f. Not sure either way

2. Does your department recommend leaves of absence for faculty
members engaged in sponsored research activities?
<p>| | | | | | |</p>
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<td>3.</td>
<td>Does your department recommend sabbaticals for faculty members to engage in research activities?</td>
<td>a. Yes, always</td>
<td>d. Yes, but only in rare instances</td>
<td>b. Yes, in most instances</td>
<td>e. No, not at all</td>
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<td></td>
<td></td>
<td>c. Yes, occasionally</td>
<td>f. Not sure either way</td>
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<td>4.</td>
<td>Within your department, are promotions made on the basis of research activities?</td>
<td>a. Yes, always</td>
<td>d. Yes, but only in rare instances</td>
<td>b. Yes, in most instances</td>
<td>e. No, not at all</td>
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<td>c. Yes, occasionally</td>
<td>f. Not sure either way</td>
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<td>5.</td>
<td>In your opinion, is the research activity of faculty members an important criteria for professional and/or social status within the department?</td>
<td>a. Yes, always</td>
<td>d. Yes, but only in rare instances</td>
<td>b. Yes, in most instances</td>
<td>e. No, not at all</td>
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<td>c. Yes, occasionally</td>
<td>f. Not sure either way</td>
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<td>6.</td>
<td>In your opinion, on the basis of which of the following criteria does your department recommend rewards, e.g., for salary increases, tenure, etc., for its members?</td>
<td>a. research activity</td>
<td>e. b and c</td>
<td>b. publications</td>
<td>f. c and a</td>
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<td></td>
<td></td>
<td>c. teaching ability</td>
<td>g. all of the above</td>
<td>d. a and b</td>
<td>h. none of the above</td>
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<td>7.</td>
<td>In your opinion, how much consideration is given to involvement in research activities when departmental recommendations are made regarding faculty members appointments on university-wide committees?</td>
<td>a. Research activity is the most important criteria</td>
<td>b. Research activity is among the most important criteria</td>
<td>c. Research activity is only one of many criteria</td>
<td>d. Research activity is seldom an important criteria</td>
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<td></td>
<td></td>
<td>e. Research activity is not one of the important criteria</td>
<td>f. Not sure either way</td>
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<td>8.</td>
<td>In your opinion, do you feel that the Office of Research Services within your university is providing enough information regarding potential research sponsors for faculty research?</td>
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</table>
9. In your opinion, do you feel that the Office of Research Services within your university is providing enough assistance in the preparation of proposals to sponsors and in the selection of the most appropriate sponsors?
   a. Yes, definitely  
   b. Yes, probably  
   c. Not sure either way  
   d. Probably not  
   e. Definitely not

10. In your opinion, is the behavior of the Director of the Office of Research Services within your university congruent with the expectations which you hold regarding the appropriate behavior for the position?
   a. Yes, definitely  
   b. Yes, probably  
   c. Not sure either way  
   d. Probably not  
   e. Definitely not

11. In your opinion, is the behavior of the Director of Research Services within your university an important contributing factor in the level of proposal output among the members of your department?
   a. Yes, always  
   b. Yes, in most instances  
   c. Yes, occasionally  
   d. Yes, but only in rare instances  
   e. No, not at all  
   f. Not sure either way

12. In your opinion, is the behavior of the Director of Research Services within your university an important contributing factor in the total proposal output within the university as a whole, excluding your department?
   a. Yes, definitely  
   b. Yes, probably  
   c. Not sure either way  
   d. Probably not  
   e. Definitely not

13. In general, how would you rate the professional behavior of the Director of the Office of Research Services within your university?
   a. Excellent  
   b. Above average  
   c. About average  
   d. Below average  
   e. Much below average  
   f. Not sure either way

14. In your opinion, how important are sponsored research activities in the functioning of your university?
a. They are a very important and integral part of the university
b. They are an important and integral part of the university
c. They are only as important as many other functions of it
d. They are a necessary but over stressed part of the university
e. They are not as important as other university functions
f. They are not at all important to the functioning of the university
g. Not sure either way

15. In your opinion, should sponsored research be encouraged at your university?
   a. Yes, definitely           d. Probably not
   b. Yes, probably           e. Definitely not
   c. Not sure either way

16. In your opinion, to what extent are the expectations which you hold regarding the role of the research administrator congruent with what you believe that individual's expectations are?
   a. They are not congruent with my own
   b. They are congruent about 25% of the time
   c. They are congruent about 50% of the time
   d. They are congruent about 75% of the time
   e. They are congruent about 90% of the time
   f. They are always congruent with my own expectations
APPENDIX C

UNIVERSITY ADMINISTRATION QUESTIONNAIRE

Name: ________________________________________________________________

Position and/or title: __________________________________________________

Frequency of interaction with the office of research activities:
  a. I am very frequently involved with the office of research activities.
  b. I am frequently involved with the office of research activities.
  c. I am only occasionally involved with the office of research activities.
  d. I am only rarely involved with the office of research activities.
  e. I am never involved with the office of research activities.

1. Does the university administration recommend that release time be provided for faculty members engaged in sponsored research?
   a. Yes, always d. Yes, but only in rare instances
   b. Yes, in most instances e. No, not at all
   c. Yes, occasionally f. Not sure either way

2. Does the university administration recommend leaves of absence for faculty members engaged in sponsored research activities?
   a. Yes, always d. Yes, but only in rare instances
   b. Yes, in most instances e. No, not at all
   c. Yes, occasionally f. Not sure either way

3. Does the university administration recommend sabbaticals for faculty members to engage in research?
   a. Yes, always d. Yes, but only in rare instances
   b. Yes, in most instances e. No, not at all
   c. Yes, occasionally f. Not sure either way

4. Are promotions within the university faculty members made on the basis of research activities?
   a. Yes, always d. Yes, but only in rare instances
   b. Yes, in most instances e. No, not at all
   c. Yes, occasionally f. Not sure either way

5. In your opinion, are the research activities of faculty members an important criteria for professional and/or social status within the university?
a. Yes, always  
b. Yes, in most instances  
c. Yes, occasionally  
d. Yes, but only in rare instances  
e. No, not at all  
f. Not sure either way

6. In your opinion, which of the following criteria is most important when the university administration rewards faculty members with, for example, salary increases, promotions, tenure, etc.?
   a. research activities  
b. publications  
c. teaching ability  
d. a and b  
e. b and c  
f. c and a  
g. a, b, and c  
h. none of the above

7. In your opinion, how much consideration is given to faculty involvement with research activities when administrative recommendations are made regarding faculty members' appointments on university-wide committees?
   a. research activities are the most important criteria  
b. research activities are among the most important criteria  
c. research activities are only one of many criteria  
d. research activities are seldom an important criteria  
e. research activities are not one of the important criteria  
f. not sure either way

8. In your opinion, do you feel that the Office of Research Services within your university is providing enough information regarding potential sponsors for faculty research?
   a. Yes, definitely  
b. Yes, probably  
c. Not sure either way  
d. Probably not  
e. Definitely not

9. In your opinion, is the administration of sponsored research activities within your university consistent with the goals of university policy regarding research activities?
   a. Yes, definitely  
b. Yes, probably  
c. Not sure either way  
d. Probably not  
e. Definitely not

10. In your opinion, is the behavior of the Director of the office of research activities congruent with the expectations you hold regarding the appropriate professional behavior for such a position?
   a. Yes, definitely  
b. Yes, probably  
c. Not sure either way  
d. Probably not  
e. Definitely not
11. In your opinion, how important are sponsored research activities relative to the total functioning of the university?
   a. they are a very important and integral part of the university
   b. they are an important and integral part of the university
   c. they are only as important as many other functions of the university
   d. they are a necessary but over stressed part of the university
   e. they are not as important as other university functions
   f. they are not at all important to the functioning of the university
   g. not sure either way

12. In your opinion, is more research activity needed at your university?
   a. Yes, definitely
   b. Yes, probably
   c. Not sure
   d. Probably not
   e. Definitely not

13. In general, how would you rate the professional behavior of the Director of the Office of Research Services within your university?
   a. Excellent
   b. Above average
   c. About average
   d. Much below average
   e. Not sure

14. In your opinion, should the research director engage in policy-making decisions regarding the nature and conduct of research within the university?
   a. Yes, definitely
   b. Yes, probably
   c. Not sure
   d. Probably not
   e. Definitely not

15. In your opinion, is the behavior of the Director of Research Services within your university an important contributing factor in the total proposal output by the faculty?
   a. Yes, definitely
   b. Yes, probably
   c. Not sure
   d. Probably not
   e. Definitely not

16. In general, do you feel that the staff size of the Office of Research Services is adequate for carrying out the goals of the university with respect to the volume of sponsored research activities?
   a. Yes, definitely
   b. Yes, probably
   c. Not sure
   d. Probably not
   e. Definitely not
This questionnaire consists of a series of items which represent tasks or behaviors in which University Research Administrators might be expected to engage. The questionnaire is designed to find out what your expectations of the University Research Administrator are. Please note that you are not being asked to stipulate what behaviors you have actually observed the University Research Administrator engaged in nor those behaviors or activities which he actually does. Rather, we are asking you to indicate, through this questionnaire, your own expectations as to the behavior or activities which a University Research Administrator should engage in.

In order to indicate your opinion, please put a check mark at some point on the continuum following each item. The continuum will look like this:

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1 2 3 4 5 6 7
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Definitely Optional Definitely Irrelevant
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By checking number 1 you are indicating you think this is something that the University Research Administrator definitely should not do.

By checking number 2 you are indicating you think this is something that the University Research Administrator should not do.

By checking number 3 you are indicating you think this is something that the University Research Administrator probably should not do.

By checking number 4 you are indicating you think this is something that the University Research Administrator may or may not do, depending on the circumstances and the exercise of his judgment.

By checking number 5 you are indicating you think this is something that the University Administrator probably should do.

By checking number 6 you are indicating you think this is something that the University Research Administrator should do.
By checking number 7 you are indicating you think this is something that the University Research Administrator definitely should do.

After each item, you will find a box labelled "Irrelevant." If you feel that the activity described by the item has no particular place in the activities of or has no relevance for the University Research Administrator, check this box and go on to the next item.

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<tr>
<th>Research Administrator Form A:</th>
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<td>1. Provide editorial services for faculty research proposals</td>
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<td>2. Brief faculty members about internal funding agencies and/or facilities within their own university</td>
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<td>3. Conduct contract and grant agreements on behalf of the university</td>
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<td>4. Provide follow-up services for determining the current status of pending proposals</td>
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<td>5. Engage in accounting procedures for university research activities</td>
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<td>6. Publish procedural and/or policy manuals for sponsored research activities</td>
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7. Make personal contacts with faculty members regarding potential sponsorship for their research interests

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
\text{Irrelevant}
\end{array}
\]

8. Compute the indirect cost rates for faculty proposals

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
\text{Irrelevant}
\end{array}
\]

9. Review and report on the current status of state and federal legislation relevant to sponsored research activities

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
\text{Irrelevant}
\end{array}
\]

10. Provide mechanical services, e.g., typing, etc., for faculty proposals

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
\text{Irrelevant}
\end{array}
\]

11. Help provide department heads with a rationale for increasing the size of their staffs

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
\text{Irrelevant}
\end{array}
\]

12. Serve as a voting member on research policies councils, committees, etc.

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
\text{Irrelevant}
\end{array}
\]

13. Recommend the salary schedules for the staff members of the Office of Research Services

\[
\begin{array}{cccccccc}
1 & 2 & 3 & 4 & 5 & 6 & 7 \\
\hline
\text{Irrelevant}
\end{array}
\]
14. Brief faculty members on potential sponsorship outside of their university

1 2 3 4 5 6 7
Irrelevant

15. Aid in the responsibility of administering university fellowships

1 2 3 4 5 6 7
Irrelevant

16. Handle patent matters involving sponsored research activities

1 2 3 4 5 6 7
Irrelevant

17. Prepare budget estimates of forecasted income and expenses for sponsored research activities

1 2 3 4 5 6 7
Irrelevant

18. Engage in university policy-making decisions about the nature and conduct of sponsored research activities

1 2 3 4 5 6 7
Irrelevant

19. Assist in the negotiating of grants and/or contract terms in the best interests of both the faculty and the university

1 2 3 4 5 6 7
Irrelevant

20. Accompany researchers on pre-submission of proposal contacts with sponsors

1 2 3 4 5 6 7
Irrelevant

21. Take the responsibility for getting the signatures which comprise the formal agreement of the university to both researcher and sponsor

1 2 3 4 5 6 7
Irrelevant
22. Provide faculty members with assistance in the preparation of proposals and in the selection of the most appropriate sponsors

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23. Recommend and/or adopt administrative procedures designed to meet both university and sponsor requirements

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24. Encourage members of the faculty in pursuing research activities consistent with both their own interests and the goals of the university

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25. Provide surveillance of performance requirements for sponsored research projects as stipulated by the sponsors

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26. Serve as a liaison between the faculty and the administration of the university concerning matters pertinent to the research process

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27. Involve members of the faculty in visits with both federal and non-federal potential sponsors

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28. Engage in policy-making decisions regarding the awarding of university monies available for internal grants and fellowships among departments

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Irrelevant
29. Discuss potential sponsors during faculty meetings and/or departmental meetings

\[ \frac{1}{2} \frac{3}{4} \frac{5}{6} \frac{7}{8} \]

Irrelevant

30. Work with department chairmen and university administration towards securing release time, sabbaticals, etc., for faculty members engaged in sponsored research activities.

\[ \frac{1}{2} \frac{3}{4} \frac{5}{6} \frac{7}{8} \]

Irrelevant
RESEARCH ADMINISTRATOR FORM B

This questionnaire consists of a series of items which represent tasks or behaviors in which University Research Administrators might engage in. The questionnaire is designed to find out what your actual behaviors as Research Administrator are. Please note that you are being asked to specify what behaviors you have actually engaged in during the performance of your rights and obligations as the administrator of sponsored research activities within the university.

In order to indicate those behaviors you engage in, please put a check mark at some point on the continuum following each item. The continuum will look like this:

```
/ / / / / / / / / / / / /
1 2 3 4 5 6 7 Irrelevant
Never Sometimes Always
engage in engage in engage in
```

By checking number 1 you are indicating that you think this is something which you, as University Research Administrator, never engage in.

By checking number 2 you are indicating that you think this is something which you, as University Research Administrator, generally do not engage in.

By checking number 3 you are indicating that you think this is something which you, as University Research Administrator, probably do not engage in.

By checking number 4 you are indicating that you think this is something which you, as University Research Administrator, may or may not engage in.

By checking number 5 you are indicating that you think this is something which you, as University Research Administrator, probably engage in.

By checking number 6 you are indicating that you think this is something which you, as University Research Administrator, generally engage in.
By checking number 7 you are indicating that you think this is something which you, as University Research Administrator, always engage in.

After each item, you will find a box /___/ labeled "Irrelevant." If you feel that the activity described by the item has no particular place in the activities of or has no relevance for the University Research Administrator, check this box and go on to the next item.

Research Administrator Form B:

1. Work with department chairmen and university administration towards securing release time, sabbaticals, etc., for faculty members engaged in sponsored research activities.
   
   [ ] [ ] [ ] [ ] [ ] [ ] [ ] Irrelevant

2. Involve members of the faculty in visits with both federal and non-federal potential sponsors.

   [ ] [ ] [ ] [ ] [ ] [ ] [ ] Irrelevant

3. Provide editorial services for faculty for research proposals.

   [ ] [ ] [ ] [ ] [ ] [ ] [ ] Irrelevant

4. Engage in accounting procedures for sponsored research within the university.

   [ ] [ ] [ ] [ ] [ ] [ ] [ ] Irrelevant

5. Accompany researchers on pre-submission of proposal contacts with sponsors.

   [ ] [ ] [ ] [ ] [ ] [ ] [ ]
6. Aid in the responsibility of administering university fellowships.

7. Serve as a voting member on research policy councils, committees, etc.

8. Assume the responsibility for getting the signatures which comprise the formal agreement of the university to both researcher and sponsor.

9. Discuss potential sponsors during faculty meetings and/or departmental meetings.

10. Provide surveillance of performance requirements for sponsored research projects as stipulated by sponsor.

11. Compute the indirect cost rates for faculty proposals.

12. Conduct contract and grant agreements in behalf of the university.

13. Serve as a liaison between the faculty and the administration of the university concerning matters pertinent to the research process.
14. Provide faculty members with assistance in the preparation of proposals and in the selection of the most appropriate sponsors.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Irrelevant

15. Publish procedural and/or policy manuals for sponsored research activities.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Irrelevant

16. Brief faculty members on potential sponsors outside of their university.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Irrelevant

17. Recommend the salary schedules for staff members of the Office of Research Services.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Irrelevant

18. Engage in university policy-making decisions about the nature and conduct of sponsored research activities within the university.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Irrelevant

19. Recommend and/or adopt administrative procedures designed to meet both university and sponsor requirements.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Irrelevant

20. Provide follow-up services for determining the current status of pending proposals.

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Irrelevant
21. Assist in the negotiating of grant and/or contract terms in the best interest of both faculty and the university.

22. Handle patent matters involving sponsored research activities.

23. Prepare budget estimates of forecasted income and expenses for sponsored research activities.

24. Provide mechanical services, e.g., typing, etc., for faculty proposals.

25. Help provide department heads with a rationale for increasing the size of their staffs.

26. Review and report on the current status of state and federal legislation relevant to sponsored research activities.

27. Make personal contacts with faculty regarding potential sponsorship for their research interests.
28. Engage in policy-making decisions regarding the awarding of university monies available for internal grants and fellowships among departments.

29. Brief faculty members about internal funding agencies and/or facilities within their own university.

30. Encourage members of the faculty in pursuing research activities consistent with their own interests and the goals of the university.
APPENDIX F

FACULTY AND UNIVERSITY ADMINISTRATION FORM

Please list five members of the faculty who are very actively engaged in the submission of proposals to your office:

1. _______________________________ Department: ____________
2. _______________________________ Department: ____________
3. _______________________________ Department: ____________
4. _______________________________ Department: ____________
5. _______________________________ Department: ____________

Please list two administrative positions to whom your office reports:

1. _______________________________ Title: _________________
2. _______________________________ Title: _________________

Please list five members of the faculty who have previously submitted research proposals, but who are not now actively engaged in proposal submission:

1. _______________________________ Department: ____________
2. _______________________________ Department: ____________
3. _______________________________ Department: ____________
4. _______________________________ Department: ____________
5. _______________________________ Department: ____________

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APPENDIX G

LETTER TO FACULTY MEMBERS

Dear

I am working on a research project as part of my thesis requirement in Sociology in cooperation with the Office of Research Services at Western Michigan University. We are currently engaged in research inquiring into the role of the university research administrator. As an important part of this study, we are attempting to learn what characteristics are common to the majority of persons involved in the administration of sponsored research. We hope to arrive at a general definition of the role of the university research administrator irrespective of the personality or background of the individual who occupies the position. Our main concern will be with how the role is defined by the "significant persons" who interact with the research administrator within the social setting of the university. In addition to our inquiry into the nature of the day-to-day activities of the research administrator, we would also like to assess the nature of the problems and dilemmas which may affect the individual's ability to perform the duties associated within the context of his job as he and others view it.

We have already gathered data from a number of research administrators at selected schools in the midwest area. Since we hope to investigate this role from several perspectives, we are now in the process of collecting data from the faculty and university administration at those institutions.

We are requesting your assistance in helping us obtain the necessary information from faculty members who have participated in sponsored research. Therefore, we will appreciate your cooperation in completing the following questionnaire and returning it to us in the self-addressed stamped envelope. This will only require fifteen to twenty minutes of your time.

Since the most difficult portion of this investigation is in securing our sample composed of faculty, administration, and the research administrators themselves, your assistance and cooperation is vitally important to the success of the project. The analysis of the data should be completed by late September of this year. An abstract of the report will be sent to you at that time upon your
request.

We appreciate your cooperation and assistance.

Sincerely,

/S/
Robert D. Mendelsohn
Graduate Student
Sociology of Education

/S/
Foster S. Buchtel, Director
Office of Research Services

RDM: FSB/1v

Enclosure

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APPENDIX H

LETTER TO UNIVERSITY ADMINISTRATION

Dear

I am working on a research project as part of my thesis requirement in Sociology in cooperation with the Office of Research Services at Western Michigan University. We are currently engaged in research inquiring into the role of the University research administrator. As an important part of this study, we are attempting to learn what characteristics are common to the majority of persons involved in the administration of sponsored research. We hope to arrive at a general definition of the role of the university research administrator irrespective of the personality or background of the individual who occupies the position. Our main concern will be with how the role is defined by the "significant persons" who interact with the research administrator within the social setting of the university. In addition to our inquiry into the nature of the day-to-day activities of the research administrator, we would also like to assess the nature of the problems and dilemmas which may affect the individual's ability to perform the duties associated within the context of his job as he and others view it.

We have already gathered data from a number of research administrators at selected schools in the midwest area. Since we hope to investigate this role from several perspectives, we are now in the process of collecting data from the faculty and university administration at those institutions.

We are requesting your assistance in helping us obtain the necessary information from members of the university administration who are closely involved with the Office of Research Services. Therefore, we will appreciate your cooperation in completing the following questionnaire and returning it to us in the self-addressed stamped envelope. This will only require fifteen to twenty minutes of your time.

Since the most difficult portion of this investigation is in securing our sample composed of faculty, administration, and the research administrators themselves, your assistance and cooperation is vitally important to the success of the project. The analysis of the data should be completed by late September of this year. An
abstract of the report will be sent to you at that time upon your request.

We appreciate your cooperation and assistance.

Sincerely,

/S/
Robert D. Mendelsohn
Graduate Student
Sociology of Education

/S/
Foster S. Buchtel, Director
Office of Research Services

RDM:FSB/1v

Enclosure
APPENDIX I

LETTER TO RESEARCH ADMINISTRATORS

Dear

I am working on a research project as part of my thesis requirement in Sociology in cooperation with the Office of Research Services at Western Michigan University. We are currently engaged in research inquiring into the role of the university research administrator. As an important part of this study, we are attempting to learn what characteristics are common to the majority of persons involved in the administration of sponsored research. We hope to arrive at a general definition of the role of the university research administrator irrespective of the personality or background of the individual who occupies this position. Our main concern will be with how the role is defined by the "significant persons" who interact with the research administrator within the social setting of the university. In addition to our inquiry into the nature of the day-to-day activities of the research administrator, we would also like to assess the nature of the problems and dilemmas which may affect the individual's ability to perform the duties associated within the context of his job as he and others view it.

There are many reasons for selecting the role of the university research administrator. First, the business of research is a significant and expanding component of our contemporary institutions of higher learning. Second, effective administration of sponsored research has become a critical area in the functioning of the modern university. Third, very little is known about the specific duties surrounding the activities and difficulties involved in administering sponsored research. Finally, the university, by its very nature as a complex, modern work organization, lauds itself well as a likely area for examining certain concepts in the social sciences--in this case role theory.

We are requesting your assistance in helping us draw the sample which will be used in this investigation. In addition to our administering a questionnaire to several offices of research services, we would also like to secure information from the faculty and university administration of the institutions sampled. Therefore we will appreciate your cooperation in the following:

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(a) Complete the questionnaire marked Research Administrator.

(b) List on the form provided: (1) five members of the faculty who are very actively engaged in the submission of research proposals to your office; (2) five members of the faculty who have previously submitted research proposals to your office, but who are not highly active in proposal submission; (3) the names and titles of those persons to whom your office reports (the administrative hierarchy above you).

The data derived from the faculty, the university administrators, and the research administrators will enable us to investigate the role from three different but interdependent perspectives in terms of the interaction of all three groups. All information gathered during the investigation will be treated as strictly confidential with only the statistical information to be used in the final report. (For example; staff size, volume of research, size of the institution, etc.)

We have enclosed copies of all three forms of the questionnaires for your examination. Identical forms will be sent to the persons whose names your office has submitted to us. Please complete the form labeled Research Administrator and enclose it with the form containing the names of the faculty and university administrators in the stamped, self-addressed envelope provided. The completion period for the questionnaire should require approximately twenty to thirty minutes of your time.

Since the most difficult portion of this investigation is the securing of the sample composed of all three groups, your assistance and cooperation is vitally important to the success of the project. After the data has been analyzed, a copy of the report will be returned for your office. Any additional information not considered confidential will be sent upon your request.

We appreciate your cooperation and assistance.

Sincerely,

/S/ Robert D. Mendelsohn
Graduate Student
Sociology of Education

/S/ Foster S. Buchtel, Director
Office of Research Services

RDM-FSB:lv/ch
Encl: 3

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