5-1973

A Study of Faculty and Administrators' Perceptions of the Factors Affecting Salary Increases at Utah State University

Izar Antonio Martinez
Utah State University

A STUDY OF FACULTY AND ADMINISTRATORS' PERCEPTIONS OF THE FACTORS AFFECTING SALARY INCREASES AT UTAH STATE UNIVERSITY

by

Izar Antonio Martinez

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF EDUCATION

in

Educational Administration

Approved:

UTAH STATE UNIVERSITY
Logan, Utah

1973

RECONOCIMIENTOS

El excritor desea expresar agradecimiento a la facultad y a los miembros de la administración de la Universidad de Utah State por su cooperación en proveer información a este estudio.

A el Doctor Terrance E. Hatch, como profesor principal, se le ofrecen gracias sinceras por su ayuda. Tambien a los miembros de el comite doctorado, el Decano Oral L. Ballam, Doctor Eldon M. Drake, Doctora Carolyn F. Steel, y Doctor Robert A. Wininger. Hubiera sido impossible completar este trabajo sin la ayuda y el consejo de estas personas.

Sinceras gracias, agradecimiento, y amor paternal a mi esposa, Carol Jean, y a mis niños Jeffrey Paz, Elizabith, Jean, y Marcos por su pacencia y gran animo durante el tiempo su padre se dedicaba a estudiar.

Ultimo en orden pero no en importancia, dedico este trabajo a mi madre, Solidea D. Martinez, y a la memoria de mi padre, José Paz Martinez.

Izar Antonio Martinez

Izar Antonio Martinez

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF TABLES

ABSTRACT

A Study of Faculty and Administrators' Perceptions
of the Factors Affecting Salary Increases
at Utah State University

by

Izar Antonio Martinez, Doctor of Education

Utah State University, 1973

Major Professor: Dr. Terrance E. Hatch
Department: Educational Administration

The purpose of this study was to determine if there were any differences in faculty members' and administrators' perceptions of those factors which should be influential and those factors which are actually accounted for in making decisions pertaining to salary increases at Utah State University.

The data for this study was collected from 55 administrators and 303 faculty members at Utah State University. A total of 21 factors, which were identified as being influential and/or determinants of faculty salary increases at Utah State University, were analyzed through the testing of four hypotheses using the chi square test for independence. The critical region for the testing of all four hypotheses was set at the .05 level.

Analysis of the data

Hypothesis one. (There is no difference in the perceptions of administrators of those factors which are perceived as being of importance in awarding salary increases and those factors perceived

by faculty members as actually being used in determining salary increases at Utah State University.) Hypothesis one was rejected on six of the factors. Sex, college within the university, race, fulfillment of role expectation, testing excellence, and student teaching yielded significant values of chi square.

Hypothesis two. (There is no difference in the perceptions of faculty members of those factors which are perceived as being of importance in awarding salary increases and those factors perceived by faculty members as actually being used in determining salary increases at Utah State University.) Hypothesis two was rejected on 19 of the 21 factors. Research and the quality of graduate school attended were the only two factors which did not yield significant values of chi square at the .05 level.

Hypothesis three. (There is no difference between the perceptions of faculty members and the perceptions of administrators of those factors which are of importance in awarding salary increases at Utah State University.) Hypothesis three was rejected for five of the 21 factors. Number of years at the institution, fulfillment of role expectations, extension services, writing and publication record, and grant proposals funded were the five factors with significant values of chi square.

Hypothesis four. (There is no difference between the perceptions of faculty members and the perceptions of administrators of those factors which are actually used in awarding salary increases at Utah State University.) Hypothesis four was rejected for nine of the factors. Sex, years of service at the institution, tenure, rank, and quality of graduate school attended are perceived by faculty members as actually being used in determining salary increases. Administrators' perceptions

were found non-congruent with faculty members' perceptions and in fact administrators indicated that they perceive fulfillment of role expectations, teaching excellence, extension services, student advisement as factors actually used in determining salary increases at Utah State University.

The primary conclusion of this study is that there is a high degree of congruency between the perceptions of administrators and faculty members of those factors which are perceived to be of importance in determining salary increases. There is nevertheless, non-congruency between faculty members' and administrators' perceptions of those factors perceived to be actually used in determining salary increases at Utah State University. Although administrators as well as faculty members perceive certain factors (e.g., sex, race) as not being of importance in determining salary increases, administrators nevertheless, because of pressures, personal and institutional commitment, actually use such factors in determining salary increases.

(114 pages)

CHAPTER I

INTRODUCTION

The decade of the 60's was a period of rapid expansion in higher education. Faculty members in institutions of higher education throughout the United States were favored with attractive salaries and prestigious status. The AAUP Summer Report for 1966 stated that faculty compensations had risen at an annual rate sufficient to achieve a doubling over the previous decade.

Since the beginning of the current decade, institutions of higher education have found themselves facing state legislators who are determined to exercise closer control and are otherwise demanding overall accountability of the funds being spent. State universities which were accustomed to occupying positions of strength in dealing with state legislatures are now finding themselves competing for funds with other state colleges and universities that can often make stronger claims for public monies.

There is perhaps a combination of factors responsible for bringing about this change. Public reaction and legislative resentment to student unrest and the manifestations of radicalism on campuses has no doubt been a contributing factor. If these political developments were the only reason for the serious budgeting restrictions, one could easily be led to believe that the problem was fairly temporary. However, the economic pressures that have, and are contributing to the funding restrictions, will most likely be with us for some time to come.

According to Walsh (1970), the 1968-69 academic year was the "year of the crunch." Advance in faculty compensation (9-month salary plus fringe benefits) for all ranks, in private as well as public institutions, for that year was 7.1 percent. Since the rise in Consumer Price Index reached 5.4 percent, the increases in the faculty real purchasing power was less than 2 percent. The advance in salaries was 6.6 percent and the real increase in purchasing power approximately 1.1 percent.

The American Association of University Professors (AAUP) report for the 1971-72 academic year reveals that the decline in the economic status of the profession is worse than it has ever been. Although the Consumer Price Index during 1971 was 4.3 percent, significantly below the 6.0 percent in 1970, the average compensation of faculty increased only 4.3 percent yielding no gain in the purchasing power. The average salary increased only 3.6 percent yielding a decrease of 0.7 percent in the purchasing power of faculty salaries.

The report not only points out that faculty compensation growth has ended and erosion begun, but lacks any note of optimism which would lead one to believe that the situation will improve in the foreseeable future.

> The trend is the joint product of too few funds available and too high a rate of inflation. There is nothing in the factors surrounding the academic marketplace that promises a reversal of the conditions of stringency and exigency that face both public and private institutions of higher education and thus also their facilities. If we are to be spared a continuation of the process of salary erosion, we must rely on the success of the efforts to control and reduce inflation. At this writing, we see no basis for optimism. The dramatic decrease in the rate of increase of the Consumer Price Index from last year (6.0) to this year (4.3) reflects almost entirely the Wage Price Freeze that was in effect for three

> months in 1971. Without that decrease this year's performance, bad as it was, would have been much worse. But the emerging evidence about 1972 to date suggests that inflation is once again rising toward the 6 percent level and this bodes ill for the health of our profession. (AAUP Summer Report, 1972, p. 180)

It seems somewhat clear that a troublesome decade is upon faculties in higher education. It presents challenging problems and choices for university faculties as well as for other groups.

Need for the Study

There are two good, and perhaps quite separate, reasons for conducting the present study.

The first reason is theoretical. The university remains a fascinating example of social organizations. Although its roots and many of its rituals date back to the middle ages and its organizational structure remains simple and standardized, the academic hierarchy at the university includes a greater range of skills and a greater diversity of tasks than any other organization, business or otherwise. Nevertheless, from a theoretical point of view all activities, regardless of their magnitude, supposedly contribute to the fundamental purpose of the university. The reward system at the university, and in particular increases in salary, is an activity that, if in no other way, in theory has an effect on the fundamental purpose of the university. It would seem, therefore, that there is a real and valid need to attempt to determine the relative importance and contribution that this activity makes to the fundamental purpose of the university.

The second reason is practical. The state of the present economic situation in the United States suggests that funds will continue to be insufficient in institutions of higher education to meet all legitimate

claims. Therefore, choices must be made. Different salary policies are possible, and the choice among these policies plays a major role in determining the nature of the faculty that will be teaching at a given institution (AAUP Bulletin, 1972). This ought to be a sufficient condition to make the determination of a salary policy a major institutional choice, and one that is widely shared by all whose interests are affected.

The American Association of University Professors (1971) reports that there has been a notable increase in grievances involving faculty salaries. Assertions have been made that many grievances and/or imagined grievances relating to salaries could be alleviated if the criteria and the process of determining and granting salary increases were open and clearly understood by faculty members.

From a practical point of view, there is a need to know if there is any congruency between what faculty members perceive as being determinants of salary increases and those factors on which increases in salary are actually based. If faculty members are, in effect, granted salary increases based on what they perceive they should be, the problem then is simply one of finding enough monies to go around. If faculty members are not being granted salary increases on what they perceive they should be, then the problem is compounded and the issue of the bases for equitable distribution and evaluation of faculty members enters into the picture.

There is a need, therefore, to determine to what degree, if at all, those factors which faculty members perceive as being of importance and which should be determinants of salary increases are actually accounted for by administrators in the decisions that are made relating to salary increases in institutions of higher education.

Background Information

In the following two sections an attempt has been made to survey the most important literature in the area of faculty compensation. The first section (The Reward System) is concerned with institutional processes of wage determination. That is, who makes what decisions at the university related to compensation; what criteria are applied in the allocation of funds at the different levels within the university; and what is the role of the faculty in the decision making process as it relates to budgetary matters and in particular to faculty salaries?

The second section (Salary Determinants) is a survey of the existing literature on the determinants of salaries in institutions of higher education. This literature does not duplicate this study to any considerable degree since very little research has been done relating to the factors which influence or determine the salaries of faculties in institutions of higher education. Furthermore, each institution of higher education has its own unique and specific institutional variables which are influential and which should be accounted for in determining faculty salaries.

The reward system

According to Baldridge (1971) university administration has commonly been patterned after one of two models, the "bureaucratic" model or the "collegial" model.

The bureaucratic model is based on the principle of legal rationality. The structure is hierarchial and is held together by formal chains of command and systems of communications.

The collegial model on the other hand is based on informal regulations, friendship, loyalty to family, or personal allegiance to a charismatic

leader. The proponents of the collegial model argue that a university should not be organized like other bureaucracies. Instead, there should be full participation of the members of the academic community in its management. Under this model the "community of scholars" would administer their own affairs and the university officials would have little influence.

John Millett (1962), one of the foremost prophets of the collegial model, has stated his views quite succinctly:

> I have already expressed my own point of view in so far as the organization of a college or university is concerned. I do not believe that the concept of hierarchy is a realistic representation of the interpersonal relationships which exist within a college or university. Nor do I believe that a structure of hierarchy is a desirable prescription for the organization of a college or university ... .
>
> I would argue that there is another concept or organization just as valuable as a tool of analysis and even more useful as a generalized observation of group inter-personal behavior. This is the concept of community ... .
>
> The concept of a community presupposes an organization in which functions are differentiated and in which specialization must be brought together, or coordination if you will, is achieved not through a structure of superordination and subordination of persons and groups, but through a dynamic of consensus. (Millett, 1962, p. 234)

Finkin (1971) suggests that the majority of the institutions of higher education seem to fall somewhere along the spectrum represented by the powerless faculty of the bureaucratic institutions and the powerful faculty of the mature university and college. One must agree that both the bureaucratic and the collegial models provide some insight into the organizational nature and the administrative processes of the university. However, they both seem to fail to explain the dynamic processes that are presently taking place on the university campus. One neither sees the rigid, formal aspects of bureaucracy nor the calm, consensus-directed elements of an academic collegium. In

fact, what one witnesses is student unrest, professors forming unions and striking, administrators defending their traditional positions, and external interest groups and irate legislators invading the academic halls. Since all of these activities can be understood as political acts, the indication is that the governance process at the university can best be understood as a "politicalized" process.

The university has been fragmented into many blocs and interest groups. Each power bloc and each group is naturally trying to influence policy so that their values and goals are given primary consideration.

Decision making takes place, therefore, in an atmosphere of differences of opinion as well as diversity of function. Administrative officers are constantly faced with the task of making decisions that give a consistent unity and a sense of purpose to the functioning of the institution. That they often fail to accomplish this is suggested by Litchfield in the following words:

> There are few among us who regard the university as a total institution. It would be more accurate to say that we treat it as a miscellaneous collection of faculties, research institutes, museums, hospitals, laboratories, and clinics. Indeed, it has become a commonplace to observe that most of our large university organizations are held together by little more than a name, a lay board of trustees, an academically remote figure called a president, and a common concern for the power plant. In most of our large university campuses, our individual faculties tend to live in isolated proximity. (Litchfield, 1959, pp. 375-376)

The consequences of such fragmentation leads to the development of some faculty groups at the expense of others and discrepancies in standards and reward systems among faculties on the same campus. It is not surprising then, that regardless of the administrative model employed by institutions of higher education the question as to "who makes what decisions" still remains unanswered. This is especially true when it

relates to decisions pertaining to budgetary matters and in particular to salaries of faculty members.

Van Fleet (1972) states that salaries in higher education comprise at least one fourth of the total operating expenditures. Yet, seemingly little formal administration is used in decision-making regarding those salaries.

Woodburne (1950), Caplo (1958), and Blackwell (1966) have reported that indeed a large number of institutions of higher education had no salary plan. Wellemeyer (1961), after selecting and studying fourteen colleges and universities who supposedly employed faculty compensation practices worthy of emulation by other colleges and universities still did not answer the questions of how compensation systems in universities work and how salaries are administered at the university?

The Research Division of the National Education Association in its report on Salaries in Higher Education for 1969-70 report that more than two-fifths of the institutions reported having no documented policy providing for salary differential within ranks. Only 1.5 percent of the institutions reported having a documented policy which provides that the representatives of the governing board or the administration agree to negotiate with faculty representatives on matters of faculty salary.

Probably the best known harbinger of criticism with respect to the lack of policies related to salary determination in higher education is Swanson (1970). In his Investigation of the Determinants and the Consequences of Variations in Teachers Salaries he concluded by noting that wages in the private sector are usually determined by labor supply and demand. This is not the case in education. Frequently salaries in education are conditioned by political processes leading to serious irrationality in the salary policies of the institution.

In the absence of sound policies and/or administrative processes for awarding salary increases and overall compensation in institutions of higher education, one cannot help but question the procedure by which the allocations of salary budgets are made at the university.

It seems somewhat paradoxical that if one wishes to know something about the organizational and administrative features of universities, the home of most researchers, then by and large there is a dearth of information available. Information related to the allocation of salary budgets at the different levels within the university is almost non-existant.

The AAUP Bulletin (1972) suggests that in most institutions of higher education an institutional-wide allotment for salary increases is successively allocated among campuses, colleges, and schools and departments before it is allocated among the individual faculty members. In this type of sequential budgeting process most decisions are made by departmental chairman, department head, deans, vice-presidents, and others who are perhaps even more remotely removed from the classroom.

When one considers the allocation among individual faculty members, it is perhaps convenient to think of the elements entering into an individual's rate of salary increase as consisting of the following:

> (a) An appropriate percentage increase to allow for the movement through the salary structure that is appropriate to the average person of his or her age, rank, years since the degree, etc. Call this a maturation increase.
>
> (b) An appropriate percentage increase that is not different for different individuals, but represents such things as upward shifts in the salary structure whether because of conditions of demand and supply, cost of living, national average growth, etc. Call this an across-the-board increase.

> (c) An appropriate adjustment (increase or decrease) that reflects the individual's relative market position vis-a-vis his or her colleagues. While sometimes designated "merit," "market position" would be a more descriptive phrase. Call it, nevertheless, a merit adjustment.
>
> Notice that each of (a), (b), and (c) is in a real sense defined by forces external to those that determine how much money will be made available. The salary structure, which determines (a), is the product of past policies and conventions. National market and economy-wide conditions determine (b), and the variation in the market opportunities of the members of the faculty reflects past hiring decisions. Today, sadly, inadequate financing is more nearly the rule, and the sum of the demands listed in (a), (b), and (c) may far exceed the meager amount that is available.
>
> Thus, there is a fourth element:
>
> (d) A scaling factor that reduces all increases implied by the sum of the three elements above by a constant fraction so as to meet the budget constraint. (AAUP, 1972, p. 190)

Departmental allocations are usually made in a manner analogous to the process for allocation among individuals. The considerations which were called maturation elements reflect the different age structure, growth rate, etc., of the different departments. Recently established rapidly growing departments need more funds for the simple reason that they have more faculty that need to move through the ranks.

Different departments hold different market positions. Thus, a factor equivalent to "merit" exists because departments have differential needs in terms of the market options of their members.

Regardless of whether the allocation is among departments or among individuals, the indication is that in most cases allocations are made independent of faculty participation. One does not question the vision, wisdom, courage, and integrity of administrators to succeed in achieving the optimal combination of efficiency and equity that is required. But, since at times these virtues are lacking, it may be

well to have a process in which the basis of their decisions can be reviewed, debated, and challenged if necessary. This argues for a process of shared responsibility in which neither the biases of the faculty nor the imperfections of the administrators are allowed to dominate.

A major issue then becomes the role that faculties will play in the budgetary decision making process in institutions of higher education. The AAUP (1971) suggests that faculties might respond to one of three alternatives.

1. The faculty may elect to respond by assuming a passive role. This role calls for the faculty to submit quietly to the decisions made by other segments of the institution or by outside agencies; the expectations being that somehow the various pressures and counter pressures will not erode the existing role of the faculty in the educational process.

This alternative ignores the active role of professionals and does not tell the whole story of participation in the decision making process. University faculty have a stake in their respective institutions. They depend upon it for various services, are concerned about it, and have sufficiently sharp feelings so that they are motivated to take some action in its regard. Professors want to do more than break even. They have a desire to share in the fruits of national growth, growth which has certainly been benefited by the production of educated men. It is quite conceivable that this growth could well be considered the measure of the productivity of education.

It seems somewhat unrealistic to think that in a time like the present when inflation, combined with decreasing federal and state

funds, when the pressures for accountability from outside agencies are mounting, that faculties in institutions of higher education will accept a passive role and submit quietly to the decisions made by others.

2. A second alternative, and one that is at the opposite extreme from the passive role, is for the faculty to operate from a power base. The adversary mode, collective bargaining, is rapidly gaining approval on a number of campuses throughout the country. Grobman (1972) estimates that approximately 10 percent of faculty members, nationally. now seem to be represented by a bargaining group.

The Carnegie Commission (1972) reports that surveys indicated that 60 percent of faculty members disagree with the statement that "collective bargaining has no place in a college or university." The Commission further stated that:

> The results will not necessarily be altogether adverse to efforts to achieve effective use of resources. The union contract can be a means by which some costs are made more certain, as compared with free-flowing actions of faculty members; it becomes an instrument for more centralized control. It may also be possible for "management" to achieve provisions designed to increase faculty productivity, e.g., modest increases in teaching loads in return for increases in salaries and fringe benefits--as happens in other segments of society. (Carnegie Commission, 1972, p. 88)

The implication could well be that administrators in higher education will need to prepare themselves to establish successful collective bargaining relationships with faculties.

Keck (1972) suggests that traditional instruments for faculty involvement in decision making are inadequate to cope with the centralized power structure of the modern university. He contends that:

> If an effective faculty organization is the vehicle for faculty power, the instrument by which the power can be effectively utilized is collective bargaining. This is because authority is not shared between men who are inherently unequal. Only when men or groups of men deal with each other as equals is authority really shared. (Keck, 1972, p. 52)

There are those, however, that look upon collective bargaining in a somewhat less favorable manner.

Ping (1973) contends that the results of collective bargaining in higher education are discouraging. He suggests that if the operating practices existing in labor relations are an indication of the consequences that the bargaining model will contribute to higher education, then collective bargaining in higher education will undoubtedly erode the academic community.

Wolfle (1973) agrees that collective bargaining will bring higher pay to faculties of higher education, but in the process the stature of the professoriate will diminish. Wolfle's contention is that "bargaining over the conditions of academic work undermines the hard-won principle that faculty need freedom from external control." (Wolfle, 1973, p. 131)

In rebuttal to Wolfle's statement Jonas (1973) contends that at many institutions faculties do not enjoy freedom from external control and thus they must organize to deal with working conditions and job security as well as with wages and fringe benefits. "Collective bargaining historically seems to have been shown to be more effective in protecting the rights and interests of each member of the group than does individual bargaining." (Jonas, 1973, p. 225)

Large segments of the university faculty community are manifesting an interest in collective bargaining. They do so because they have much to be concerned about.

1. Salaries are rising more slowly; real income, in some instances, has actually been reduced.

2. Budgetary support for faculty interests is much harder to obtain.

3. More efforts are being made to control conditions of employment, such as workload.

4. Students have intruded into what were once faculty preserves for decision making, and these intrusions and their possible extension are a source of worry for many faculty members.

5. External authorities, outside the reach of faculty influence, are making more of the decisions that affect the campus and the faculty.

6. Policies on promotion and tenure are more of an issue both as the rate of growth of higher education slows down, thus making fewer opportunities available, and as women and members of minority groups compete more actively for such opportunities as exist. (The Carnegie Commission on Higher Education, 1973, p. 39)

In reality collective bargaining provides a rational and equitable means of distributing resources and providing an alternative course for aggrieved individuals.

3. The third alternative lies somewhere between the alternative calling for a passive role and the collective bargaining alternative. This alternative involves the assertion of the principle of shared authority. Shared authority means that administration is a cooperative undertaking based on the premise that faculty members can be considered intelligent, competent, and sincere professional people.

> The principle of shared authority holds that the faculty is an integral and essential part of the government of the institution, that it must be effectively involved in all the decision making processes and, in particular, that the faculty bears primary responsibility for faculty status and related matters. (AAUP Bulletin, 1971, p. 230)

Formal authority as prescribed by the bureaucratic system, is to a large extent limited by the political pressures and bargaining that are

exerted on administrators by the different groups within the organization. Decisions are not simply bureaucratic orders, but are instead negotiated compromises among competing groups. Administrators are not really free to simply order decisions, instead they maneuver between interest groups hoping to obtain mutual concession among the groups.

The university is fragmented into many power blocs and interest groups, and it is natural that these groups will try to influence policy so that their values and goals are given prime consideration. In fact, at the university, as in other organizations, small groups of political elites govern most of the major decisions. However, this does not mean that one group governs everything. What it means is that the decisions are divided up with different power groups controlling different decisions.

In spite of this control by the power groups, there still remains a faint trace of democratic tendency in the university, just as there is in the larger society. Thus faculty as well as students are increasingly demanding and receiving a voice in the decision making councils of the university. Baldridge (1971) contends that much of the current unrest in the university is symptomatic of a healthy current of democratization. If this is the case, it should be promoted rather than suppressed.

The American Association of University Professors, the American Council of Education, and the Association of Governing Boards of Universities and Colleges in their statement on government of colleges and universities strongly suggest that the stage is now appropriately set for shared responsibility and cooperative action among the components of the academic institution. Their belief is that:

> Understanding, based on community of interest and producing joint effort, is essential for at least three reasons. First, the academic institution, public or private, often has become less autonomous; buildings, research, and student tuition are supported by funds over which the college or university exercises a diminishing control. Legislative and executive governmental authority, at all levels, plays a part in the making of important decisions in academic policy. If these voices and forces are to be successfully heard and integrated, the academic institution must be in a position to meet them with its own generally unified view. Second, regard for the welfare of the institution remains important despite the mobility and interchange of scholars. Third, a college or university in which all the components are aware of their interdependence, of the usefulness of communication among themselves, and of the force of joint action will enjoy increased capacity to solve educational problems. (AAUP, 1969, p. 27)

Although the felt need for joint decision-making in an organization can arise from a number of factors, resource allocation and scheduling are two factors that seem to be particularly critical according to March and Simon (1963).

Argyris (1952) is of the opinion that conflict among subunits in an organization will be particularly acute with respect to budgeting and the allocation of money and less acute, in general, in other aspects of organizational decision-making.

A condition for the absence of hostility is a measure of understanding and trust. Faculty compensation arrangements are a principal area of tension and mistrust. How are salaries determined? How are dollars spent? These are questions which demand not only answers but faculty involvement in arriving at their solutions.

In a period like the present when inflation, combined with decreasing federal and state funds, is making demands on college budgets, there appear to be two alternatives that administrators in higher

education can consider. The choice is between involving faculties in the decision making process or face the adversary collective bargaining process.

Salary determinants

Professors are almost always hired to teach. Frequently, however, one reads that professors are forsaking their primary teaching duties for the more prestigious and rewarding pastimes of research, writing and publication. This opinion has been supported in both the press and scholarly journals.

Robert H. Snow, Program Administrator of the Adult Educational Division at Syracuse University, stated the following in the Journal of Higher Education.

> Meanwhile, faculty members are increasingly inclined to devote a major share of their efforts to many enterprises outside the classroom, allowing their energies to be diverted from teaching. Recognizing publication as the route to academic advancement, they struggle to produce the books and articles which they hope will justify their claims to promotion and prestige. They negotiate research contracts, serve as paid consultants, conduct private business ventures on the side. Few rewards or distinctions seem to accrue to those who excel as teachers. (Snow, 1963, p. 318)

Snow also attributes the fact that students do not complain about poor teaching because of the students' indifference to education. The typical student seems to be interested in obtaining the lucrative credentials which a Bachelor's degree bestows.

John Fischer (1965), Editor of Harper's, asked, "Is there a teacher on the faculty?"

> No faculty member (with rare exceptions) is rewarded if he teaches well, or punished if he doesn't. On the contrary, all the incentives are arranged to divert him away from teaching, no matter how strong a vocation he may have for it, and to penalize him if he wastes too much time on mere students. (Fischer, 1965, p. 18)

Fischer recommended the use of student evaluations along with scholarly research to determine salaries and promotions. "The predictable result would be a galvanic increase in the amount of effort invested in good teaching." (Fischer, 1965, p. 24)

Considerable literature exists to present the argument that research is a prerequisite to good teaching. Hans Schmitt, a professor of history at Tulane University, concurs. "The young Ph.D. who looks forward to being a good teacher must plan a program of continuous research to keep intellectually trim. The two are inseparable." (Schmitt, 1965, p. 424)

Earl McGrath (1962) surveyed attitudes of 70 professors at 14 liberal-arts colleges from 1957-59. The selection criterion was exceptional teaching abilities as reported by administrative officers of the college. In answer to the question, "Do you believe that it is essential for a college faculty member to be continuously engaged in original research to remain a good teacher?," only 38 percent of the humanities and 24 percent of the social science teachers replied yes, the rest answering no. A slight majority (52%) of the science teachers answered yes.

Apparently, in liberal arts colleges, the importance of research as related to teaching depends on the field of teaching. However, the answer might have been entirely different if the same question had been asked of professors in the prestigious research oriented universities.

The foregoing simply presents opinions to support or refute the conflicting views that research is necessary to teach well as opposed to the belief that researchers are good teachers. Comprehensive studies by Jack Bresler (1968) at Tufts University and Virginia Voeks (1962) at

the University of Washington strongly suggest that the notion that professors who excel in research fail in class is erroneous. However, their studies neither prove or disprove that research is a prerequisite to good teaching. The Bresler and Voeks studies clearly establish the fact that research and teaching do not conflict with each other. Unfortunately, they do not prove or disprove the common belief that professors are rewarded for research and publication, not teaching.

> For most members of the profession, the real strain in the academic roles arises from the fact that they are, in essence, paid to do one job, whereas the worth of their services is evaluated on the basis of how well they do another. The work assignment, for which the vast majority of professors are paid, is that of teaching. There are a few--a very few--who are supported by full- or part-time regular research appointments, but their number is insignificant compared to the vast majority who are hired to teach, and in whose contracts no specification of research duties is made. Most professors contract to perform teaching services for their universities and are hired to perform those services. When they are evaluated, however, either as candidates for vacant position, or as candidates for promotion, the evaluation is made principally in terms of their research contributions to their disciplines. (Caplow and McGee, 1958, p. 82)

According to Caplow and McGee, the criteria used to evaluate "research contributions" are books and articles.

There is the possibility that teaching ability may not be part of the reward system due to the lack of clearly specified and objective standards to evaluate teaching performance. Paul T. Bryant (1967) of Colorado State University recommends administrative visits to classes and reviews of student examination papers as opposed to student evaluations. One could easily conclude that opponents to this system would argue that administrators may not be able to evaluate teaching any better than students, and performance on examinations may not correlate to teaching.

Arnold Tolles and Emanuel Melichar (1965, 1968) conducted and reported studies on professional salaries in education, business, and government. The National Science Foundation's Register of American Science Manpower (1966) furnished the basis for their reports. National Register data on highest degree held, years of experience, type of employer, primary work activity, sex, and age was available in 1966 for 196,428 professionals in the fields of chemistry, earth and marine sciences, space sciences, physics, mathematics, computer science, agricultural sciences, biological sciences, psychology, statistics, economics, sociology, political science, anthropology, and linguistics. Although Tolles and Melichar were primarily interested in economist's salaries, their conclusions regarding economists probably would apply to most of the other professions.

The Tolles and Melichar studies identified the following factors, in order of importance, as the determinants of salaries: academic degree, profession, work activity, years experience, type of employer, sex and age. All of the factors were significant beyond the .01 level with 54 percent of the total variation in salaries being accounted for all professionals and 49 percent of the total variation accounted for economists.

Sex as a predictor of salary was studied at the University of Illinois by Marianne Ferber and Jane Loeb (1970). Their study was based on a survey of 186 women at instructor or above and 186 men matched with the women by rank and department. Only 59 men and 69 women returned questionnaires which could be used in the salary model. Whether the resulting sample is representative of the entire university is open to serious question. However, although Ferber and Loeb did

clearly document the existence of discrimination against women in pay, they did not estimate the magnitude of the discrepancies between the sexes.

The Utah State University Code of Policies and Procedures, based upon the 1967 edition, states the following concerning salaries:

> A general salary schedule with a minimum salary for each professorial rank shall be developed by the administration cooperatively with the Senate Committee on Professional Relationships and Faculty Welfare, and shall be recommended each year to the Institutional Council. It shall be considered as one of the criteria for determining the salary of each faculty member for the ensuing year. However, any staff member has the right to consult with administrators concerned, in regard to his position, rank, salary, as indicated in the current salary schedule.
>
> The salary of the individual faculty member shall be adjusted to the general schedule following an appraisal of performance and merit by the department head, the appropriate dean or director and the President. Consideration shall be given to the quality of teaching and scholarly accomplishments, personal integrity, professional training, professional experience in his current field of work, responsibility inherent in the position, academic rank, and professional recognition. (p. 5-2.1)

Because of its placement before scholarly accomplishments, which is assumed to include research and publications, teaching ability would appear to be the most important determinant of faculty salaries at Utah State University.

Informal interviews with the heads of ten departments at Utah State University were conducted to gain a better understanding of the salary processes. The interviews reveal that once budget allocations are made to individual departments, the department head determines the salary to be received by individual faculty members. The department head then makes his recommendation to the Dean of the College who in turn recommends to the President.

The informal interviews indicated first, that few departments issue policy statements on salaries and promotions. Only two of the department heads interviewed indicated the policy statements were available in writing for those interested. Secondly, the majority of the department heads indicated that the primary determinant of salary increases is teaching ability. Interestingly enough, the mode of evaluation of teaching ability is, in most cases, by analysis of student evaluations.

Of secondary but almost equal importance to teaching ability is publication record. This is especially true if a faculty member can have his works published in the best journals. The best journals are usually those which are refereed. An article submitted to a refereed journal is read by scholars who are experts in the field to which the article pertains. Presumably, an article will be published in such a journal only if it is a significant contribution to a particular field within the discipline.

Administrative assignments, committees, and public service are other considerations in the salary determining processes. It is not clear as to the importance given to such activities.

It is interesting to note that under such a system younger faculty members who have not had time to establish a reputation receive salary increases based on promise. If, after two or three years, the faculty member has not demonstrated an ability to produce, salary increases based on promise will cease. Salary increases for senior faculty members are determined, to a large extent, more by their lifetime records than by current productivity. However, for all staff members productivity of recent years, not simply their current records, seems to have some influence on salary decisions.

The AAUP (1973) in collaboration with the National Science Foundation is currently sponsoring a study of the "Determinants of Salary Differentials." The study being carried out by Frank Stafford and George Johnson of the Department of Economics of the University of Michigan concerns itself with the analysis of the determinants of the individual earnings of college and university faculty in the United States.

Johnson and Stafford are using a multivariate approach to salary determination and then when looking, for example, at sex differences they hold other variables, such as years of experience, type of employer, etc., constant.

The Johnson-Stafford studies are now only beginning to draw conclusions. However, the preliminary findings are interesting with respect to several different relationships.

The following suggest the flavor of the Johnson and Stafford studies.

A. Years Since Doctorate as a Determinant of Salary

> The economist who had zero years of experience in 1964 and six years of experience by 1970 received on average salary increases totaling 85.9 percent over the subsequent six years. After allowing 25 percent for inflation over the six years this amounts to a growth of real wages of 6.6 percent per year. An older colleague, already a senior professor, fared worse. The average economist who had thirty years of experience in 1964 received salary increases totaling only 40.2 percent, a real wage growth rate of less than 2 percent per year.

B. Quality of Graduate School as a Determinant of Salary

> In economics, for example, academics who received their doctorates from the top ten ranked graduate schools in their field started off in 1970 at a salary 6 percent less than academics from other institutions. With ten years of post-degree experience, however, economists from the top ten schools were earning 9 percent more

> than the other group, and, with twenty years, 15 percent more. This general qualitative result also holds in anthropology, mathematics, and sociology, but for some reason it does not hold in the biological sciences--even for subspecialties like botany and genetics.

C. Predoctoral Experience

> Johnson and Stafford find that academics with relatively large amounts of predegree professional experience ("late starters") earn larger salaries at the time they obtain their doctorates than those ("early starters") who have relatively small amounts of predegree experience. However, the early starters catch up with the late starters in about ten years, and generally end up earning more over their lifetimes than the latter. This result is quite consistent across disciplines and between time periods.

D. Discrimination on the Basis of Sex

> Johnson and Stafford have analyzed the data for five disciplines and evaluated the evidence concerning the question of the degree to which women are subject to labor market discrimination. They find that holding other measured qualifications constant, females earn less than males in professional academic employment. (AAUP, Summer 1973, pp. 203-205)

Swenson (1973) conducted an intensive analysis of professional salaries at Utah State University. A multiple regression procedure was used and thirteen factors were identified as being influential in determining salaries. These were as follows:

1. Date of Employment
2. Degree
3. Tenure
4. Rank
5. Sex
6. Rank X Sex
7. Race
8. Assignment (Dean, Associate Dean, Department Head, etc.)

9. Teaching
10. Research
11. Extension
12. College
13. Other Activities

The multiple regression framework employed in the study had a coefficient of determination (R^2) of .811 indicating that 81 percent of the variability in salaries at Utah State University was accounted for. Furthermore, the study indicated that the dominant factors affecting salaries at Utah State University are type of degree, academic rank, sex, assignment, research activity, other activities, and college. The date of employment, tenure status, race and extension assignment were non-significant factors in determining salaries at Utah State University. The almost non-existant number of faculty members from minorities at Utah State University most likely explains the non significance of the race factor. However, it is somewhat difficult to understand and even more difficult to explain why the one activity for which most faculty members at Utah State University are hired for, teaching, is for all practical purposes a non-significant factor in the determination of salaries. One explanation could well be that administrators are neither prepared nor are they willing to invest the time and energy required to evaluate the classroom performance of teaching faculty.

Summary

Regardless of the type and/or style of administrative process implemented in the governance of institutions of higher education, Van Fleet's (1972) observations seem to be supported. That is, even

though vast amounts of money are used to support faculty salaries, seemingly little, if any at all, formal administration is used in decision-making regarding those salaries. Furthermore, most decisions pertaining to the individual faculty member's salary are made by departmental chairman or department head and approved by deans and the office of the president independent of faculty participation.

The de facto process of institutional decision-making in fundamental matters affecting faculty status, such as appointment, promotion, tenure, and salary will ultimately determine the composition of collective bargaining units on the campus. The implication, unfortunately, is that collective bargaining is symptomatic of unrest and disharmony between administrators and faculty. This, however, is not necessarily true. In fact, collective bargaining, properly used, is essentially another means to promote the enhancement of academic freedom and tenure, of due process of sound academic government, and at the same time to strengthen the influence of the faculty in the distribution of an institution's economic resources.

For those institutions of higher education threatened by the composition of collective bargaining units, the alternative lies in the principle of shared authority. This principle calls for the acceptance of faculties as an integral and essential part of the government of the institution and for their effective involvement in the decision-making process.

Although professors are almost always hired to teach, the worth of their services is frequently evaluated in terms of how well they perform in other areas. Research and publication record, for example, appears to be two of the factors that play an important role in determining

salaries in institutions of higher education. Other activities such as administrative assignments, committee appointment, and public service, even though it is unclear as to their importance, are also predictors and/or determinants of salaries.

The Problem

There is presently adequate information available to identify the factors which contribute to and/or are determinants of faculty salary increases at Utah State University. However, the degree of congruency of those factors perceived by administrators as being important in making decisions pertaining to salary increases and those factors perceived by faculty members as being determinants of salary increases, is not presently known.

CHAPTER II

METHOD OF THE STUDY

Purposes and Objectives

It was the purpose of this study to determine if there were any differences in faculty members' and administrators' perceptions of those factors which are influential in making decisions pertaining to salary increases at Utah State University.

It is intended that the information and conclusions contained in the following pages will enable administrative officers at Utah State University to carry out more effective planning that will ultimately provide for better understanding and harmonious working relationships between university administrators and faculty members.

To accomplish the purpose of the study the following objectives were established.

1. To identify those factors which contribute to and/or are determinants of faculty salary increases at Utah State University.
2. To determine if there were any differences in the perceptions of administrators on those factors which are perceived as being of importance in awarding salary increases and those factors which are actually used in determining salary increases at Utah State University.
3. To determine if there were any differences in the perceptions of faculty members on those factors which are perceived as being of importance in awarding salary increases and those factors perceived by faculty members as actually being used in determining salary increases at Utah State University.

4. To determine if there were any differences between faculty members' and administrators' perceptions on those factors which are of importance in awarding salary increases at Utah State University.
5. To determine if there were any differences between faculty members' and administrators' perceptions on those factors which are actually used in determining salary increases at Utah State University.

Variables

Sex, number of years of service in the institution, pre-doctoral experience as it relates to the field in which the faculty member is presently employed, years since obtaining the doctorate degree, degree held, college within the university, tenure, consulting services, public service not related to job description, rank, race, quality of graduate school attended, fulfillment of role expectations as related to job description, teaching excellence, research, extension services, administrative assignments, committee assignments, student advisement, writing and publication record, grant proposals funded, and other activities were the variables used to define and measure the salary increases of faculty members at Utah State University. Ten of the variables were obtained from those factors identified by Swenson (1973) as being determinants of salary at Utah State University. The remaining 12 variables were obtained from the review of literature with the Johnson-Stafford (1973) and the Talles-Melichar (1965, 1968) studies providing the major portion of the 12 variables. It is important to note, however, that all 21 factors correlate with those factors most

frequently identified by the review of literature as contributing to and/or being determinants of salary increases in other institutions of higher education.

Population and Sample

The population for this investigation consisted of administrators and faculty members at Utah State University. Administrators were defined as the Deans of the eight colleges at Utah State University and the Department Heads within the eight colleges. In addition, a selected number of Associate Deans and Assistant Deans, the Provost, Vice Provost, and the Vice President for Financial Affairs at Utah State University were asked to participate in the study. The distribution of the sample for administrators is shown in Table 1.

Faculty members used in this study were chosen on the basis of two criteria. The first was that they had to have a teaching assignment for the 1973-74 academic year. The second was that a portion of the faculty member's salary must be paid from the general university budget. More specifically, faculty members whose total salary came from what is commonly referred to as "soft money" were eliminated from the study. It was believed that faculty members whose salary is derived from this type of funding, as a rule, receive higher salaries than faculty members in comparable positions who are being paid from the general university budget. Furthermore, their salaries are, in most cases, determined on the basis of the salary figures submitted and approved in the funded proposal under which they are employed. The distribution of the sample for faculty members used in the study is shown in Table 2.

Table 1. Distribution of administrators

College	Number in Sample
Agriculture	8
Business	4
Education	12
Engineering	8
Family Life	4
Humanities, Arts and Social Sciences	6
Natural Resources	4
Science	7
Central Administration	2
TOTAL	55

Table 2. Faculty distribution within college and department

College	Department	Number in Sample
Agriculture	Agriculture Education	2
	Animal Science	7
	Dairy Science	1
	Plant Science	7
	Soils & Biometeorology	3
	Veterinary Science	3
Business	Accounting	2
	Business Administration	6
	Business Education	4
	Economics	12
Education	Communicative Disorders	6
	Educational Administration	1
	Elementary Education	9
	HPER	13
	Instructional Media	10
	Psychology	14
	Secondary Education	7
	Special Education	5
	Exceptional Child Center	1
Engineering	Agriculture & Irrigation	5
	Civil & Environmental	12
	Electrical Engineering	14
	Industrial & Technical Education	2
	Industrial Technology	5
	Manufacturing Engineering	1
	Mechanical Engineering	3
	Electro Dynamics Lab	2
	Experimental Station	1
	Water Research Lab	3
Family Life	Family & Child Development	7
	Home Economics & Consumer Education	3
	Home Economics Education	0
	Household Economics & Management	0
	Nutrition & Food Science	4
Humanities, Arts and Social Sciences	Art	3
	English	17
	History & Geography	8
	LAEP, Technical Services	3
	Languages & Philosophy	6
	Music	5

Table 2. Continued

College	Department	Number in Sample
	Political Science	4
	Sociology, Social Work & Anthropology	9
	Communications	6
	Theatre Arts	3
Natural Resources	Forest Science	8
	Range Science	8
	Wildlife Science	9
Science	Applied Statistics	3
	Bacteriology/Public Health	6
	Botany	4
	Chemistry/Biochemistry	6
	Geology	2
	Mathematics	5
	Physics	5
	Zoology	8
	TOTAL	303

Procedures

Because of the nature of the problem, a three-phase approach was used to complete the study.

Phase I. This phase consisted of first, a review of the institutional processes of wage determination. The questions of who makes what decisions at the university related to compensation; what criteria are applied in the allocation of funds at the different levels within the university; and what is the role of the faculty in the decision making process as it relates to budgetary matters and in particular to faculty salaries were considered. Secondly, a review of the literature on the determinants of salaries in institutions of higher education was conducted in an attempt to identify those factors which appear to be influential in making decisions pertaining to salary increases in higher education. Twenty-one factors were selected from those identified to carry out phase II of the study.

Phase II. Implementing the factors identified and selected in phase I, an instrument to be used with faculty members and a similar instrument to be used with administrators, was developed and administered.

1. Instrument used with faculty members. This instrument was designed to identify (1) those factors which faculty members perceive as important in making decisions relating to salary increases, and (2) identify those factors which faculty members perceive as actually being accounted for by administrators in making decisions related to salary increases.

2. Instrument used with administrators. This instrument was designed so as to (1) identify those factors which administrators perceive as important in making decisions related to salary increases,

and (2) identify those factors which administrators actually account for when determining salary increases.

The two instruments, faculty and administrators', were designed to allow faculty members and administrators to rate each of the 21 factors from a selection of five ratings. Faculty members and administrators were instructed to give each factor a rating of:

1 - if the item should not be a factor in awarding salary increases.

2 - if the item should be given very little consideration.

3 - if the item should be given some consideration but is not necessarily a crucial factor.

4 - if the item is a major factor in determining salary increases.

5 - if the item is one of a few highly significant factors in determining salary increases.

The initial mailing of the instruments consisted of 478 faculty instruments and 75 administrators' instruments. Approximately 200 non-respondents were mailed followup letters two weeks after the initial mailing. Three weeks after the initial mailing, a final effort was made by the investigator through telephone calls and personal contacts, to urge those subjects not responding to previous correspondence to complete and return the instrument.

All the returned instruments were checked by the investigator for completeness and to verify that the faculty selection criteria were being met. That is, all faculty members selected for the study had a teaching assignment for the 1973-74 academic year and a portion of their salary was derived from the general university budget. A total of 330 (69 percent of the total) faculty instruments were returned and of this total only 303 (63 percent of the total) instruments were found to satisfy the selection criteria.

Although faculty members on the campus are vocal with respect to salary increases, a large number did not return the questionnaire. Some who returned the questionnaire failed to complete the identification section of the questionnaire and as a result the instrument could not be used in the study.

A possible reason for the poor return of the questionnaire could well be one of apathy on the part of faculty members at Utah State University. Much more realistic, however, would be the motive that professors, who after all are human and would like to keep their jobs, want to avoid upsetting too many administrators and thus jeopardize promotion in rank and salary increases.

Administrators responded in a somewhat more favorable manner. A total of 55 (75 percent of the total) responses were received and implemented in carrying out phase III of the study.

Phase III. The data obtained by use of the instruments developed and administered in phase II was in the form of frequencies which fell into discrete rather than continuous categories. It was because of the nature of these data that a nonparametric statistical design (Chi Squared) was selected and implemented to test the data for differences in faculty members' and administrators' perceptions of those factors which should be of importance in awarding salary increases and those factors actually being used to determine salary increases at Utah State University.

Hypotheses

The following hypotheses stated in null form were made:

1. There is no difference in the perceptions of administrators

on those factors which are perceived as being of importance in awarding salary increases and those factors which are actually accounted for in determining salary increases at Utah State University.

2. There is no difference in the perceptions of faculty members on those factors which are perceived as being of importance in awarding salary increases and those factors perceived by faculty members as actually being used in determining salary increases at Utah State University.

3. There is no difference between the perceptions of faculty members and the perceptions of administrators on those factors which are of importance in awarding salary increases at Utah State University.

4. There is no difference between the perceptions of faculty members and the perceptions of administrators on those factors which are actually used in awarding salary increases at Utah State University.

Method of Analysis

Chi square, a nonparametric statistical test, was used to test all four hypotheses with the critical region set at the .05 level. In all four cases the null hypothesis was assumed. That is, the assumption was that no actual differences existed between the observed frequencies and the expected frequencies. If the calculated value of chi square was equal to or greater than the critical value required for significance at the .05 level for the appropriate degrees of freedom the null hypothesis was rejected. Rejection of the null hypothesis implied that the differences between the observed and the expected frequencies were significant and could not reasonably be explained by sampling fluctuation.

The frequency data was grouped into 2 x 5 contingency tables. However, in some cases the expected frequencies were considerably low making it necessary to apply a correction to the regular chi square test. Borg (1963), Ferguson (1971), and Welkowitz (1971) suggest that the correction factor should be applied to the regular chi square whenever the expected frequency in any cell is less than five.

All calculations of chi square for this study were carried out at the Utah State University Computer Center implementing the SPSS computer program developed at the University of California at Davis.

CHAPTER III

RESULTS

The purpose of this study was to determine if there were any differences in faculty members' and administrators' perceptions of those factors which should be influential and those factors which are actually accounted for in making decisions pertaining to salary increases at Utah State University.

The data for this study were collected from 55 administrators and 303 faculty members at Utah State University. A total of 21 factors, which were identified as being influential and/or determinants of faculty salary increases at Utah State University, were analyzed through the testing of four hypotheses using the chi square test for independence.

The four hypotheses stated in the null form were:

1. There is no difference in the perceptions of administrators on those factors which are perceived as being of importance in awarding salary increases and those factors which are actually used in determining salary increases at Utah State University.
2. There is no difference in the perceptions of faculty members on those factors which are perceived as being of importance in awarding salary increases and those factors perceived by faculty members as actually being used in determining salary increases at Utah State University.
3. There is no difference between the perceptions of faculty members and the perceptions of administrators on those factors

which are perceived as being of importance in awarding salary increases at Utah State University.

4. There is no difference between the perceptions of faculty members and the perceptions of administrators on those factors which are actually used in awarding salary increases at Utah State University.

To reduce redundancy and provide a focus on the factors which were significant, the chi square contingency tables are not included in this section. All chi square contingency tables, for all 21 factors tested through the four hypotheses, are included in the appendixes section of the study.

Analysis of Data

Table 3 presents an overall analysis of the factors yielding significant and non-significant calculated values of chi square at the .05 level for all four hypotheses.

There is only one factor, research, whose importance and actual use in determining salary increases is agreed upon by both faculty and administrators. Analysis of the data indicates that research is perceived by both faculty members and administrators as being an important factor in determining salary increases. Faculty members and administrators also perceive research as one of a few highly significant factors actually accounted for in awarding salary increases at Utah State University.

There was only one factor, fulfillment of role expectations, which was significant for all four hypotheses tested. Fulfillment of role expectations is perceived by faculty members as a highly important factor in determining salary increases. However, faculty members

Table 3. Factors yielding significant and non-significant calculated values of chi square at the .05 level* for all four hypotheses

Factor	Hypothesis 1 Administrators' Perceptions--Important vs Actually Used	Hypothesis 2 Faculty Members' Perceptions--Important vs Actually Used	Hypothesis 3 Perceived Important Faculty vs Administrators	Hypothesis 4 Perceived Actually Used Faculty vs Administrators
Sex	23.255	223.608	4.872	22.298
Number of years at institution	6.000	47.028	10.828	10.256
Pre-doctoral experience	7.080	30.191	2.966	2.971
Years since obtaining doctoral degree	3.894	46.655	8.481	6.785
Degree	3.767	33.258	2.736	6.821
College within university	21.310	137.253	7.689	6.281
Tenure	3.400	79.471	3.076	14.847
Consulting services	3.545	14.086	2.149	4.264
Public service	2.056	10.312	4.134	9.020
Rank	2.171	31.373	2.835	26.489
Race	20.000	136.698	3.318	5.318
Quality of graduate school attended	2.629	8.860	1.520	10.915
Fulfillment of role expectation	12.574**	155.202	12.686	54.346
Teaching excellence	23.067**	270.588	2.609	33.832
Research	3.566	6.098	7.390	3.398

Table 3. Continued

Factor	Hypothesis 1 Administrators' Perceptions--Important vs Actually Used	Hypothesis 2 Faculty Members' Perceptions--Important vs Actually Used	Hypothesis 3 Perceived Important Faculty vs Administrators	Hypothesis 4 Perceived Actually Used Faculty vs Administrators
Extension services	9.273	29.305	14.044	28.981
Administrative assignments	1.134	27.811	7.931	0.663
Committee assignments	5.478	13.365	5.541	1.927
Student advisement	22.272	161.739	7.518	28.616
Writing and publication record	2.050	33.461	17.639	4.489
Grant proposals funded	4.437**	80.606	14.306	7.920

*The critical value of chi square for four degrees of freedom at the .05 level was equal to 9.490. All factors, unless otherwise noted, were calculated with four degrees of freedom.

**The critical value of chi square for three degrees of freedom at the .05 level was equal to 7.820.

perceive fulfillment of role expectations as a factor which is not necessarily used in the determination of salary increases. Administrators also perceive fulfillment of role expectations as a very important factor. The data, however, indicate that there are times when administrators do not actually account for this factor in determining salary increases.

Hypothesis number one--administrators' perceptions of factors perceived to be of importance vs perceived actually used

Chi square was computed for all 21 factors used in the study and six of the factors yielded calculated values of chi square equal to or greater than the critical value required for significance at the .05 level. The six factors which yielded significant values of chi square were sex, college within the university, race, fulfillment of role expectations, teaching excellence, and student advisement.

An analysis of the data indicates that 96 percent of the administrators responding to the questionnaire perceive that being male or female should not be an important factor in determining salary increases. Yet, 36 percent of the administrators responding to the questionnaire indicate that they actually use a faculty member's sex as a decision factor in determining salary increases. This is definitely supportive of Swenson's (1973) salary analysis at Utah State University which clearly indicated differences between men's and women's salaries.

Perhaps the reason for some administrators actually using a faculty member's sex as a decision factor in determining salary increases lies in the University's commitment to the Affirmative Action Program. One of the major objectives of this program is to assure equality in wage and salary administration.

Thus, even though administrators do not perceive a faculty member's sex as important in determining salary increases, they have nevertheless used this factor as such in an effort to decrease the differences between women's and men's salaries at the University.

Approximately 60 percent of the administrators responding to the questionnaire perceive that the college within the university to which an individual is appointed should not be an important factor in determining salary increases. However, nearly 31 percent of the administrators responding acknowledge that the college to which an individual faculty member is appointed is a major factor and in some cases one of a few highly significant factors used in determing salary increases. One can only speculate that across campus there are some faculty members, that only because of the college in which they hold appointment, can expect to receive higher salary increases than their counterparts in another college.

Administrators perceive that race should not be an important factor in determining salary increases. However, some administrators (25 percent of those responding) indicate that they do in effect actually use race as a factor in determining salary increases.

Presently there is a very small percentage (4.7 percent) of minorities on the work force at the University. However, one can only speculate that administrators, in a serious effort to recruit and retain minorities on the work force, are willing to pay higher entry level salaries and grant larger salary increases to minorities.

Fulfillment of role expectations, teaching excellence, and student advisement are considered by most administrators as highly important in determining salary increases. Yet, at least 31 percent of the

administrators responding to the questionnaire indicate that these three factors are not considered or are considered very insignificantly when awarding salary increases.

There is much talk among administrators about the need for good teaching. However, one finds it difficult to find general agreement as to what good teaching really is. Faculty members as well as administrators agree that good teaching is highly important and that it should be rewarded accordingly. Yet, administrators with years of schooling, a professional commitment to education, have not found a satisfactory method to evaluate teaching excellence and reward it accordingly.

It is difficult to evaluate the fulfillment of role expectations when job descriptions are vague or when roles have not been clearly defined. This might be the case in many departments at Utah State University. Thus, this could be the reason for not considering fulfillment of role expectations when determining salary increases.

Almost 70 percent of the administrators responding to the questionnaire indicate that, although student advisement is considered highly important, seldom, if ever, is it accounted for in determining salary increases.

There is presently no system, to the investigator's knowledge, at Utah State University that will aid administrators to differentiate between good student advisement and poor student advisement. This being the case, a faculty member may or may not be rewarded for his efforts. If he is rewarded, the reward is most likely based on the number of students that the faculty member advises. However, one must not overlook the fact that there are many faculty members who are not involved in student advisement to an appreciable degree. For individuals

in this category the development of an evaluation system to reward good student advisement is of little consequence.

The normal expectation would be that the first hypothesis as stated in the null form would not be rejected. One could reasonably expect that only under extenuating circumstances would administrators make decisions relating to salary increases based on factors which were not perceived to be of importance.

The investigator concludes, based on the analysis of data, that there is a difference in the perceptions of administrators of those factors which are perceived as being of importance in awarding salary increases and those factors which are actually accounted for in determining salary increases at Utah State University.

Hypothesis number two--faculty members' perceptions of factors perceived to be of importance vs perceived actually accounted for

With the exception of two factors, quality of graduate school attended and research, all other factors yielded calculated values of chi square greater than or equal to the critical value required for significance at the .05 level for this hypothesis.

As was stated previously, faculty members perceive research as a factor of importance in the determination of salary increases and research is perceived to be one of the factors actually accounted for by administrators in their decisions pertaining to salary increases.

The quality of graduate school attended is perceived by faculty members as a factor which should be given little, if any, consideration in determining salary increases. Faculty members indicate that they perceive administrators as sharing the same idea. Thus, administrators

are perceived as not considering the quality of graduate school attended as an important factor in determining salary increases.

The remaining 19 factors seem to fall into one of four distinct categories (see Table 4). The first category includes those factors perceived by faculty members as not important in determining salary increases. However, these same factors are perceived to be actually accounted for by administrators in the determination of salary increases. The seven factors which fall into this category are sex, number of years at the institution, years since obtaining doctoral degree, college, tenure, rank, and race.

The second category can be classified as containing those factors which faculty members perceive as factors of major importance in the determination of salary increases but which administrators do not use to the extent expected by faculty members. Pre-doctoral experience, fulfillment of role expectations, teaching excellence, extension services, and student advisement fall into this category.

The third category contains those factors which are perceived by faculty members as being of some importance as they relate to the determination of salary increases. Although these factors should not be given major consideration, they should nevertheless merit some consideration. Faculty members perceive that factors in this category are not actually considered by administrators when determining salary increases. Consulting services and committee assignments are the two factors in this category.

Degree held, public service, administrative assignments, writing and publication record, and grant proposals funded are the factors in the fourth category. Faculty members perceive that these factors are of some importance but they also perceive that administrators consider

Table 4. Faculty members' perceptions of factors perceived important vs those perceived actually used by administrators in determining salary increases

Factor	Faculty Members Perceive the Factor As Being				
	Of No Importance	Of Some Importance	A Major Factor	Not Actually Used	Actually Used
Sex	X				X
Number of years at the institution	X				X
Pre-doctoral experience			X	X	
Years since obtaining doctoral degree	X				X
Degree held		X			X
College within the university	X				X
Tenure	X				X
Consulting services		X		X	
Public service		X			X
Rank	X				X
Race	X				X
Fulfillment of role expectations			X	X	
Teaching excellence			X	X	
Extension services			X	X	
Administrative assignments		X			X

Table 4. Continued

Factor	Faculty Members Perceive the Factor As Being				
	Of No Importance	Of Some Importance	A Major Factor	Not Actually Used	Actually Used
Committee assignments		X		X	
Student advisement			X	X	
Writing and publication record		X			X
Grant proposals funded		X			X

these factors as highly significant factors in determing salary increases.

Based on the large number of significant factors for this hypothesis and the foregoing analysis of the data, it is concluded that there is a difference in the perceptions of faculty members of those factors which are perceived as being of importance in awarding salary increases and those factors perceived by faculty members as actually being used by administrators in determining salary increases at Utah State University.

Hypothesis number three--faculty members' vs administrators' perceptions of important factors in awarding salary increases

The application of the chi square test for independence to the third hypothesis yielded calculated values equal to or greater than the critical value required for significance at the .05 level for five of the 21 factors. Analysis of the contingency tables for the 16 factors yielding non-significant values of chi square indicate that the responses of faculty members and administrators were proportionately very close to being equal. This being the case, one could expect a high degree of correlation between the perceptions of faculty members and administrators of the factors which should be of importance in determining salary increases. The data in Table 5 supports this expectation.

Number of years at the institution, fulfillment of role expectations, extension services, writing and publication record, and grant proposals funded were the five factors with significant values of chi square at the .05 level. The chi square values of two of the factors, number of years at the institution (10.83), and fulfillment of role expectations (12.686), were fairly close to the critical value of chi square (9.49) at the .05 level.

Table 5. Faculty members' vs administrators' perceptions of factors which should be of importance in determining salary increases

Factor	Factors which should be of importance in determining salary increases as perceived by Faculty Members	Faculty Members & Administrators	Administrators
Number of years at the institution	X		
Pre-doctoral experience		X	
Degree held		X	
Rank		X	
Teaching excellence		X	
Research		X	
Administrative assignments		X	
Committee assignments		X	
Student advisement		X	
Fulfillment of role expectation			X
Extension services			X
Writing and publication record			X
Grant proposals funded			X

Analysis of the data indicates that although administrators perceive the number of years at the institution an important factor, they do not perceive it as one of a few highly significant factors in determining salary increases. Faculty members also perceive this factor as an important factor but some of the respondents (4.9 percent) indicate that it should be considered as one of a few highly significant factors in the determination of salary increases. Thus, in all probability the reason for the significant value of chi square.

Fulfillment of role expectations is perceived by 94.5 percent of the administrators as being either a major factor or a highly significant factor in determining salary increases. Faculty members perceive this factor as slightly less important. Approximately 82.5 percent of the respondents indicated that it should be a major factor or a highly significant factor in determining salaries. However, five percent of the faculty members responding indicated that this factor should not be or should be of very little importance.

Extension services, writing and publication record, and grant proposals funded are perceived by administrators as major factors in the determination of salary increases. Although faculty members perceive these factors as important factors, they do not indicate that they should be considered as highly significant factors in determining salary increases. All three factors did, however, yield significant values of chi square indicating a difference between the perceptions of administrators and faculty members.

Because of the large number of factors yielding non-significant values of chi square, and because the analysis of the data for the factors yielding significant values of chi square indicate that the responses of faculty members and administrators are proportionately

close to being equal, the investigator concluded that the difference between the observed and the expected frequencies are most likely due to sampling fluctuation. Therefore, it seems reasonable to conclude that there is no difference between the perceptions of faculty members and the perceptions of administrators of those factors which are of importance in awarding salary increases at Utah State University.

Hypothesis number four--faculty members' vs administrators' perceptions of factors actually used in awarding salary increases

Chi square was computed for all 21 factors and nine of the factors yielded calculated values of chi square greater than or equal to the critical value required for significance at the .05 level.

Faculty members perceive that the factors of sex, years of service at the institution, tenure, rank, and quality of graduate school attended are actually used to determine salary increases.

Analysis of the data contained in the contingency tables for all nine factors yielding significant values of chi square shows that administrators' perceptions of what factors are actually used to determine salary increases, are not congruent with faculty members' perceptions. Fulfillment of role expectations, teaching excellence, extension services, and student advisement are perceived by administrators as factors actually used in determining salary increases.

The lack of agreement between the perceptions of faculty members and administrators of those factors which are perceived to be actually used in awarding salary increases at Utah State University can best be visualized by reviewing the data in Table 6. The data indicates that faculty members' and administrators' perceptions of those factors actually used to determine salary increases are for all practical

Table 6. Faculty members' vs administrators' perceptions of factors actually used in determining salary increases

Factor	Factors actually used in awarding salary increases as perceived by Faculty Members	Faculty Members & Administrators	Administrators
Sex	X		
Years of service at the institution	X		
Tenure	X		
Rank	X		
Quality of graduate school attended	X		
Degree held		X	
College		X	
Research		X	
Administrative assignments		X	
Writing and publication record		X	
Grant proposal funded		X	
Fulfillment of role expectations			X
Teaching excellence			X
Extension services			X
Student advisement			X

purposes diametrically opposed. Therefore, the investigator concludes that there is a difference between the perceptions of faculty members and the perceptions of administrators on those factors which are actually used in awarding salary increases at Utah State University

Summary

In the present study four hypotheses were made predicting differences in the perceptions of faculty members and administrators as they relate to salary increases at Utah State University. It was not possible, from a statistical point of view, to either accept or reject any one hypothesis in its entirety.

The major results of this study indicate that there are differences between the perceptions of faculty members and administrators of those factors perceived to be of importance and those factors actually used in determining salary increases. The data also indicate differences in the perceptions of administrators of those factors perceived to be important and those actually used in determining salary increases. These differences in perceptions have been the topic of considerable discussion in the previous section.

Perhaps equally as important, and certainly worthy of mentioning, is the fact that the study also indicates congruency in perceptions of faculty members and administrators. Faculty members and administrators agreed on the relative importance of 15 of the 21 factors identified as contributors and/or determinants of salary increases.

Sex, years since obtaining doctoral degree, college, tenure, and race are perceived by both faculty members and administrators as

factors which should not be of importance in the determination of salary increases.

On the other hand, faculty members and administrators are in agreement that degree held, rank, teaching excellence, research, administrative assignments, committee assignments, and student advisement are perceived as factors of major importance in determining salary increases.

There are some factors which administrators and faculty members perceive as not necessarily major or of no importance, but rather factors which should be given some degree of consideration in the process of determining salary increases. Factors in this category are sex, consulting services, and quality of graduate school attended.

In different places, at different times, and for a variety of reasons these factors could be considered as important in determining salary increases.

Sex could well become an important factor in view of the Affirmative Action Program established at Utah State University the past two years. One of the major objectives of this program is to assure equality in wage and salary determination. It is quite conceivable that in some areas of the University sex could become a major factor in determining salary increases as a means of equalizing salaries.

Consulting services and quality of graduate school attended might indicate close association with research. Quality of graduate school attended might be considered an important factor, if one views that graduates of prestigious schools are usually thought of as being research oriented. Thus, the possibility that a graduate from such a school is most likely to be involved in research.

CHAPTER IV

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

Restatement of the problem

Adequate information is presently available to identify the factors which contribute to and/or are determinants of faculty salary increases at Utah State University. However, the degree of congruency between those factors perceived by administrators as being of importance in making decisions pertaining to salary increases and those factors perceived by faculty members as actually being used to make decisions pertaining to salary increases, is not presently known.

The purpose of this study, therefore, was to determine if there were any differences in faculty members' and administrators' perceptions of those factors perceived to be of importance in determining salary increases and those factors perceived as actually being used in determining salary increases at Utah State University.

Objectives

The specific objectives of this study were:

1. To identify those factors which contribute to and/or are determinants of faculty salary increases at Utah State University.

2. To determine if there were any differences in the perceptions of administrators on those factors which are perceived as being of importance in awarding salary increases and those factors which are actually used in determining salary increases at Utah State University.

3. To determine if there were any differences in the perceptions of faculty members on those factors which are perceived as being of importance in awarding salary increases and those factors perceived by faculty members as actually being used in determining salary increases at Utah State University.

4. To determine if there were any differences between the perceptions of faculty members and the perceptions of administrators on those factors which are of importance in awarding salary increases at Utah State University.

5. To determine if there were any differences between the perceptions of faculty members and the perceptions of administrators on those factors which are actually used in awarding salary increases at Utah State University.

Procedures

This study consisted of three phases:

Phase I. This phase consisted of first, a review of the institutional processes of wage determination. Secondly, a review of the literature on the determinants of salaries in institutions of higher education was conducted in an attempt to identify those factors which appear to be influential in making decisions relating to salary increases in higher education. Twenty-one factors were selected from those identified.

Phase II. Implementing the factors identified and selected in phase I, an instrument to be used with faculty members and a similar instrument to be used with administrators, was developed and administered.

The two instruments, faculty and administrators', were designed to permit faculty members and administrators to rate each of the 21 factors from a selection of five ratings.

The initial mailing of the instruments consisted of 478 faculty instruments and 75 administrators' instruments. All returned instruments were checked by the investigator for completeness and to verify that the faculty selection criteria were being met. That is, all faculty members selected for the study had a teaching assignment for the 1973-1974 academic year and a portion of their salary was derived from the general university budget. A total of 303 faculty instruments and 55 administrators' instruments were found to satisfy the criteria and thus acceptable to carry out phase III of the study.

Phase III. The data obtained by use of the instruments developed and administered in phase II was in the form of frequencies. Therefore, a non-parametric statistical design (chi square) was selected and implemented to test the data for differences in faculty members' and administrators' perceptions of those factors which should be of importance in awarding salary increases and those factors actually being used to determine salary increases at Utah State University. The critical region for the testing of all four hypotheses was set at the .05 level.

Findings

The four null hypotheses as tested, with results, were as follows.

Hypothesis 1. There is no difference in the perceptions of administrators on those factors which are perceived as being of importance in awarding salary increases and those factors which are actually used in determining salary increases at Utah State University.

From the testing of this hypothesis, one may not accept or reject the null hypothesis in its entirety for a significant difference does exist, at the .05 level, for six of the 21 factors. Thus the chi

square values of six of the 21 factors yielded calculated values greater than or equal to the critical value (9.49) of chi square at the .05 level. This finding would indicate that the differences in the observed and expected frequencies, of those factors with significant values of chi square, is greater than by chance alone.

Hence, from this study one may say that administrators at Utah State University indicate that they actually use the factors of sex, college within the university, and race in determining faculty salary increases. This is true even though administrators do not necessarily consider these three factors to be highly important in determining salary increases.

One may also say that the factors of fulfillment of role expectations, teaching excellence, and student advisement are not always used in determining faculty salary increases. This also is true even though administrators at Utah State University rate these three factors as being highly important in determining salary increases.

Hypothesis 2. There is no difference in the perceptions of faculty members on those factors which are perceived as being of importance in awarding salary increases and those factors perceived by faculty members as actually being used in determining salary increases at Utah State University.

From a statistical point of view, this hypothesis may not be rejected in its entirety as chi square values for two of the factors were not significant at the .05 level. However, 19 of the 21 factors yielded chi square values greater than the critical value of chi square at the .05 level. Therefore, from a practical point of view, it would seem reasonable to reject the hypothesis in its entirety.

From this study, one may say that significant differences do exist between what faculty members perceive as important factors and those factors they perceive as actually being used in determining salary increases at Utah State University.

Hypothesis 3. There is no difference between the perceptions of faculty members and the perceptions of administrators on those factors which are of importance in awarding salary increases at Utah State University.

Five of the 21 factors yielded calculated values of chi square which were significant at the .05 level for this hypothesis. Thus, from a statistical point of view the hypothesis cannot be accepted in its entirety. Although five factors yielded significant values of chi square, two of the factors yielded chi square values which were very close to the critical value at the .05 level. There was agreement on 16 factors between faculty members' perceptions and administrators' perceptions.

Therefore, from this study, one may state that there is a high degree of congruency between the perceptions of administrators and faculty members on those factors which should be of importance in determining salary increases at Utah State University.

Hypothesis 4. There is no difference between the perceptions of faculty members and the perceptions of administrators on those factors which are actually used in awarding salary increases at Utah State University.

The results from testing this hypothesis with the chi square test for independence shows that the null hypothesis may not be accepted for nine of the 21 factors. Sex, years of service at the institution, tenure, rank, quality of graduate school attended, fulfillment of role

expectations, teaching excellence, extension services, and student advisement yielded values of chi square which exceeded the critical value at the .05 level.

Hence, from this study, one may say that significant differences do exist between faculty members' and administrators' perceptions of those factors which are actually used in awarding salary increases.

Conclusions

On the basis of this study the following conclusions are made:

1. There is a high degree of congruency between the perceptions of administrators and faculty members on those factors which are perceived to be of importance in determining salary increases at Utah State University.

2. In general, there appears to be a lack of congruency between the perceptions of administrators and faculty members on those factors which are actually used in determining salary increases at Utah State University.

3. Faculty members at Utah State University perceive that they are being compensated for doing a specific job (e.g., teaching) but the worth of their services is evaluated on the basis of how well they do another job (e.g., research).

4. Although administrators perceive certain factors (e.g., sex, race) as not being of importance in determining salary increases, they nevertheless, because of pressures, personal and institutional commitements, actually use such factors in determining salary increases.

5. Although there are some vocal opponents to the present system of individual bargaining and negotiations for salary increases, there is no evidence to suggest that the faculty members at Utah State

University are moving towards the adoption of a more adversary process--collective bargaining.

Recommendations

On the basis of information gained in the process of conducting this study and through analysis of the data, the following recommendations are made:

1. College and departmental administrators should further analyze those factors which have been identified as significant in this study in an effort to explain and/or justify their significance within the respective units.

2. Further research is suggested in order to determine if there is any difference, within college and between colleges, between the perceptions of faculty members and administrators on those factors which are of importance and those factors actually used to determine salary increases at Utah State University.

3. Faculty members and administrators perceive that fulfillment of role expectations is one of a few significantly important factors in determining salary increases. Therefore, it is recommended that the role expectations for each faculty member be defined so that there are no ambiguities of what behavior is expected and what behavior will be rewarded.

4. In view of the fact that faculty members and administrators perceive teaching excellence as one of a few significantly important factors in determining salary increases, it is recommended that a system, to supplement student evaluations, be developed to evaluate teaching excellence.

LITERATURE CITED

American Association of University Professors Bulletin. 1972. 58(2):180. June.

American Association of University Professors Bulletin. 1973. 59(2):203-205. June.

Argyris, D. 1952. The impact of budgets on people. Harper, New York.

Baldridge, J. Victor. 1971. Academic governance. McCutchan Publishing Company, Berkeley, California.

Blackwell, T. E. 1966. College and university administration. The Center for Applied Research in Education, Inc., New York.

Borg, Walter R. 1963. Educational research: An introduction. David McKay Company, Inc., New York.

Bresler, Jack B. 1968. Teaching effectiveness and government awards. Science 160(3824):164-167. April.

Bryant, Paul T. 1967. By their fruits ye shall know them. Journal of Higher Education XXXVIII(6):327-330. June.

Caplow, T. and R. J. McGee. 1958. The academic marketplace. Doubleday and Company, New York.

Carnegie Commission on Higher Education. 1972. The more effective use of resources. McGraw-Hill Book Company, New York.

Carnegie Commission on Higher Education. 1973. Governance of higher education. McGraw-Hill Book Company, New York.

Ferber, Marianne and Jane Loeb. 1970. Sex as predictive of salary and status on a university faculty. University of Illinois. Unpublished.

Ferguson, George A. 1971. Statistical analysis in psychology and education. McGraw-Hill Book Company, New York.

Finkin, Matthew W. 1971. Collective bargaining and university government. AAUP Bulletin 57(2):149. Summer.

Fischer, John. 1965. Is there a teacher on the faculty? Harper's 230(1377):18. February.

Gorbman, Arnold B. 1972. Collective bargaining on campus. Science 175 (4029):1421. March.

Jonas, Steven. 1973. Increased pay, diminished stature. A Reply. Science 180(4084):225. April.

Keck, Donald. 1972. College governance and collective bargaining. Todays Education 61:51-52. December.

Litchfield, Edward H. 1959. The university: A congeries or an organic whole? AAUP Bulletin 45(3):375-376. September.

March, James G. and Herbert A. Simon. 1963. Organizations. John Wiley and Sons, Inc., New York.

McGrath, Earl J. 1962. Characteristics of outstanding college teachers. Journal of Higher Education XXXIII(3):148-152. March.

Millet, John. 1962. The academic community. McGraw-Hill Book Company, New York.

Ping, Charles J. 1973. On learning to live with collective bargaining. The Journal of Higher Education XLIV(2):102-103. February.

Schmitt, Hans A. 1965. Teaching and research, companions or adversaries? The Journal of Higher Education XXXVI(8):424. November.

Snow, Robert H. 1963. The precarious state of teaching. The Journal of Higher Education XXXIV(6):318. June.

Swanson, Austin D. 1970. An investigation of the determinants and the consequences of variation in teachers salaries in New York state. Educational Research Information Center (ERIC) ED 051 558.

Swenson, Richard. 1973. Analysis of salaries at Utah State University. Utah State University, Logan, Utah. Unpublished.

Tolles, N. Arnold and Emanuel Melicher. 1965. The structure of economists' employment and salaries, 1964. AER Supplement LV(4). December.

Tolles, N. Arnold and Emanuel Melicher. 1968. Studies of the structure of economists' salaries and income. AER Supplement LVIII(5). December.

Utah State University Code of Policies and Procedures. 1967. Utah State University, Logan, Utah.

Van Fleet, David D. 1972. Salary administration in higher education: A tentative plan. AAUP Bulletin 58(4):413. Winter.

Voeks, Virginia W. 1962. Publications and teaching effectiveness. The Journal of Higher Education XXXIII(4):212-218. April.

Walsh, John. 1970. Faculty salaries: 1969-70 year may have ended an era for academe. Science 170(3955):308. October.

Welkowitz, Joan, Robert B. Ewen, and Jacob Cohen. 1971. An introductory statistics for the behavioral sciences. Academic Press, New York.

Wellemeyer, J. F., Jr. (Ed.). 1961. Compensation on the campus. Association for Higher Education, National Education Association, Washington, D.C.

Wolfle, Dael. 1973. Increased pay, diminished stature. Science 179 (4069):131. January.

Woodburne, L.S. 1950. Faculty personnel policies in higher education. Harper Brothers, New York.

APPENDIX A

Contained in this appendix are introductory letters, faculty instrument, and administrators' instrument used in phase II of the study.

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322
COLLEGE OF EDUCATION

DEPARTMENT OF
EDUCATIONAL
ADMINISTRATION
UMC 28

Dear Faculty Member:

The present economic situation in the United States suggests that funds for higher education will continue to be insufficient for institutions to meet all legitimate claims upon them. This situation, along with the increased demand for accountability of funds, rulings by boards of higher education and state legislatures, have perhaps been responsible for the increased concern over faculty salaries and the notable increase in grievances involving faculty salaries. Assertions have been made that individual salaries have been, and are, being determined on the basis of improper or inadequate evaluation. It seems reasonable to assume that many grievances and/or imagined grievances relating to salaries could be alleviated if the criteria and the process of determining salary increases were open and clearly understood by faculty members.

I am currently involved in an educational study which attempts to determine to what degree, if at all, faculty member's interests and perceptions of what qualities should be rewarded by salary increases are accounted for by administrative decisions related to salary increases at Utah State University. The results of this study will be made available to faculty organizations and administrative officers in the hopes that they will contribute to more effective planning that will ultimately provide for better understanding and harmonious working relationships.

I would be most appreciative if you would be a part of this study by completing the enclosed questionnaire and returning it to me at your earliest convenience. Your response will be held in strict confidence and therefore it is not necessary for you to sign the questionnaire.

Your assistance is deeply appreciated.

Sincerely,

Izar A. Martinez

Izar A. Martinez

Terrance E. Hatch

Terrance E. Hatch
Major Professor

FACULTY INSTRUMENT

FACTORS INFLUENTIAL IN MAKING DECISIONS PERTAINING TO SALARY INCREASES

College_____
Department_____
Rank_____
Sex_____

[RETURN TO:
IZAR MARTINEZ UMC 28]

Do you have a teaching assignment?_____
What percent of your salary is paid from the general university budget?_____
Do you hold tenure at Utah State University?_____

INSTRUCTIONS: Please read all items first, then return to the beginning and choose the rating which best indicates your perceptions of (I) factors which should be of importance in awarding salary increases and then choose the rating for (II) factors actually being used to determine salary increases in your department and college.

Ratings:

Mark 1 if the item should not be a factor in awarding salary increases.
Mark 2 if the item should be given very little consideration.
Mark 3 if the item should be given some consideration but is not necessarily a crucial factor.
Mark 4 if the item is a major factor in determining salary increases.
Mark 5 if the item is one of a few highly significant factors in determining salary increases.

	I Factors Perceived to Be of Importance in Determining Salaries 1 2 3 4 5	II Factors Actually Being Used to Determine Salaries 1 2 3 4 5
1. Sex	☐☐☐☐☐	☐☐☐☐☐
2. Number of years of service in the institution	☐☐☐☐☐	☐☐☐☐☐
3. Pre-doctoral experience (related to field of employment)	☐☐☐☐☐	☐☐☐☐☐
4. Years since obtaining doctoral degree	☐☐☐☐☐	☐☐☐☐☐
5. Degree held	☐☐☐☐☐	☐☐☐☐☐
6. College	☐☐☐☐☐	☐☐☐☐☐
7. Tenure	☐☐☐☐☐	☐☐☐☐☐
8. Consulting services	☐☐☐☐☐	☐☐☐☐☐
9. Public service (not related to the role expectation as described in job description)	☐☐☐☐☐	☐☐☐☐☐
10. Rank	☐☐☐☐☐	☐☐☐☐☐
11. Race	☐☐☐☐☐	☐☐☐☐☐
12. Quality of graduate school attended	☐☐☐☐☐	☐☐☐☐☐
13. Fulfillment of role expectation as related to job description.	☐☐☐☐☐	☐☐☐☐☐
14. Teaching excellence	☐☐☐☐☐	☐☐☐☐☐
15. Research	☐☐☐☐☐	☐☐☐☐☐
16. Extension Services	☐☐☐☐☐	☐☐☐☐☐
17. Administrative Assignments	☐☐☐☐☐	☐☐☐☐☐
18. Committee Assignments	☐☐☐☐☐	☐☐☐☐☐
19. Student Advisement	☐☐☐☐☐	☐☐☐☐☐
20. Writing and Publication Record	☐☐☐☐☐	☐☐☐☐☐
21. Grant proposals funded	☐☐☐☐☐	☐☐☐☐☐

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322

COLLEGE OF EDUCATION

DEPARTMENT OF
EDUCATIONAL
ADMINISTRATION
UMC 28

Dear Administrator:

The present economic situation in the United States suggests that funds for higher education will continue to be insufficient for institutions to meet all legitimate claims upon them. This situation, along with the increased demand for accountability of funds, rulings by boards of higher education and state legislatures, have perhaps been responsible for the increased concern over faculty salaries and the notable increase in grievances involving faculty salaries. Assertions have been made that individual salaries have been, and are, being determined on the basis of improper or inadequate evaluation. It seems reasonable to assume that many grievances and/or imagined grievances relating to salaries could be alleviated if the criteria and the process of determining salary increases were open and clearly understood by faculty members.

I am currently involved in an educational study which attempts to determine to what degree, if at all, faculty member's interests and perceptions of what qualities should be rewarded by salary increases are accounted for by administrative decisions related to salary increases at Utah State University. The results of this study will be made available to faculty organizations and administrative officers in the hopes that they will contribute to more effective planning that will ultimately provide for better understanding and harmonious working relationships.

I would be most appreciative if you would be a part of this study by completing the enclosed questionnaire and returning it to me at your earliest convenience. Your response will be held in strict confidence and therefore it is not necessary for you to sign the questionnaire.

Your assistance is deeply appreciated.

Sincerely,

Izar A. Martinez

Izar A. Martinez

Terrance E. Hatch

Terrance E. Hatch
Major Professor

ADMINISTRATORS' INSTRUMENT

FACTORS INFLUENTIAL IN MAKING DECISIONS PERTAINING TO SALARY INCREASES

College_____
Department_____
Rank_____
Sex_____

[RETURN TO:
IZAR MARTINEZ UMC 28]

Do you have a teaching assignment?_____
What percent of your salary is paid from the general university budget?_____
Do you hold tenure at Utah State University?_____

INSTRUCTIONS: Please read all items first, then return to the beginning and choose the rating which best indicates your perceptions of (I) factors which should be of importance in awarding salary increases and then choose the rating for (II) factors which you actually acount for in determining salary increases.

Ratings:

Mark 1 if the item should not be a factor in awarding salary increases.
Mark 2 if the item should be given very little consideration.
Mark 3 if the item should be given some consideration but is not necessarily a crucial factor.
Mark 4 if the item is a major factor in determining salary increases.
Mark 5 if the item is one of a few highly significant factors in determining salary increases.

		I Factors Perceived to Be of Importance in Determining Salaries 1 2 3 4 5	II Factors Actually Being Used to Determine Salaries 1 2 3 4 5
1.	Sex	☐☐☐☐☐	☐☐☐☐☐
2.	Number of years of service in the institution	☐☐☐☐☐	☐☐☐☐☐
3.	Pre-doctoral experience (related to field of employment)	☐☐☐☐☐	☐☐☐☐☐
4.	Years since obtaining doctoral degree	☐☐☐☐☐	☐☐☐☐☐
5.	Degree held	☐☐☐☐☐	☐☐☐☐☐
6.	College within USU	☐☐☐☐☐	☐☐☐☐☐
7.	Tenure granted	☐☐☐☐☐	☐☐☐☐☐
8.	Consulting services	☐☐☐☐☐	☐☐☐☐☐
9.	Public service (not related to the role expectation as described in job description)	☐☐☐☐☐	☐☐☐☐☐
10.	Rank	☐☐☐☐☐	☐☐☐☐☐
11.	Race	☐☐☐☐☐	☐☐☐☐☐
12.	Quality of graduate school attended	☐☐☐☐☐	☐☐☐☐☐
13.	Fulfillment of role expectation as related to job description.	☐☐☐☐☐	☐☐☐☐☐
14.	Teaching excellence	☐☐☐☐☐	☐☐☐☐☐
15.	Research	☐☐☐☐☐	☐☐☐☐☐
16.	Extension Services	☐☐☐☐☐	☐☐☐☐☐
17.	Administrative Assignments	☐☐☐☐☐	☐☐☐☐☐
18.	Committee Assignments	☐☐☐☐☐	☐☐☐☐☐
19.	Student Advisement	☐☐☐☐☐	☐☐☐☐☐
20.	Writing and Publication Record	☐☐☐☐☐	☐☐☐☐☐
21.	Grant proposals funded	☐☐☐☐☐	☐☐☐☐☐
22.	Other activities	☐☐☐☐☐	☐☐☐☐☐

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322
COLLEGE OF EDUCATION

DEPARTMENT OF
EDUCATIONAL
ADMINISTRATION
UMC 28

November 2, 1973

Dear Faculty Member:

Two weeks ago you were sent a questionnaire related to salary increases at Utah State University. If you have completed the questionnaire and returned it to me, please ignore the enclosed questionnaire and accept my most sincere thanks. If you have not had time to complete the questionnaire or if you have misplaced it, I am enclosing another one in the hopes that you will complete it and return it to me at your earliest convenience.

Thank you very much for your willingness to cooperate in this study.

Sincerely yours,

Izar A. Martinez

Izar A. Martinez
UMC 28

UTAH STATE UNIVERSITY · LOGAN, UTAH 84322
COLLEGE OF EDUCATION

DEPARTMENT OF
EDUCATIONAL
ADMINISTRATION
UMC 28

November 2, 1973

Dear Administrator:

Two weeks ago you were sent a questionnaire related to salary increases at Utah State University. If you have completed the questionnaire and returned it to me, please ignore the enclosed questionnaire and accept my most sincere thanks. If you have not had time to complete the questionnaire or if you have misplaced it, I am enclosing another one in the hopes that you will complete it and return it to me at your earliest convenience.

Thank you very much for your willingness to cooperate in this study.

Sincerely yours,

Izar A. Martinez

Izar A. Martinez
UMC 28

APPENDIX B

Contingency tables for all 21 factors used in the study showing the relationship between the perceptions of administrators of those factors perceived as being of importance in awarding salary increases and those factors which are actually accounted for in determining salary increases at Utah State University.

In all cases, chi square was distributed as a chi square with four degrees of freedom. The null hypothesis was rejected if chi square computed was greater than or equal to 9.49000.

Factor: Sex

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	53	1	1	0	0	55
Actually Used	32	4	14	3	2	55
Column Total	85	5	15	3	2	110

Chi Square = 23.25490

Factor: Years of service at the institution

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	10	15	24	6	0	55
Actually Used	7	10	24	11	3	55
Column Total	17	25	48	17	3	110

Chi Square = 6.0000

Factor: Pre-doctoral experience

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	7	7	30	9	2	55
Actually Used	8	16	27	3	1	55
Column Total	15	23	57	12	3	110

Chi Square = 7.07963

Factor: Years since obtaining doctoral degree

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	14	8	30	3	0	55
Actually Used	12	11	24	7	1	55
Column Total	26	19	54	10	1	110

Chi Square = 3.89420

Factor: Degree held

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	1	2	19	24	9	55
Actually Used	1	4	19	16	15	55
Column Total	2	6	38	40	24	110

Chi Square = 3.76667

Factor: College within university

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	33	9	6	4	3	55
Actually Used	12	7	19	12	5	55
Column Total	45	16	25	16	8	110

Chi Square = 21.31000

Factor: Tenure

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	20	11	16	6	2	55
Actually Used	12	15	18	6	4	55
Column Total	32	26	34	12	6	110

Chi Square = 3.39970

Factor: Consulting services

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	13	15	20	7	0	55
Actually Used	9	21	20	4	1	55
Column Total	22	36	40	11	1	110

Chi Square = 3.54545

Factor: Public service

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	12	23	15	3	2	55
Actually Used	8	24	14	6	3	55
Column Total	20	47	29	9	5	110

Chi Square = 2.05576

Factor: Rank

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	11	7	16	17	4	55
Actually Used	10	8	19	17	1	55
Column Total	21	15	35	34	5	110

Chi Square = 2.17143

Factor: Race

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	54	0	1	0	0	55
Actually Used	36	6	9	3	1	55
Column Total	90	6	10	3	1	110

Chi Square = 20.0000

Factor: Quality of graduate school attended

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	18	11	21	4	1	55
Actually Used	19	16	16	4	0	55
Column Total	37	27	37	8	1	110

Chi Square = 2.62863

Factor: Fulfillment of role expectation

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	0	0	3	11	41	55
Actually Used	0	4	10	16	25	55
Column Total	0	4	13	27	66	110

Chi Square = 12.57394

Factor: Teaching excellence

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	0	0	1	14	40	55
Actually Used	0	5	14	16	20	55
Column Total	0	5	15	30	60	110

Chi Square = 23.06667

Factor: Research

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	1	1	9	16	28	55
Actually Used	1	2	5	24	23	55
Column Total	2	3	14	40	51	110

Chi Square = 3.56639

Factor: Extension services

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	1	7	19	12	16	55
Actually Used	5	16	13	12	9	55
Column Total	6	23	32	24	25	110

Chi Square = 9.27341

Factor: Administrative assignments

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	1	4	23	18	9	55
Actually Used	2	5	20	21	7	55
Column Total	3	9	43	39	16	110

Chi Square = 1.13452

Factor: Committee assignments

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	1	9	26	16	3	55
Actually Used	4	16	22	10	3	55
Column Total	5	25	48	26	6	110

Chi Square = 5.47795

Factor: Student advisement

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	0	2	25	16	12	55
Actually Used	5	17	16	12	5	55
Column Total	5	19	41	28	17	110

Chi Square = 22.27150

Factor: Writing and publication record

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	0	1	8	26	20	55
Actually Used	1	2	5	26	21	55
Column Total	1	3	13	52	41	110

Chi Square = 2.05003

Factor: Grant proposals funded

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	0	3	14	28	10	55
Actually Used	0	1	12	23	19	55
Column Total	0	4	26	51	29	110

Chi Square = 4.43715

APPENDIX C

Contingency tables for all 21 factors used in the study showing the relationship between the perceptions of faculty members of those factors perceived as being of importance in awarding salary increases and those factors perceived to be actually accounted for in determining salary increases at Utah State University.

In all cases chi square was distributed as a chi square with four degrees of freedom. The null hypothesis was rejected if chi square computed was greater than or equal to 9.49000.

Factor: Sex

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	260	19	16	7	1	303
Perceived Actually Used	80	45	124	40	14	303
Column Total	340	64	140	47	15	606

Chi Square = 223.60778

Factor: Number of years of service at the institution

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	35	43	164	46	15	303
Perceived Actually Used	14	45	110	100	34	303
Column Total	49	88	274	146	49	606

Chi Square = 47.02774

Factor: Pre-doctoral experience

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	31	33	151	57	31	303
Perceived Actually Used	37	81	137	41	7	303
Column Total	68	114	288	98	38	606

Chi Square = 39.19063

Factor: Years since obtaining doctoral degree

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	83	79	109	25	7	303
Perceived Actually Used	41	56	115	73	18	303
Column Total	124	135	224	98	25	606

Chi Square = 46.65524

Factor: Degree held

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	21	15	109	113	45	303
Perceived Actually Used	10	8	72	115	98	303
Column Total	31	23	181	228	143	606

Chi Square = 33.25810

Factor: College within university

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	152	38	79	27	7	303
Perceived Actually Used	33	33	106	97	33	302
Column Total	185	71	185	124	40	605

Chi Square = 137.25345

Factor: Tenure

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	101	57	108	34	3	303
Perceived Actually Used	28	49	121	77	28	303
Column Total	129	106	229	111	31	606

Chi Square = 79.47079

Factor: Consulting services

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	69	72	106	47	9	303
Perceived Actually Used	37	92	119	50	5	303
Column Total	106	164	225	97	14	606

Chi Square = 14.08615

Factor: Public service

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	79	89	97	30	8	303
Perceived Actually Used	51	88	121	38	5	303
Column Total	130	117	218	68	13	606

Chi Square = 10.31210

Factor: Rank

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	39	37	115	87	25	303
Perceived Actually Used	12	21	107	111	52	303
Column Total	51	58	222	198	77	606

Chi Square = 31.37282

Factor: Race

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	277	7	13	1	5	303
Perceived Actually Used	149	46	80	24	4	303
Column Total	426	53	93	25	9	606

Chi Square = 136.69814

Factor: Quality of graduate school attended

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	89	64	105	38	7	303
Perceived Actually Used	58	69	124	43	9	303
Column Total	147	133	229	81	16	606

Chi Square = 8.86045

Factor: Fulfillment of role expectation

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	5	10	35	103	150	303
Perceived Actually Used	10	34	128	105	26	303
Column Total	15	44	163	208	176	606

Chi Square = 155.20179

Factor: Teaching excellence

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	1	3	16	88	195	303
Perceived Actually Used	14	53	130	78	28	303
Column Total	15	56	146	166	223	606

Chi Square = 270.58841

Factor: Research

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	10	20	74	97	102	303
Perceived Actually Used	8	19	51	108	117	303
Column Total	18	39	125	205	219	606

Chi Square = 6.09750

Factor: Extension services

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	22	45	142	59	35	303
Perceived Actually Used	25	77	149	45	7	303
Column Total	47	122	291	104	42	606

Chi Square = 29.30460

Factor: Administrative assignments

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	8	41	149	85	20	303
Perceived Actually Used	11	31	100	111	30	303
Column Total	19	72	249	196	70	606

Chi Square = 27.81127

Factor: Committee assignments

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	18	55	164	52	14	303
Perceived Actually Used	29	85	137	43	9	303
Column Total	47	140	301	95	23	606

Chi Square = 13.36455

Factor: Student advisement

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	6	34	142	86	35	303
Perceived Actually Used	67	109	102	22	3	303
Column Total	73	143	244	108	38	606

Chi Square = 161.73894

Factor: Writing and publication record

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	9	28	103	95	68	303
Perceived Actually Used	8	21	50	106	118	303
Column Total	17	49	153	201	186	606

Chi Square = 33.46115

Factor: Grant proposals funded

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Perceived Important	20	29	121	88	45	303
Perceived Actually Used	13	14	53	85	138	303
Column Total	33	43	174	173	183	606

Chi Square = 80.60644

APPENDIX D

Contingency tables for all 21 factors used in the study showing the relationship between faculty members' and administrators' perceptions of those factors which are perceived to be of importance in determining salary increases at Utah State University.

In all cases chi square was distributed as a chi square with four degrees of freedom. The null hypothesis was rejected if chi square computed was greater than or equal to 9.49000.

Factor: Sex

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	53	1	1	0	0	55
Faculty	260	19	16	7	1	303
Column Total	313	20	17	7	1	358

Chi Square = 4.87234

Factor: Number of years of service at the institution

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	10	15	24	6	0	55
Faculty	35	43	164	46	15	303
Column Total	45	58	188	52	15	358

Chi Square = 10.82799

Factor: Pre-doctoral experience

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	7	7	30	9	2	55
Faculty	31	33	151	57	31	303
Column Total	38	40	181	66	33	358

Chi Square = 2.96560

Factor: Years since obtaining degree

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	14	8	30	3	0	55
Faculty	83	79	109	25	7	303
Column Total	97	87	139	28	7	358

Chi Square = 8.48104

Factor: Degree held

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	1	2	19	24	9	55
Faculty	21	15	109	113	45	303
Column Total	22	17	128	137	54	358

Chi Square = 2.73570

Factor: College within University

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	33	9	6	4	3	55
Faculty	152	38	79	27	7	303
Column Total	185	47	85	31	10	358

Chi Square = 7.68929

Factor: Tenure

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	20	11	16	6	2	55
Faculty	101	57	108	34	3	303
Column Total	121	68	124	40	5	358

Chi Square = 3.07618

Factor: Consulting services

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	13	15	20	7	0	55
Faculty	69	72	106	47	9	303
Column Total	82	87	126	54	9	358

Chi Square = 4.13422

Factor: Public service

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	12	23	15	3	2	55
Faculty	79	89	97	30	8	303
Column Total	91	112	112	33	10	358

Chi Square = 4.13422

Factor: Rank

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	11	7	16	17	4	55
Faculty	39	37	115	87	25	303
Column Total	50	44	131	104	29	358

Chi Square = 2.83541

Factor: Race

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	54	0	1	0	0	55
Faculty	277	7	13	1	5	303
Column Total	331	7	14	1	5	358

Chi Square = 3.31754

Factor: Quality of graduate school attended

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	18	11	21	4	1	55
Faculty	89	64	105	38	7	303
Column Total	107	75	126	42	8	358

Chi Square = 1.51968

Factor: Fulfillment of role expectation

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	0	0	3	11	41	55
Faculty	5	10	35	103	150	303
Column Total	5	10	38	114	191	359

Chi Square = 12.68621

Factor: Teaching excellence

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	0	0	1	14	40	55
Faculty	1	3	16	88	195	303
Column Total	1	3	17	102	235	358

Chi Square = 2.60852

Factor: Research

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	1	1	9	16	28	55
Faculty	10	20	74	97	102	303
Column Total	11	21	83	113	130	358

Chi Square = 7.39042

Factor: Extension services

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	1	7	19	12	16	55
Faculty	22	45	142	59	35	303
Column Total	23	52	161	71	51	358

Chi Square = 14.04365

Factor: Administrative assignments

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	1	4	23	18	9	55
Faculty	8	41	149	85	20	303
Column Total	9	45	172	103	29	358

Chi Square = 7.93103

Factor: Committee assignments

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	1	9	26	16	3	55
Faculty	18	55	164	52	14	303
Column Total	19	64	190	68	17	358

Chi Square = 5.54146

Factor: Student advisement

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	0	2	25	16	12	55
Faculty	6	34	142	86	35	303
Column Total	6	36	167	102	47	358

Chi Square = 7.51787

Factor: Writing and publication record

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	0	1	8	26	20	55
Faculty	9	28	103	95	68	303
Column Total	9	29	111	121	88	358

Chi Square = 17.63895

Factor: Grant proposals funded

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	0	3	14	28	10	55
Faculty	20	29	121	88	45	303
Column Total	20	32	135	116	55	358

Chi Square = 14.30595

APPENDIX E

Contingency tables for all 21 factors used in the study showing the relationship between faculty members' and administrators' perceptions of those factors which are perceived to be actually used in determining salary increases at Utah State University.

In all cases chi square was distributed as a chi square with four degrees of freedom. The null hypothesis was rejected if chi square computed was greater than or equal to 9.49000.

Factor: Sex

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	32	4	14	3	2	55
Faculty	80	45	124	40	14	303
Column Total	112	49	138	43	16	358

Chi Square = 22.29707

Factor: Number of years of service at the institution

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	7	10	24	11	3	55
Faculty	14	45	110	100	34	303
Column Total	21	55	134	111	37	358

Chi Square = 10.25647

Factor: Pre-doctoral experience

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	8	16	27	3	1	55
Faculty	37	81	137	41	7	303
Column Total	45	97	164	44	8	358

Chi Square = 2.97122

Factor: Years since obtaining doctoral degree

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	12	11	24	7	1	55
Faculty	41	56	115	73	18	303
Column Total	53	67	139	80	19	358

Chi Square = 6.78502

Factor: Degree held

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	1	4	19	16	15	55
Faculty	10	8	72	115	98	303
Column Total	11	12	91	131	113	358

Chi Square = 6.82083

Factor: College within university

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	12	7	19	12	5	55
Faculty	33	33	106	97	33	302
Column Total	45	40	125	109	38	357

Chi Square = 6.28119

Factor: Tenure

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	12	15	18	6	4	55
Faculty	28	49	121	77	28	303
Column Total	40	64	139	83	32	358

Chi Square = 14.84729

Factor: Consulting services

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	9	21	20	4	1	55
Faculty	37	92	119	50	5	303
Column Total	46	113	139	54	6	358

Chi Square = 4.26417

Factor: Public service

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	8	24	14	6	3	55
Faculty	51	88	121	38	5	303
Column Total	59	112	135	44	8	358

Chi Square = 9.02044

Factor: Rank

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	10	8	19	17	1	55
Faculty	12	21	107	111	52	303
Column Total	22	29	126	128	43	358

Chi Square = 26.48946

Factor: Race

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	36	6	9	3	1	55
Faculty	149	46	80	24	4	303
Column Total	185	52	89	27	5	358

Chi Square = 5.31758

Factor: Quality of graduate school attended

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	19	16	16	4	0	55
Faculty	58	69	124	43	9	303
Column Total	77	85	140	47	9	358

Chi Square = 10.91569

Factor: Fulfillment of role expectation

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	0	4	10	16	25	55
Faculty	10	34	128	105	26	303
Column Total	10	38	138	121	51	358

Chi Square = 54.34626

Factor: Teaching excellence

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	0	5	14	16	20	55
Faculty	14	53	130	78	28	303
Column Total	14	58	144	94	48	358

Chi Square = 33.83224

Factor: Research

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	1	2	5	24	23	55
Faculty	8	19	51	108	117	303
Column Total	9	21	56	132	140	358

Chi Square = 3.38774

Factor: Extension services

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	5	16	13	12	9	55
Faculty	25	77	149	45	7	303
Column Total	30	93	162	57	16	358

Chi Square = 28.98073

Factor: Administrative assignments

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	2	5	20	21	7	55
Faculty	11	31	100	111	50	303
Column Total	13	36	120	132	57	358

Chi Square = 0.66376

Factor: Committee assignments

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	4	16	22	10	3	55
Faculty	29	85	137	43	9	303
Column Total	33	101	159	53	12	358

Chi Square = 1.92726

Factor: Student advisement

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	5	17	16	12	5	55
Faculty	67	109	102	22	3	303
Column Total	72	126	118	34	8	358

Chi Square = 28.61628

Factor: Writing and publication record

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	1	2	5	26	21	55
Faculty	8	21	50	106	118	303
Column Total	9	23	55	132	139	358

Chi Square = 4.48918

Factor: Grant proposals funded

	Should Not Be 1	Very Little 2	Some 3	Major Factor 4	Highly Significant 5	Row Total
Administrators	0	1	12	23	19	55
Faculty	13	14	53	85	138	303
Column Total	13	15	65	108	157	358

Chi Square = 7.92011

VITA

Izar Antonio Martinez

Candidate for the Degree of

Doctor of Education

Dissertation: A Study of Faculty and Administrators' Perceptions of the Factors Affecting Salary Increases at Utah State University

Major Field: Educational Administration

Biographical Information:

Personal Data: Born at Dixon, New Mexico, September 8, 1932; son of José Paz and Solidea Martinez; Married Carol Jean Leiper June 15, 1957, four children--Jeffrey, Elizabeth, Jean, and Marcos.

Education: Attended elementary school in Dixon, New Mexico; graduated from Allison-James Junior High School, Santa Fe, New Mexico, in 1949; graduated from Menaul High School, Albuquerque, New Mexico, in 1953; received a Bachelor of Science degree from the University of New Mexico, with a major in mathematics in 1961; did graduate work in mathematics at the University of New Mexico and the University of Nevada, Reno, in 1963, 1964; graduated from the University of New Mexico with a Master of Arts Degree in Educational Administration in 1965; did graduate work in Educational Administration at the University of New Mexico, 1965-1972; completed requirements for the Doctor of Education degree, with a major in Educational Administration at Utah State University in 1973.

Professional Experience: Presently, Assistant to the Dean, College of Education, Utah State University, and Assistant Professor of Educational Administration at Utah State University; 1972-73, Administrative Assistant to the Dean, College of Education, Utah State University; 1969-72, Superintendent, Menaul School, Albuquerque, New Mexico; 1968-69, Acting Superintendent, Menaul School, Albuquerque, New Mexico; 1967-68, Administrative Assistant to the Superintendent, Menaul School, Albuquerque, New Mexico; 1964-1967, Assistant Business Manager, Menaul School, Albuquerque, New Mexico; 1961-64, Mathematics teacher, Menaul School, Albuquerque, New Mexico; 1960-61, Mathematics teacher, Lincoln Junior High School, Albuquerque, New Mexico.