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LEAVES OF ABSENCE IN A COMPLEX UNIVERSITY

by

James Warner Boswell

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of the requirements for the degree of
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Doctoral Committee:

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ABSTRACT

LEAVES OF ABSENCE IN A COMPLEX UNIVERSITY

by

James Warner Boswell

Chairman: Robert T. Blackburn

This was a study of the 2174 leaves of absence taken by 1384 faculty members during 1960-70 at one large, complex, Midwestern public university. Its hypothetical findings are probably generalizable to the above type if that type is highly research-oriented and has many Ph.D.'s on the faculty. Additionally, large and medium-sized, private universities, provided they are prestigious in the sense of high productivity, may find it relevant.

Studies about leaves of absence in the past have been quite general, not related to theory through hypotheses tests. This study becomes specific and investigates symmetric and asymmetric relationships existing between leaves and the faculty members who took them.

A general theory was proposed which consisted of six interrelated propositions and two doctrines: (1) faculty regeneration is a fundamental purpose of leaves, (2) institutional image is affected by leavetaking, (3) increased faculty exposure may be detrimental or beneficial to the institution, (4) faculty recruitment and (5) faculty retention will be affected by leavetaking, and (6) productivity and leavetaking are positively related. These propositions, it was suggested, are overlaid by the perception or actual institutional practice

of the up-or-out and publish-or-perish doctrines.

One chapter is devoted to descriptive data arising out of 2174 leaves: type of leaves, sabbaticals, temporary transfer leaves, period when leaves were taken, and length of leaves are crossed in nearly seventy-five tables with academic disciplines, major units of the university, and minor units of the literary college.

Leavetaking was defined as the percentage of contractual time spent away from the institution during the total amount of time with the institution during the decade. This percentage was transformed into a continuous variable on a zero-five scale, and then categorized five ways from Low to High Leavetaking.

Eleven hypotheses concerning leavetaking relationships with other variables were investigated. Leavetaking was the dependent variable in eight of the proposed one-to-one relationships: age, seniority, salary, family dependency, academic rank, academic discipline, departmental star, and research dollars. Leavetaking was the independent variable in the remaining three significance tests: rate of promotion, rate of retention, and productivity. Productivity was measured in three ways: (1) research productivity as rated by the leavetaker's department chairman on a continuous, zero-five scale, (2) teaching productivity as determined on a zero-five continuous scale based on average hours taught per academic session, and (3) Ph.D. productivity as determined by number of chairmanships of graduate Ph.D. committees with transformation of this count into an average per year for each faculty member. Scales were developed also for family dependency, rate of promotion, and rate of retention.

Findings

Of the eight relationships where leavetaking was considered dependent, all except that between leavetaking and departmental starness developed a significant F using simple analysis of variance. However, none of the seven findings of significance were strong as shown by ω^2 (sometimes referred to as η^2), the proportion of variance accounted for between independent groups or treatments. The strongest dependency of leavetaking was with age (25% of variance accountability) with seniority (14%), family dependency (13%), and academic rank and academic discipline (5% and 7% respectively). Salary accounted for 5.5%, and research dollars 8% of the total variance. The relationship between departmental starness and leavetaking was not significant using the t test.

Of the three relationships where leavetaking was considered the independent variable, only one showed significance: rate of promotion ($N = 1134$, $\alpha = .01$). However, the relationship was also exceedingly weak at 2% variance accountability in rate of promotion attributable to leavetaking differences. Rate of retention ($N = 192$ voluntarily resigned leavetakers) showed no significance as well as all three kinds of productivity ($N = 228$ faculty from six selected departments).

The non-significant relationship between leavetaking and research productivity should be viewed with caution inasmuch as there is a great deal of in-depth complexity in both variables which, by necessity, could not be investigated or controlled for.

PREFACE

The title of this study, Leaves of Absence in a Complex University, indicates that the investigation is concerned with only a portion of one structure of American society. Within that particular structure, or system, there are thousands of unsolved problems each of which could and should be studied if time, manpower, and finances were available. Within the discipline of higher education, the problem of this study initially arises out of or is centered in two of the constituencies which exist in academic communities: faculty and administration. The study will only peripherally be concerned with either students, alumni, or other populations related to the university. The specific academic community being studied is a large and complex, highly respected Midwestern university. The general question being looked at is: What relationships exist between leaves of absence and the faculty who took these leaves? Naturally the faculty is involved. The administrative constituency is brought in because institutional policies must exist with respect to leaves of absence, and these policy decisions arise in and are executed by the executives of the university beginning at the board level and extending downward to the level of dean, department chairmen, and thence to the faculty. Most importantly, a general theory about leaves can be generated against which some of the research hypotheses may be tested. This general theory probably resides in a still larger body of theories concerning motivations of individuals in organizations and in the psychological considerations of human

behavior.

Giving due credit to previous work is fairly easily accomplished inasmuch as those citations will appear in the body of the report. Giving credit to anyone who assisted materially in the investigation is much more difficult. To begin with there was a group of people headed by Helen Schober who not only provided personnel material whenever needed, but did it pleasantly; there are other individuals like Peggy Schlene who did countless personal favors while facilitating the study; there are several other individuals in the academic community who, when my needs were explained to them, willingly provided me with materials that I needed. Dean George E. Hay provided me with his accumulated statistics regarding Ph.D. productivity and his staff cannot be thanked enough for the cooperation shown. The Registrar's office aided me materially in obtaining official data about students in particular departments of the university. Six department chairmen consented to evaluate members of their faculty on the basis of the faculty's productivity in research and teaching.

Committee chairman, Professor Robert Blackburn, was consistently available to me whenever I needed encouragement or advice, and the entire committee was kind enough to turn me loose and let me pursue the investigation in my own fashion. All of these people assisted me materially in some way or another throughout the investigation.

Finally, a great deal of credit should be given to Mrs. Phyllis Heppenheimer for her professional skill and care in typing, proofreading, and the design of the tables.

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CHAPTER I

INTRODUCTION

Preliminaries

There are several non-experimental or quasi-experimental ways by which leaves of absence in institutions of high education may be investigated. To begin with, one might explore or describe them from an historical viewpoint by reviewing the literature and the practices of the past. In this case sabbatical leaves as opposed to other kinds of leaves will probably be the major focus.[1] This kind of annotative study is quite general, on the periphery of science. Secondly, one might study leaves by making inter-institutional comparisons in a framework of fringe benefits or simply as a fringe benefit.[2] Thirdly, one might ask a specific faculty how well it was satisfied with the institutional leave of absence policy, how importantly it viewed it, and by measuring the difference between satisfaction and importance, arrive at discrepancy scores. Statistical comparisons can be made for significant differences between faculty working conditions.[3] If one

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[1]Eells, W. Crosby and Hollis, Ernest V., *Sabbatical Leave in American Higher Education: Origin and Early History and Current Practices*. U.S. Department of Health, Education and Welfare, Bulletin #17, 1962. Their annotative bibliography is included in Appendix A.

[2]Ingraham, Mark H. and King, Francis P., *The Outer Fringe: Faculty Benefits Other than Annuities and Insurance*. Madison, Wisconsin: University of Wisconsin Press, 1965.

[3]Theophilus, Donald R., Jr., "Professorial Attitudes toward Their Work Environment at the University of Michigan: A Study of

looks closely at these methods of studying leaves of absence, he or she should be struck by the fact that leave studies are becoming more and more specific. The greater the specificity, the more likely it is that causal inferences about that which is under investigation can be supported. Thus, it is suggested that there is a fourth approach to the study of leaves of absence: one which can be more specific, one which can be studied in the light of a general theory, and one which can investigate hypotheses related to a general theory.

Because the study will strive for greater specificity, it could become highly useful for administrative decision-making purposes. Much more light needs to be shed on the nature of leave taking by faculty members, light in the form of explanations about relationships between relevant variables. As a result, more appropriate and rational policy regarding leaves may be promulgated by the decision making authority of specific institutions. This, of course, does not say that the findings here will be the final answer to administration leave problems.

And there is an additional cautionary note. The pluralism or diversity of American higher education should negate any attempt, considering the present state of the art, to generalize the findings over the entire institutional spectrum of higher education. What might be an excellent and feasible policy for one institution might be detrimental or impossible for another. The differences between public and private institutions, and between teaching as opposed to research-oriented institutions, immediately come to mind. Specifically, there might be a lack of opportunity to find faculty replacements, inadequate finances

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Selected Incentives." Doctoral Dissertation, University of Michigan, 1967.

may plague the institution, or the institution may be led by a president who does not believe in a strong leave policy.

Still, this fourth type of study: (selection of a single institution of large size; one which maintains a complex, highly decentralized organization structure; one which is dedicated to a heavy emphasis on research; and a study which deals with specific, leave-oriented variables) might provide ample descriptive data and hypothetical findings to make the probe of invaluable use to administrators and policy makers in higher education. Prediction, a major goal of most scientific inquiry, may be enhanced. Planning may become more rational. If there are institutional purposes for leaves of absence as opposed to faculty purposes--an important duality--the investigation might illuminate whether or not these purposes are being influenced by the institutional leave policy.

The Research Problem

A leave of absence is an event in the working life of a faculty member as well as the result of an administrative decision. The problem concerning leaves of absence therefore can arise out of either or both of these academic constituencies. Faculty members, for example, might like to know more about a particular leave policy in order to compare it with other institutions when they make employment decisions. They will be particularly concerned with how a leave policy might affect their career not only institutionally but in their discipline. They might like to know the viewpoint of their department or their discipline regarding leaves. Leaves of absence appear to have a respectable relationship to research in that a great many leaves are granted for this purpose, and research may be closely related to the concept of

publish or perish. Consequently, leaves, from the faculty point of view, may have an effect upon productivity, and productivity has a publication connotation. It stands to reason, it might be thought, that the less one is occupied with teaching or administrative duties, the more time he or she can devote to research. The more time devoted to research, it might again be thought, the more time that can be devoted to writing and publication.

It might also be thought, from the administrative side, that leaves of absence are conducive to higher morale and greater mobility. Leaves then become a problem not only for the faculty member but for the administrator who grants or petitions for the leave. Granting of leaves may in some cases be a mere administrative formality in some departments or in some disciplines. They may also serve other purposes. [Compare the two letters requesting leaves in Appendix C(3).] Yet, intuitively, one would say to himself that a department chairman, a dean, or a president might not be able to grant leaves unless the institution were protected. After all, someone must stay behind to teach, and someone must return if continuity in planning is to exist. The administrator might be concerned about the element of additional exposure that faculty members receive while on leave. The institution might prefer some professors to take more leaves than others in order to create greater exposure. A financially-oriented administrator is going to be concerned with the problem of financing leaves of absence if the organization must replace leaving faculty members.

As the search of the literature in the following pages will substantiate, studies about leaves of absence in the present state of their art have been researched from a very broad point of view. The

specificity which we are seeking, although much more specific than the investigations of the past, does not yet fall into the sophisticated experimental typology. The research question(s) arising out of the research problem(s) at this stage first need to be funneled into specific kinds of academic institutions where investigations of specific variables can be carried on in an exploratory or descriptive research framework. Thus there is no one question at this stage; rather there is a series of many questions to be asked in order to develop explanations for the many problems confronting the faculty and the administrator.

The Literature Search

Search of the literature revealed one dissertation directly pertaining to leaves of absence in universities or colleges,[4] and one general dissertation about sabbatical leaves of absence in public two-year colleges in the Midwest.[5]

Cloward's study of ten Utah institutions of higher education was data oriented but non-hypothetical. A great many of his findings had to do with the number or percentage of leave takers (676 teachers, 59 administrators through questionnaires and 20 administrators and 127 teachers by interview). Less than one third had taken leaves, mostly for advanced degrees, usually one year leaves, costing leave takers a mean amount of almost $2800. Policies and procedures were discussed and several points which relate to general theory such as: leave

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[4]Cloward, McRay, "The Sabbatical Leave in Utah Institutions of Higher Learning." Doctoral Dissertation, University of Utah, 1960.

[5]Waltmire, Robert Charles, "Sabbatical Leaves in Public Two-Year Colleges of the Midwest." Doctoral Dissertation, University of Toledo, 1967.

benefits are shared equally by institution and faculty; new ideas, viewpoints, greater knowledge are the major benefit; gain of teachers is a major institution benefit. One relevant, non-empirical conclusion was: sabbatical leave is essential for the improvement and upgrading of faculties in an institution of higher learning. No mention of the academic locations of the sample is made in the abstract but it would be supposed that of the ten institutions in Utah the four who contribute the greatest effort toward education (Brigham Young, 24,000; University of Utah, 20,000; Weber State College, 10,000; and Utah State University, 9,000)[6] would have formed the major part of the study.

Waltmire's study was of two-year Midwestern (6 states) institutions with sabbatical policy-making power. Forty-eight institutions were contacted, 16 institutions had sabbatical policies, 17 sabbaticals had been granted. The purpose of the study was to determine leave policy attitudes in these two-year colleges. Non-empirical support for the general theory was given: "To effectively teach in this type institution, one requisite of the teacher is to be up-to-date in methods, data, techniques and ideas. . . . Sabbatical leaves are one method of *finding the time* [italics supplied] to accomplish these tasks."

Also Reddick related faculty retention at selected church-related colleges to several factors, one factor being sabbaticals. It was the third highest unsatisfied economic need following income and research facilities.[7] Another dissertation was concerned with factors

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[6]*American Universities and Colleges*, ed. Otis A. Singletary. Washington, D.C.: American Committee on Education (10th ed.), 1968.

[7]Reddick, E. L., "Factors Associated with Retention of Faculty at Selected Church-Related Colleges." Doctoral Dissertation, North Texas State University, 1968.

associated with the attraction and retention of qualified college faculty (assistant and associate professors) at Indiana University among which factors were included faculty time available for research and writing, and fringe benefits. The latter, including leaves, was not considered important.[8] A dissertation of a very general nature, not particularly related to leaves of absence but rather to health insurance or pension systems, discussed security benefits at the University of Nebraska. These fringe benefits, it was theorized, helped in recruitment, morale, and retention.[9] A study conducted at the University of Michigan about professorial attitudes toward several incentives included leaves as one type of fringe benefit. Fringe benefits ranked quite low with respect to other variables in professorial attitudes when discrepancy between importance and satisfaction was measured. This is not to say they were found unimportant.[10]

Stickler has conducted two surveys on leaves of absence, one in 1959-60 and the other, a follow-up, in 1964-65. The first study summarily reported the sabbatical leave practice of 71 state-supported colleges and universities.[11] The second studied the same practices and

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[8]DeJesus, L. L., "Factors Associated with the Attraction and Retention of Qualified Faculty at Indiana University." Doctoral Dissertation, University of Indiana, 1967.

[9]Loudon, Roy Virgil, Jr., "Security Benefits and the Academician." Doctoral Dissertation, University of Nebraska, 1967.

[10]Theophilus, *op. cit.*

[11]Stickler, W. Hugh, *A Survey of Sabbatical Leave Policies and Practices in State Universities and Land Grant Institutions, 1957-58.* Tallahassee, Fla.: Florida State University.

the changes which had occurred in them over a five-year period.[12] Typical findings of his later study: Fifty-nine (69% response) institutions in the Association of State Universities and Land Grant Colleges had sabbatical programs; they varied widely; applied in 53% of the 59 to all ranks; 90% had an obligation attached; 92% said sabbatical had no influence on faculty pay patterns; and sabbatical programs are extending to other institutions.

A short theoretical article was written from a negative-sounding administration point of view.[13] Eble says:

> But today, and in the future, . . . replacements are not often available, and the staff must take over the work of absent members. In large departments, . . . spreading the load may work no great hardship and, after all, the men will be back, each one twice the man he was before. In small departments . . . hardships do result. As leaves increase, the loss of . . . first rate . . . men may have a marked . . . effect upon the university's health. Finally, . . . the plentiful opportunities for leaves (non-sabbaticals) work against establishment of a sabbatical plan. . . .

Later, another non-empirical article discussed leaves from the administrative standpoint.[14] Sheedy discussed leaves taken by faculty members for governmental assignments, and he suggests that governmental agencies plucking faculty out of universities should be realistic about the timing and the cost problems that result to the institution. "So my recommendation is that governmental agencies offering temporary opportunities . . . be empowered to compensate university for losses of time and money. . . ."

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[12]Stickler, W. Hugh, *A Survey of Sabbatical Leave Policies and Practices in State Universities and Land Grant Institutions, 1964-65.* Tallahassee, Fla.: Florida State University.

[13]Eble, K. E., "The Wandering Scholars: Who Does the Work at Home?" *J. Higher Ed.*, XXXII, #6 (June, 1961), 346-47.

[14]Sheedy, C. E., "They Just Lose Their Faculties," *Liberal Education*, 48 (December, 1962), 492-95.

There was a semi-faculty oriented suggestion in another non-empirical article that the smaller four-year colleges which are teaching rather than research-oriented be given grants for 10 week sabbaticals.[15] "In the allocation of funds, a college should set aside a certain minimum to give full year or half year sabbaticals. . . . Beyond this, the donor college could offer eight to ten summer sabbaticals for every full year's leave." Interestingly, Winetrout does not believe in the notion that sabbaticals are revitalizing! ". . . sabbaticals would appear to be something less than re-creative, refreshing, re-vitalizing." He gives no reason for his conclusion.

A year later Mark Ingraham stated five principles about fringe benefits in general, and used leaves of absence as an example because, he said, of a *wealth of material?* (Italics and question mark supplied.)[16] These principles are administratively oriented: (1) benefits (leaves) need to fit special rather than general situations; (2) a little benefit (leave policy) may be worse than no benefit (leave policy); (3) changes in benefits (leave policy) may irritate; (4) benefit programs (including leaves) need to be surveyed; (5) the philosophy of benefit programs (including leaves) needs to be developed.

M. Lurie discussed in non-empirical style manpower management in higher education with some comparison to manpower management in

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[15]Winetrout, K. "Summer Sabbaticals," *Liberal Education*, 50 (March, 1964), 59-62.

[16]"Other Benefits," *AAUP Bulletin*, 51 (Spring, 1965), 26-29.

business.[17] It is presented with a faculty viewpoint.

> Provision for the professional growth of their faculty personnel must concern colleges and universities. One constantly listens to top administrators harangue faculties for more research, more writing, more evidence of professional growth. . . . It would seem that the long range enlightened practice would be to provide free time and facilities to encourage professors to pursue research thus benefiting themselves and the university.

R. H. Farber suggests, after a survey of the twelve colleges in the Great Lakes College Association, that faculty mobility is a major problem when the mobility is defined as individuals on leaves of absence, special or sabbatical.[18] The non-empirical report stated:

> There was almost complete agreement that faculty mobility represents a fine opportunity for . . . faculty . . . and . . . institutions. . . . Unfortunately, there are several problems . . . lack of continuity in departmental programs as well as quality of instruction. . . . The caliber of temporary replacements . . . not to mention the time and money involved.

He concluded by asking some general guidelines for sabbaticals and special leaves.

A philosophically and policy-oriented statement illustrating the AAUP's stand on the issue of leaves appeared soon after. In a sense this philosophy summarizes the general theory out of which a study of leaves could be generated.[19] Some general points are (1) teacher's effectiveness is maintained, (2) scholar's usefulness enlarged, (3) budgetary provisions are necessary, (4) flexible procedures must exist, (5) leaves without pay should be granted, (6) leaves should

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[17]Lurie, Melvin, "The Effect of Non-Vested Pensures on Mobility: A Study of the Higher Education Industry," *Industrial and Labor Relations Review*, XVIII (January, 1965).

[18]Farber, R. H., "Constructive Use of Faculty Mobility; New Guidelines Concerning Sabbatical and Special Leaves," *Sch. and Soc.*, 95:183 (March, 1967).

[19]"A Statement on Leaves of Absence," *AAUP Bulletin*, 53 (Autumn, 1967), 270-74.

not interfere with promotions or salary increases, (7) leaves should count toward tenure, and (8) previous service at other institutions should count in determining eligibility. This statement was authored by Mark Ingraham in conjunction with Francis King. One must suppose it is faculty-orientated because it is an official policy statement of the AAUP.

Earlier in the sixties a study was conducted by the American Association of Colleges, AAUP, and TIAA with support from the U.S. Steel Foundation. "The purpose of the present book," it was stated, "is to report and comment upon certain of the major faculty benefits other than salary, retirement provisions, and insurance that are being provided in the colleges and universities of the United States."[20] Eleven chapters of the fourteen chapters are devoted to faculty benefits, one chapter per benefit, with leaves of absence being granted the most space, 23 pages. The other benefits were housing, educational privileges, health provisions, loans, personal benefits, travel expenses, faculty club, parking, secretarial help, and retired faculty privileges. A questionnaire was sent to 1000 institutions covering all of the states which approximately 750 (75%) institutions in all states answered. The section devoted to leaves of absence concerned sabbaticals, leaves with pay, and other leaves without pay using a total of forty-three closed and open ended questions. The results were tabulated in forty-seven summary tables. No hypotheses were tested. The forty-three questions asked each institution about (1) availability of sabbaticals, (2) faculty rank required, (3) years of service required for sabbatical, (4) purposes of sabbaticals, (5) length of sabbaticals,

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[20]Ingraham, *op. cit.*

(6) continuation of other benefits while on sabbaticals, (7) obligation to return, (8) contribution of leaves to recruitment and retention. Questions were asked about other kinds of leaves.

Another recent book looked at the academic labor market in a study of faculty mobility.[21] As a small portion of his study of mobility, Brown was concerned with immobility and various factors influencing the faculty member to stay put. Among these factors such as ethics of the marketplace, promotion from within, inbreeding and outbreeding, tenure, lack of perfect market knowledge, tangible and intangible costs of moving were fringe or non-wage benefits. In industry, Brown reports, studies show workers move regardless of fringe benefits. A business-oriented study, for example, showed that no significant difference in turnover (mobility) between vested and non-vested pension systems in higher education existed insofar as turnover (mobility) was concerned.[22]

Brown's faculty mobility study of approximately 10,000 faculty members in about 1,800 two and four-year institutions in 1963-4 supported Lurie's finding. Brown's study looked at two additional potential mobility reducers besides pensions: education for faculty children and sabbaticals. With respect to sabbaticals, the study reported, "Though the differences in average accession rates (full time faculty newly hired in an academic year divided by the total full time faculty) are not significant, the schools with sabbatical leave plans . . . evidence slightly higher turnover than those without. . . ." The two

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[21]Brown, David G., *The Mobile Professors*. Washington, D.C.: American Committee on Education.

[22]Lurie, *op. cit.*

percentages were 19.6 as opposed to 18.1 with no significant difference. Brown made this significant statement. ". . . it would seem that high fringe benefits are not a strong restraining influence upon mobility."[23]

A comprehensive historical analysis in monograph form beginning with "There is little doubt that the first American institution of higher education to grant a sabbatical was Harvard University . . . in 1880," a governmental document, defines sabbaticals and brings the bibliography of sabbaticals up to date beginning with a secondary school study from 1895 and continuing to 1962 and includes itself.[24] Several of the 49 references are dissertations, the latest one being the Cloward dissertation written in 1960. Twenty-six are references to inter-institutional comparisons of leave policies similar to the Stickler studies. Several of them are chapters in Administration texts of higher education. A copy of this extensive bibliography is attached in the Appendix. In a footnote on page 8, the authors state:

> Nothing was found under "sabbatical leaves," "leaves of absence" or related topics in Poole's *Index* covering periodical literature from 1902 to 1906. The comprehensive index to the 27 volumes of Barnard's *American Journal of Education* from 1855 to 1881 showed nothing. Only one article was found in the first 50 volumes of the *Educational Review* which began publication in 1891, and that article dealt chiefly with sabbatical leave for public school teachers.

There appears to be a growing emphasis on studies of faculty morale, institutional climate, and faculty development as epitomized by the Theophilus study in 1967,[25] and this was continued in 1968 in a study concerning leaves of absence. Bowers' empirical study of faculty

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[23]Brown, *op. cit.*

[24]Eells and Hollis, *op. cit.*

[25]Theophilus, *op. cit.*

morale investigated the relationship between faculty morale and conditions which characterize institutional climate.

> There are . . . conditions . . . considered to be of more importance than other conditions. When these conditions are present in a positive form they can describe an institutional climate conducive to effective teaching and learning. . . . Conditions classified as fringe benefits can be expected to make a *limited* contribution to high faculty morale. [Italics supplied.]

Positive conditions are those, according to Bowers, which recognize personal worth and professional competence.[26] Bowers' study covered not one university but 31 public and private institutions: universities, four-year and two-year colleges; 232 faculty members.

Almira studied the adequacy of institutional provisions for faculty development in seven Michigan colleges of education (3 large, 4 small) using a 6-man sample for institutions. A survey of administrators and faculty members dichotomized an 84-item list of provisions for faculty development: those directly relevant, those merely contributors. Widely distributed sabbatical leave privileges was one of fifteen items suggested for faculty development. The larger colleges had more funds and better pensions for faculty development. There was a widely dispersed spread of adequacy.[27]

Summary

The preliminary section's purpose was to indicate the desire to become more specific in studying leaves of absence, and to suggest a rationale for conducting the study. This rationale, which had adminis-

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[26]Bowers, Orville Edwards, "Elements of Institutional Climate Pertaining to Faculty Morale in Colleges." Doctoral Dissertation, University of Missouri, 1968.

[27]Almira, L. L., "Institutional Provisions for Faculty Development in Seven Tax-Assisted Colleges of Education in Michigan, 1966-67." Doctoral Dissertation, Michigan State University, 1968.

trative overtones, is then further developed in the section called "The Research Problem" which indicated that the problem is really a series of problems arising out of a limited state of the art, and which can be stated as a series of questions from either a faculty or administrative standpoint. A state of the art exists which can be called primitive with many isolated facts, little attention to any theory, and relationships exceedingly undeveloped. The section called "Literature Search" supports this viewpoint of relative crudity of the present scientific approach to leaves of absence. Because of this, highly sophisticated findings should not be expected in this particular study; rather, only the beginnings of relationships between variables may be discovered, and should be expected. Generalizations inducted from observations of many facts may be a result, of course, but even these generalizations will be highly tentative at this stage of leave investigation.

CHAPTER II

GENERAL THEORY, HYPOTHESES, AND OTHER FINDINGS

The General Theory

The general theory about leaves of absence in institutions of higher education used for scientific purposes in the study is composed of three elements: (1) several interdependent *propositions* or statements. A theory is without exception a system of related statements, it has been stated. Their interdependency exists through (2) *factors* which influence the propositions as well as (3) two (possibly three) *doctrines*. Some of the propositions are extremely intangible while others, being more tangible, are more amenable to specifics and quantification. These elements of the general theory, or components, can now be elaborated upon.

In 1967 the *AAUP Bulletin*[1] carried a position statement on leaves of absence (see Appendix for complete statement) which suggested that faculty members deteriorate in their disciplinary and general knowledge, and consequently require a period of time away from their regular duties and possibly away from the institution in order to recuperate. This deterioration, it must be remembered, may be more than physical. It can be a natural result of technological advances which have been made in a discipline. Opportunities to remain abreast of a field may be limited due to the press of other duties. A leave of

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[1] *AAUP Bulletin*, 1967, *op. cit.*

absence is supposed to give the faculty member a chance to refurbish his intellectual machine.

> The college or university teacher should be a scholar who is constantly increasing his knowledge and keeping abreast of the development of his field. Frequently he is an active investigator and in many institutions research is a significant portion of his obligation. He should remain a man of vigor with a fresh mind and broad intellectual interests. Heavy teaching duties performed year after year may make this impossible. Leaves of absence and special research assignments at reasonable intervals of time are among the means of assuring that institutions of higher learning have the kind of faculty that they need. A well-developed program of leaves is of major importance in enhancing the professional development of faculty members.[2]

There is intuitive evidence to support the notion that faculty members can and do become purveyors of obsolescent knowledge. There is also evidence that knowledge does not stand still. As a matter of fact, the accumulation of new knowledge is accelerating so rapidly today that it is overwhelming college and university professors. Thus, a leave in whatever form it takes, can act as an administrative tool for assuring, insofar as it is individually possible, that faculty members can not only revisit some of the older haunts of knowledge, but can venture into new abodes. This problem of obsolescence may be causing them some frustration, dissatisfaction or discouragement. It may even be conjectured that the acceleration of knowledge in modern times requires a leave policy removed from the traditions of the past, a leave policy which is itself accelerated. The fact that the sabbatical is tied to a sacred number like seven, a mythical river which flowed for six days and rested on the seventh, or that the sabbatical is also based upon an agricultural foundation is, to say the least, fairly

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[2] *AAUP Bulletin*, 1967, *ibid.*

tenuous stuff upon which to base modern administrative decisions.[3]

The first proposition of the general theory, then, is something which may be called *faculty regeneration* or *improvement*. This proposition can be viewed as an administrative concern. It should act as a stimulus for an administration's need for maintaining an up-to-date faculty. The administrative response is to grant leaves of absence.

Regeneration or improvement of the faculty is a problem with which the administration and policy making body should be greatly concerned. This would be true whether or not the improvement decisions arise out of a centralized or decentralized authority. In the purely economic terms of the rational, economic man, it is the faculty which the institution is selling to its consumers (students or research clients) in the form of courses or research abilities. Faculty regeneration or improvement is the equivalent of continuously being able to market a highly desirable product. In this business sense, which has some worthwhile aspects, a regenerated faculty means that an obsolete product is not being put on the market, and in order to do this, alert, responsive management is necessary. Potentially excellent faculty members must be recruited, and established faculty members must be retained, and in the competitive and mobile faculty marketplace, the burden is placed upon the administration to provide creative rather than merely adaptive responses. A question may arise, however, whether leaves actually perform this kind of function. Most faculty members receive va..ations each year as a result of an academic year.

The result of a strong faculty regeneration or improvement policy, and a program to carry it out, should result in *institutional*

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[3]Eells and Hollis, *op. cit.*

image of high quality, the second proposition of the theory. This is not to say, it should be cautioned, that merely because faculty members may obtain sabbaticals or other types of leave that a high quality image is a necessary result. Other elements are necessary in order to make high-quality institutional image a more probable result. It is best to talk of subjective or qualitative concepts such as institutional image in terms of probabilities. The progressiveness of a leave policy could be determined quantitatively by the frequency of leaves, the number of constraints and the amount of financing made available. The suggestion is that a positive correlation would exist between a progressive leave policy and an institutional image of high quality. This, however, would require inter-institutional studies and a great deal of refinement of image studies.

The fact that institutional image is of concern to the regents of the university which was studied is exemplified in the following item taken from the minutes of July, 1964:

> The Vice-President for Academic Affairs characterized each of the three for whom memoirs were presented as "real losses" to the University. "These three men did much to make the University a great University," the Vice-President said.

That institutional image is on the minds of administrators at this institution is indicated in this quotation from the student newspaper of November 27, 1968.

> . . . this institution depends on national recognition. That's how we get graduate students and new staff. [Vice President for Academic Affairs]
>
> As long as we view ourselves as a quality school, . . . we want people who are leaders in their field. [Dean of the Literary College]

This is not to be taken as blanket evidence that national reputation is considered sacrosanct at this institution. As one faculty

member states in the same newspaper article:

> The determinates of reputation are vague at best . . . and irrelevant at worst. The whole business (in the context of publish or perish vis-à-vis reputation) is ridiculous. [Professor of Economics]

The third interdependent proposition of the general theory is a natural result of faculty members taking leaves of a sabbatical or non-sabbatical nature, and going temporarily to other institutions, either governmental, industrial, or academic. The result is that leaves contribute to *greater visibility and exposure*. The assumption here is that the greater the exposure, the more likely that the institutional image will be enhanced, and also that this greater visibility may lead to greater faculty mobility. Institutions (no less than individuals in business who make themselves more visible by exposing themselves to others and thus increasing their probabilities for personal success)[4] can hardly do anything but increase their status by having their individual faculty members take responsible, advisory, decision-making positions in problem areas of our society or teaching, research, and administrative positions in other academic institutions.

The fourth proposition is one which is less intangible than the above three although the interdependency with the other propositions is fairly qualitative. Allusion has already been made to it. One should be able to assume that institutions which pursue deliberate policies for regeneration and faculty improvement, increased faculty quality, and increased visibility will be establishing a sound *faculty recruitment policy*, and be able to recruit potentially more highly qualified faculty. One can verify to a great extent the quality of an entire

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[4]Jennings, Eugene E., *The Mobile Manager*. Ann Arbor, Mich.: Bureau of Industrial Relations, University of Michigan, 1967.

faculty at an institution (for teaching and research) by looking at the number of Ph.D.'s on the faculty roster. Research dollars may likewise be another measure of faculty quality. This is, again, meant to be a gross generalization; it merely means that the probabilities of having more highly qualified staff are increased by having more Ph.D.'s and more dollars for research.[5] Berelson indicated that the more highly rated institutions had a greater percentage of Ph.D.'s.

Another more tangible proposition of the theory, the fifth, is *faculty retention*. The assumption being made is that good faculty will remain longer with an institution which believes in the propositions of the theory and also deliberately pursues these ideals in policy and practice. It should be mentioned, however, that faculty mobility (and executive mobility in business)[6] is a subject under intense investigation. Because of these investigations, the above assumption may be resting on barren ground. Mobility in American society may now be a norm. Changes in our society are occurring which are difficult to see due to our personal involvement. The fact that professors may be more affluent (in terms of higher wages) than formerly, that visibility itself may be dysfunctional to the institution, that there has been a much greater demand for the expertise of the academic in other spheres of life, that greater communication and transportation are now established in American society, and that greater numbers of people are seeking higher education may have resulted in an increase in the amount of personal independence, flexibility, and autonomy on the part of the

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[5]Berelson, Bernard, *Graduate Education in the United States*. New York: McGraw-Hill, 1960. This is not meant to imply that Berelson's ratings have any intrinsic worth.

[6]Cf. Jennings, *op. cit.*, and Brown, *op. cit.*

professor. Mobility then may be the norm and faculty members may be playing musical chairs. Yet it may also be assumed that these faculty members who are mobile are seeking institutions which may not be as "high quality" as the one in which they now labor, where the demands upon them may not be quite as severe. Possibly the mobility is limited to a small group of mobiles. And finally, faculty mobility may be a result of disciplinary "nepotism."

This leads directly to the sixth and final proposition, *faculty productivity*. Leaves of absence should contribute to greater research effort among the faculty, and research is not considered research unless publication is a result. However, it should be cautioned that the proposition--leaves mean research mean publication--does not necessarily have to result in research and publication. Leaves are taken for several reasons. Publication productivity will more likely result if there are two related doctrines or unofficial policies hovering above--one hates to say like the sword of Damocles--the institution. The first of these doctrines or policies is the up-or-out system related to tenure, and the second doctrine or policy is its usual concomitant, publish-or-perish. Publish or perish can be viewed categorically as a pre-tenure motivation doctrine which for descriptive purposes changes after tenure to a produce-or-fade-away (but not out) doctrine. Given these two (or three) doctrines one might assume that a relationship does exist between leaves of absence and faculty productivity. After tenure, the notion of productivity might change with a different emphasis being placed on other functions of academic life: productivity of Ph.D.'s, administrative duties for the institution or the department, teaching, and community service. These may become acceptable substi-

tutes for publication productivity after tenure has been achieved. Additionally, and to illustrate further the interdependency of the six propositions, publication productivity results in greater exposure, enhanced institutional image and greater probabilities of recruitment and retention of higher quality faculty, teachers or researchers, with the emphasis probably on the latter. What the theory is saying is that without negative sanctions faculty productivity would decrease.

Interestingly, the student newspaper of the university under investigation conjectured in the article already quoted:

> Publish or perish is a national phenomenon. Whether the University has to follow the national lead though is another question. Professors' and administrators' positions on publish or perish depend on what they see as the goals and purposes of the University.

It is hoped that the generality of these statements is recognized. The hardness or fastness of the statements has to be tested empirically. But it is the perception of the statement, not the reality, that counts. In an institution where publish or perish might be perceived as a pretty hard and fast rule, a particular department or unit could have a completely differently perceived policy if a great deal of autonomy were also part of the institutional culture. But the importance of the publish or perish doctrine in faculty members' lives, even if it does not actually exist, cannot be overstated. As one professor said in the same article, ". . . there is no question that publications are the coin of the realm." If the belief or perception exists, the perception will have an effect upon faculty behavior. Faculty salaries and promotions may be at stake, and managerially the granting of these are called the "life" decisions. What it means is that organizational objectives and individual goals, goals which if achieved will satisfy the needs of the individual faculty members and

if not achieved will result in frustration and all of its non-good behavior patterns, have come together in the vital confrontation. This forms a part of the duality between faculty and administration which was suggested earlier.

If the preceding discussion has shown in some way the potential for interdependence of the propositions of the theory, the importance of studying leaves of absence in order to add greater rationality to administrative policy-making leave decisions may be apparent. Organizations of whatever type which can bring about a sensitive balance between their objectives and the personal goals of their members are organizations which will more probably maximize their achievements. Management will have created a proper environment. This is standard management theory of today.

These six propositions along with the two doctrines, publish-or-perish and up-or-out, with the possibility of a third post-tenure doctrine called, for theoretical purposes only, produce-or-fade-away, constitutes what may be called the general theory of leaves of absence in institutions of higher education. It is possible that this theory is a complete fabrication. Even if it is not, it would be extremely tenuous to consider this general theory as holding for all types of institutions. For one thing, size of the institution will be an extremely important factor. One might hazard the generalization that the larger the size of the institution, the more likely the theory will hold in practice; yet size of student population may not be a determining factor at all. Some of the largest institutions might be considered summer resorts by some academicians. A small institution in terms of student numbers may have a good source of funds by which it can

finance a liberal leave policy. However, it may be teacher-oriented. Secondly, the larger the size of the institution one might assume the more likely it is that leave decisions are made at lower levels in the organization. Thus, in larger institutions, organizational sub-units become more important as well as the motivations behind specific deans, department heads, and unit leaders. In publish-or-perish institutions, if there really be such, there may be more requests for leaves without pay in order to begin or finish specific pieces of personal research. Thirdly, the size of an organizational unit where decentralization exists is a factor that must be considered. The loss of one faculty member may be rather serious to small departments or other units. Fourthly, organizational objectives, as has been suggested, may indicate or not indicate applicability to the general theory. Leave policy in a teacher-oriented institution with high image objectives, small student population, and adequate funds could mean a sound sabbatical system with no tendency to seek exposure through publication. It should not be forgotten, fifthly, that as the institutional image increases in quality, there will be an accelerated impingement, such as in research dollars, upon the institutional external boundaries by external sources. This bombardment effect could either dampen or expand the leave policy. Finally, the effect of the economic state of the nation or of the state could influence whatever policy existed. Thus, general theory about leaves of absence must be viewed with a certain amount of caution at this point of time and in the present state of the art.

In closing this section on the general theory which is postulated to lie behind leaves of absence, it would be well to reiterate

that the theory is in no way sacred. As a matter of pure administrative and faculty orientation, the theory may not exist at all in practical affairs. After all, is this not the purpose of research but to find the facts and lay them side by side with theory and see how well they square? Faculty may take leaves because they are available, and it is to their benefit to take them at that particular time. Institutional image may arise out of the forty-two men who romp around on the plastic grass of the football stadium each Saturday in the fall. Publication might result because the researcher is in a group which has all the facilities including the dollars to carry out research. The retention of faculty members may depend much more on academic freedom than on any other variable. They may become hemmed in by vested rights. There will be some small attempt, however, to comment on the results of the study and their relation to general theory, even if it is to indicate that the general theory is a myth.

Hypotheses and Other Findings

One of the major purposes of this study was to investigate hypotheses as well as to uncover other data which has been termed general findings. These hypotheses may or may not be a test of the general theory which was previously unfolded. To test that theory in its entirety would be a task of too great a magnitude at this time. Instead eleven questions are posed, each one of which leads to an hypothesis. Some are directly related to the theory, others are tangential. Each of the questions could be investigated from several points of view: the individual faculty member, the entire organization, the academic disciplines, the departmental affiliations, or the typology of the leaves themselves. Limits had to be set.

The research question lying behind the research hypotheses can be stated as follows:

What are the relationships in this university between leavetaking and

(1) Age

(2) Seniority

(3) Salary

(4) Dependency

(5) Academic Rank

(6) Academic Discipline

(7) Promotion

(8) Retention

(9) Departmental "Staidness"

(10) Research Dollars

(11) Productivity

The first six variables, all of which will be designated predictors, led to the following hypotheses:

(1) Leavetaking increases up to a certain age, after which age leavetaking continually declines.

(2) Leavetaking increases as seniority increases up to a certain seniority level, after which level leavetaking continually declines.

(3) The higher the salary level, the more likely it is that leavetaking will occur.

(4) The greater the family dependency, the less likely that leavetaking will occur.

(5) The lower the academic rank, the more likely that leavetaking will occur.

(6) Faculty members in the natural sciences are characterized by greater leavetaking than faculty members in the social sciences and humanities and in that order.

The age hypothesis came about on the assumption that careers

are established at a certain age level, and leavetaking can help in the establishment of career patterns. After a certain age one's career pattern has taken on a certain "set", and the need to seek out and take advantage of leave opportunities should diminish. The seniority hypothesis more or less follows from the age hypothesis in that the two variables, age and seniority, intuitively look like they belong together. The salary and dependency load of faculty hypotheses were suggested by practicality alone. A low salary may be a preventative to leavetaking particularly if a large family is also present. There is always the possibility, of course, that the reverse might be the case. Insofar as academic rank is concerned, the theory would suggest as a result of publish-or-perish and up-or-out doctrines that the lower ranks should be the greatest leavetakers. Naturally there are other motivational factors involved. The justification for believing that the natural sciences are the greater leavetakers arises from the way in which research dollars are believed to be related to the theory. Certainly the natural sciences have been favored as far as research dollars are concerned, and only in the past few years has the social sciences attained a more favorable position. The humanities have generally lagged.

The seventh research question asks what relation exists between leavetaking and promotion of faculty members. The hypothesis is stated as follows:

(7) The greater the amount of leavetaking, the higher the rate of promotion.

If the general theory has any validity, one should be able to predict that in predominately perceived publish-or-perish institutions, the rewards that go with research publication will include accelerated

progress through the academic ranks. Notice, however, that this may be assuming the validity of another hypothesis that greater leavetaking leads to greater research productivity (#11). However, the investigation can delve into different kinds of productivity such as the production of Ph.D.'s by committee chairmen which might tend to accompany lesser leavetaking. The research hypothesis was formulated on the notion that greater productivity comes from greater leavetaking, and promotion comes from greater productivity.

The eighth question asks what relation exists between leavetaking and the retention of faculty members. The hypothesis that was developed was stated as follows:

(8) Faculty members characterized as low leavetakers are less likely to be retained than high leavetakers.

The rationale behind the hypothesis is that faculty members who do leave the institution more are more likely to be up-to-date and current in their field, they are more likely to be exposed to other institutions, they are more likely to be in a position to meet other individuals who are seeking new faculty members, and as a result they will be in greater demand. This greater demand will be met in an institution striving to maintain a quality faculty with the perquisites necessary to retain the quality faculty. The low leavetakers, on the other hand, will not be contributing to the quality image of the organizational unit and will be given every opportunity to terminate the relationship after a certain unspecified period of time. In order to search for explanations in this area a Retention Scale based upon years stayed in the institution after the leave was developed. It will be explained in the Methodology Section.

The ninth question deals with the concept of departmental

stars, those individuals within a subunit of the university whose presence is quite likely the fountainhead of the department's national disciplinary image or makes a substantial contribution to it. Individuals called "stars" can make departments and departments can make universities as well as football teams. The question is what are the leave characteristics of these stars, and a hypothesis can be stated in the following way:

> (9) Faculty members who are adjudged "departmental stars" by their departmental chairmen will be greater leavetakers than those not so adjudged.

The tenth question investigates relationships that may or may not exist between research dollars available to faculty members and leavetaking. If theory is correct, a department which has more average research dollars per faculty member will be encouraging each faculty member in that department to have greater productivity, and conceivably greater leavetaking. The hypothesis was stated as follows:

> (10) The greater the availability of research dollars to the faculty member, the greater will be the amount of leavetaking.

Possibly the most interesting research question and consequent research hypothesis in the study concerns relationships which might exist between leaves of absence and productivity. To begin with, the notion of productivity has several dimensions for faculty members some of which were alluded to when a distinction was made between the pre-tenure and post-tenure periods of a faculty member's career. There was a suggestion in the proposed general theory that during the pre-tenure period, productivity is more likely to be directed toward publication of articles, books, or monographs (in those fields where these are pertinent). In the post-tenure period, the rank of the professor would be at least that of associate and, while publication would still be a

motivating factor, other kinds of productivity would begin to enter as a substitute. Thus, the number of Ph.D.'s produced by a professor can be considered a reliable measure of contribution toward the objectives of a university, particularly one where that is a major activity. There are also other ways to view productivity: teaching contribution, administrative effort, and the usual research publication technique. Three measures of productivity were used in order to probe the hypothesis: research productivity, Ph.D. productivity, and teaching productivity. The measuring techniques will be discussed in the Methodology Section.

The specific hypothesis is:

(11) The greater the amount of leavetaking, the greater will be the productivity of the faculty member taking the leaves.

Up to this point all the hypotheses mentioned here have had a faculty orientation. There is another orientation to the study, and a highly significant one at that, which might easily have been mentioned as the foundation for the hypotheses. This second orientation is related to the administrative portion of the study, as it has been termed, for it is that side which is concerned with leaves *qua* leaves. There were different kinds of leaves of absence regardless of who took them, and they occurred in different frequencies at different times out of different organizational units. Each kind had certain characteristics peculiar to it. Out of this portion of the study--Leaves of Absence as the Observable Unit of Study--there are many non-hypothetically based findings which may bring some enlightenment to the general theory. These findings might well have been cast into a hypothetical mode. They relate generally to the frequency of occurrence in specific years of different kinds of leaves in various organization units. The

information may clarify the doctrines of publish-or-perish, or up-or-out, or factors which influence theory. The information is also suggestive for additional hypotheses.

Particularly, however, it is the leave of whatever type that has put the individual into the study to begin with. The leave itself, when it occurs, is a resultant of all kinds of vectors. It is, of course, a distinct possibility that a leave of absence of whatever kind would have occurred regardless of a faculty member's age, rank, salary, dependents, department, research dollars, degrees, and other factors still to be uncovered. Knowing about these leaves in general is of major importance to the work as a whole. It is of such importance that the statistical data about 2174 leaves will be placed in a special chapter called General Findings. It will follow immediately after the next chapter on Methodology, and be itself followed by the chapter on the Research Hypotheses.

CHAPTER III

METHODOLOGY

The methodology of the entire study was influenced initially by the possibility of having two points of view with respect to the units under observation. This dilemma was solved, although it lengthened the study considerably, by including both viewpoints in the study. The first, *Leaves of Absence as the Observed Unit*, was investigated and is being reported here non-hypothetically in Chapter IV, *General Findings*. The second, *Leavetaking Faculty Members as the Observed Unit*, was investigated and is being reported within a hypothetical framework in Chapter V, *Research Findings*. These two points of view illustrate the difference between *descriptive* and *explanatory* research objectives. This is not to say that there will not be an intermixture.

In the first instance, there were 2174 leaves of absence observed which occurred during the ten-year period, 1960-61 through 1969-70. In the second instance, there were 1384 faculty members who took the 2174 leaves. In the case of three variables, to be discussed later, a sample of 229 faculty of the 1384 was taken to investigate the research hypotheses. In this sample there were six departments involved, two in each of three major disciplines--humanities, natural science, and social science. In the selection of these departments there was possibly unintentional bias on the part of the investigator. They were not selected randomly or by chance. The first basis for the

selection was the number of faculty in the department who had taken leaves of absence. Quantity was desired. As a result, the age and size of the department influenced its probability of being selected. Secondly, the selection conformed to other non-related departmental studies in order that the leave data might be related to them.

When the hypothetical portion of the study was being investigated, the use of the 1384 faculty rather than the 2174 leaves prevented duplication and gave independence of observations. However, this presented a problem in the selection of that one leave which was most representative of a faculty member if more than one leave had been taken by that faculty member. To solve this sampling problem, the leaves were chronologically ordered for each faculty member, and the first leave taken was selected unless it was not a sabbatical and a sabbatical had been taken. In that case, the first sabbatical was selected.

There were four sources for obtaining the values of the variables used in the study: (1) existing records of an entire population of leaves and leavetakers during a ten-year period, 1960-61 through 1969-70, and less-than-ten-year existing records about some aspects of the leaves and leavetakers and organizational units; (2) two variables were created out of the existing data (Dependency Load Factor and Average Years in Rank); (3) a questionnaire was sent to a sample of six departments and answered by the department chairmen in order to measure productivity and starness; and (4) three scales were created in order to measure productivity, retention, and leavetaking.

Regental minutes were first studied to determine the names of those faculty members who had taken leaves of absence in the ten-year

period beginning with the academic year 1960-61 and continuing through 1969-70. The minutes gave the name, rank, department, type and purpose of leave, and the academic discipline could be derived. Other data on individuals was then secured through personnel files, registrar publications, studies conducted on university faculty, and information about research dollars per organizational units. This information was entered on a formatted 5 × 8 card, a copy of which is in Appendix B(1).

Besides name, rank, department, discipline, academic year of leave, type of leave (sabbatical, non-sabbatical), and if non-sabbatical whether off-campus assignment or temporary transfer, and if temporary transfer, whether government, business, academic, or personal; other variables obtained were age, marital status, number and age of dependents, salary, degrees and granting institutions, seniority, dates of rank achievement, length of leave, and administrative responsibility. These were recorded, one card per leave, as of the time of the leave. Not all the variables were eventually used.

Additional data were derived from existing records supplied by the Registrar's office where data about the University is compiled each year. These records were available for the academic years 1960-61 through 1967-68. The primary reason for acquiring this data was to aid in the support of the productivity and research dollar hypothesis. Besides the Registrar's existing data, two other university sources were utilized: one was the research unit which had yearly records of the amount and allocation of research dollar coming into the University over a five-year period; second was the results of a study conducted by a graduate officer which detailed the number of chairmanships or co-chairmanships held by faculty members. This was necessary to develop

the (Ph.D.) productivity variable. This data covered an eight-year period.

There were two variables generated out of the existing data. First, a variable called Dependency Load Factor (DLF) was developed from the number and age of children including the marital status of the faculty member. DLF was used to test the hypothesis regarding dependents and leavetaking. The number of children in each of four age brackets, 0-5, 6-10, 11-15, and 16-21 was recorded as mentioned. Then the number of children in each of these groups was multiplied by a factor of 1, 2, 3, or 4 respectively, and these amounts were summed to get a total to which was added one (1) if the wife were alive. There was no deduction for a wife if a divorce had occurred, but there was a deduction if a death had occurred to the spouse. The different weights for different age categories of the children were the result of an intuitive feeling for gradually greater costs for supporting older and older children. Empirical studies should support this additional cost intuition but not necessarily the weighting system.

A second variable, Average Years in Rank (AYR), was developed from existing data which had been derived from personnel records. The year and rank of faculty entrance had been recorded along with the year when each succeeding rank was achieved. The total number of years in all ranks was divided by the number of ranks involved and became AYR. There were some problems involved here and they are discussed more fully in Chapter V under the leavetaking/promotion hypothesis.

A questionnaire with a covering letter was developed and sent to department chairmen of six cooperating departments in order to investigate the productivity variable from two different aspects:

research and teaching. A scale for each of four variables: Research Quantity, Research Quality, Teaching Quantity, and Teaching Quality was a part of this package. The quality portion was not utilized in the study. Seven department chairmen were visited, three in the humanities, and two each in the natural sciences and social sciences. One humanities department turned down the investigator, and one social science department required the investigator to destroy all possible evidence of any connection between chairman's rating and individual teacher. These wishes were complied with. A covering letter along with a list of the faculty members who had taken leaves during the ten years and who had either been in or were still in the department was given to the chairman who then rated the faculty member on the scales provided. This information is in Appendix B.

Finally, three scales were developed in order to carry out the hypothetical portion of the study. They may be described briefly at this point, and more completely in Chapter V when the research hypotheses are completely analyzed.

The first of these three scales has to do with leavetaking itself, the most important variable in the study. Up to this point it has been discussed as if it might be a matter of counting the *number* of leaves taken by a faculty member. This is one way to view leavetaking and this view is considered in Chapter IV, General Findings. This was not the manner of viewing leavetaking when hypotheses were involved. Rather, for each academic year a faculty member was at the university during the study, he was credited with nine months availability (unless his record indicated greater availability during a year). In the simplest case, a full-time faculty member for the entire period was avail-

able to the institution for ninety (90) months. His leave record was then accumulated for the number of months of those ninety which he had been away. From these two figures a percentage of availability was determined, and this percentage was then transformed into a continuous scale number from 0.00 to 5.00 based on the formula:

A = Number Months Leave / Number Months Contracted

and

Leavetaking (LT) = (100 - A) - 50/ 10.

The following are representative percentages and corresponding scale numbers for leavetaking:

% of Availability	Leavetaking Scale #
100.0	5.00
90	4.00
80	3.00
70	2.00
60	1.00
50	0.00

Numbers on the leavetaking scale were then categorized from High to Low in five groups, each group with a class interval of 1.00.

The second scale necessary to be developed in order to test one of the hypotheses was one dealing with retention of faculty. In order to accomplish this, it was necessary to record all terminations of those who had taken leaves, and how long after the leave used in the study that the termination occurred. From this, voluntary terminators could be compared with non-terminators and different rates of termination insofar as their leavetaking characteristic was concerned, This will be explained more completely when the research hypothesis is dealt with.

The third scale having to do with Productivity was touched upon earlier while describing the questionnaire that had been sent to the department chairmen. It also will be explained more completely when the research hypothesis concerning leavetaking and productivity is analyzed.

This section on methodology can be completed with a discussion of how the data was computerized. Three canned programs were used after the data had been coded and keypunched: (1) a program called NWAY, a frequency analysis program originally developed at Stanford University for social scientists analyzing survey data. It will compute univariate and multivariate frequency tables, and perform non-parametric statistical tests. It is designed to handle larger numbers of variables than is ordinarily utilized in studies. The researcher should be careful to understand its limitations before using it inasmuch as it is quite expensive and will not perform parametric tests on categorical data. In order to use the NWAY program, (2) a BMed program, BMD9S, from UCLA, was used first to transform the extensive amount of data in order to develop the scales and the variables not directly taken from the records. Finally, (3), another BMed program, BMD3D, was utilized for some data the NWAY program was incapable of generating.

The next two sections will discuss the findings. It was considered more appropriate to report the general findings (Chapter IV) before looking closely at the eleven hypotheses (Chapter V) which were stated earlier.

However, before proceeding it may be of benefit to take a slight scientific digression. It is hoped that this will alert readers

to what may be some disappointments personally, and also bring to their attention--as a reminder--some pertinent pragmatic facts about research.

A research problem involved in the study, besides the large number of variables, the large amount of computer space required, the large amount of funds needed, the scarcity of computer funds, the inability to acquire more computer funds beyond a certain point, and the inflexibility of the computer programs, was the state of the art of leavetaking research itself.

Leavetaking research is at a primitive level. The variable itself is seeking definition. Some of the variables to which it is being related are similarly at primitive levels. Who knows, it might be asked, what faculty productivity really is? Is it justified to study that concept without at first coming to some sense of its definition? Studies in the social sciences which attempt to use sophisticated techniques on variables whose definitions are exceedingly vague to begin with, and which are defined in several fashions by several investigators,[1] cause the social sciences to continue to turn out results which are almost meaningless. The worst part of the entire process is that these initial studies become the basis for further studies, and the process soon becomes more a great mess of statistically innocuous conclusions based on ill-conceived definitions using measurements and measurement systems that can be completely irrelevant.

This study may have contributed to this type of flimsy research which is carried on in the social sciences. It is sincerely regretted.

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[1]Which definitions the study should be investigating rather than relationships between nebulous other variables.

But if it has, it has been at a very simple level and for a very simple reason. The state of the art of leavetaking is primitive and one-to-one relationships were considered that which initially should be studied. To study relationships between several predictor variables and leavetaking as a criterion before the concept leavetaking is understood is something that should not occur. There is no study on leavetaking today which has even approached the simple one-to-one relationships of this study.

The day may come when the concept of leavetaking can be measured quite strictly with a measuring instrument of great reliability, and a multiple regression of Y (leavetaking) = $X_1 + X_2 + \ldots + X_n$ will be developed, and each of these variables be provided with a coefficient which has similarly been rigidly determined. Possibly that regression equation will be but one factor in a matrix of motivational factor analysis.

That time is not here yet. It will not come either until two basic requirements for scientific research have been met:

(1) the variable has been defined and everyone is pretty well in agreement with the definition.

(2) the measuring instruments have been developed to a finer level.

Because of the above reasons, among others, the study maintained a simple one-to-one relationship between leavetaking and other variables with which it was thought to be associated at this stage of the art utilizing primarily simple one-way analysis of variance. It is hoped that this will not be too disappointing.

Chapter IV will discuss the non-hypothetical general findings.

CHAPTER IV

GENERAL FINDINGS

It would be well to state at the outset of this chapter that its contents will be essentially descriptive. Differences in parameters which may exist between organizational units, academic disciplines, leave categories, or other variables will not be tested for statistical significance. This is primarily a result of cost, time, and other delimitation factors encountered in most studies. The findings will be reported mostly in tabular form, and comments will be made if those comments appear to be meaningful. Each reader may possibly find comparisons or differences or statistical descriptions which are more meaningful to him than to others.

Leave-Oriented General Findings (2174 Leaves)

The kinds of general findings disclosed in the following pages, possibly because of their specifically institutional nature, are not readily available elsewhere. Knowledge about them, however, may add understanding and explanation to the hypothetical findings, and also lead to future hypotheses. Five leave-oriented variables form the initial basis of the general findings: type of leave, type of sabbatical, type of temporary transfer, period when leave was taken, and number of months of leave.

Type of leave or leave classification was the variable which

mutually excluded one type of leave from another.[1] Four leave categories were finally adopted: off-campus assignments, sabbaticals, temporary transfers, and personal leaves for research, study, and writing. The By-laws of the governing board of the university studied provide a basic but skimpy definition of the four kinds of leave used in the study. These by-laws merely break leaves down into two kinds: sabbaticals, and other kinds of leaves. Sabbaticals are leaves granted for study and research given to members of the professorial staff who have completed six years of service in professorial ranks at the university. [See Appendix C(1) for administrative leave information, and C(2) for the sabbatical request form and official definition.] These leaves may last one or two semesters, six months or twelve months, and the longer leaves are taken at half instead of full salary.

> Sabbatical leaves shall be in recognition of significant service through teaching and research and for the purpose of encouraging scholarly achievement which will contribute to the professional effectiveness of the members of the staff and the value of their subsequent services to the University.[2]

Any other leave, according to the by-laws, is a non-sabbatical. These other kinds were categorized into three classes: off-campus assignments, temporary transfers, and the personal leave. The off-campus assignment (OCA) is a leave classified as such by the institution which has been asked to assign one of its staff to another organization. The institution ostensibly continues to pay the salary of the person taking the leave. OCA's are referred to and reported separately in the regental minutes, as are sabbaticals (SAB). Tempo-

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[1]Six categories, or classes, were considered to begin with, one of which was non-leave. This category was eventually dropped because it forms the basis of a separate study.

[2]Appendix C(2).

ary transfers (TEMP TRAN) and personal leaves (PERS) are reported together without distinguishing between them or naming them as such. The off-campus assignment borders quite closely on the temporary transfer (a category along with the personal leave invented by the investigator)[3] except that the Board minutes most always specify an institution or purpose for the leaves of absence defined as temporary transfers or personal. This is not done for off-campus assignments. A temporary transfer leave is one in which a staff member takes leave for whatever period of time in order to go temporarily to either another academic institution, into some kind of government work, or into business. In all three cases, the staff member is paid by the organization to which the transfer is made. If a leave of absence was reported in the minutes and it was not a sabbatical, nor an off-campus assignment, nor a temporary transfer to an academic, government, or business organization (and of course not a sick leave, a kind not investigated), then it was considered a personal leave described typically in the minutes as ". . . 1969 winter term, without salary, for writing."

The five variables will be investigated primarily from the standpoint of the 2174 leaves taken throughout the ten-year period. Additionally, information related to these variables will be made available based on the 1384 faculty members using, one selected leave if more than one leave was taken by the faculty member. Comparisons between these two "populations" may be made. The number 1384 appearing in the table description will refer to that single-leave group; other

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[3]A personal category for purely personal reasons was entered in the study to begin with, but there were only ten leaves of this kind during the ten years of the study. They were consolidated into the personal category. Military or maternity leaves are examples of a purely personal leave as well as a leave to complete a degree program.

wise the tables will be referring to the multiple-leave grouping.

Variable 1: Type of Leave

Table 1, Leaves per Academic Year, 1960-1970, summarizes the quantities of each of the four kinds of leave for each of the ten academic years of the study.[4] The statistics for the first nine years are actual; the statistics for the tenth year are based on actual leaves for the first six months of that year, and an estimate based upon past history for the last six months.[5] A total of 2174 leaves was discovered, and 86 leaves were added through prediction. Thus, a total of 2260 leaves was taken during the ten-year period. Approximately 47.2% of those leaves were sabbaticals, about 22.9% were off-campus assignments, about 20.4% were temporary transfers, and about 9.7% were personal leaves.[6] Nothing in these first findings is particularly spectacular. Sabbaticals held close to a 45% figure throughout each academic year. In 1960-61, sabbaticals were at their lowest percentage of leaves per year, about 37% of all leaves; they never were lower than 42% in any academic year after that which would indicate an absolute increase in sabbatical taking inasmuch as other leaves also increased numerically. All four kinds of leave showed steadily increasing numerical growth throughout the decade with approximately a 100% increase in

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[4]In order to increase the readability of the tables, only percentages will be put in the body of the tables, and total frequencies will be displayed at the side or bottom.

[5]Almost all sabbaticals are approved for any year in March. Only three sabbaticals were added in the prediction.

[6]Percentages will be referred to one decimal place only to facilitate location on tables. It would have been preferable to drop all decimals. Approximation is a keyword here. A non-decimal percentage will refer to a non-specific percentage, a generality from a table.

TABLE 1

LEAVES PER ACADEMIC YEAR, 1960-1970

Type of Leave	Academic Year										Totals	
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	Frequencies	Percentages
OCA	20.7	17.1	24.9	20.4	29.0	22.1	29.0	30.5	19.9	21.7	492	22.9
SAB	37.3	45.6	43.2	48.0	43.0	48.0	46.3	43.7	47.9	48.0	1022	47.2
TEMP TRAN	32.7	32.9	20.2	23.5	19.5	20.3	16.0	15.8	20.2	21.7	441	20.4
PERS	9.3	4.4	11.7	8.1	8.6	9.7	9.0	10.0	12.0	10.0	210	9.7
Frequencies	150	158	213	221	221	217	244	279	282	275	2165[a]	
Percentages	6.6	6.9	9.4	9.7	9.7	9.6	10.7	12.3	12.4	12.1		100.0

[a]No classification for 9 actual leaves and does not include the predicted leaves in 1969-70. Predicted total is 2260.

yearly leaves over the ten-year period. (The total number of faculty members in 1960-61 at the University was approximately 1786 as compared with 1969-70's approximate 2873.[7] This is a percentage increase in faculty of about 61%, and when compared with the leave data increase, it indicates that leavetaking per faculty member is increasing.)[8]

Over the decade off-campus assignments fluctuated from a low of 17.1% of all yearly leaves in the beginning of the period (1961-62) to a high of over 30.5% of the yearly leaves taken in 1967-68.[9] This high was followed by a decline in 1968-69 and 1969-70 to about 22% of all yearly leaves.

In the early portion of the decade, temporary transfers accounted for about 33% of all leaves, but since the 1962-63 academic year they have fluctuated around the 20% level. These leaves to business, government, or other academic institutions are looked at more closely in Table 24 and indicate that it was in the governmental category that this 10-15% drop occurred, and which was partially offset by an increase in temporary leaves to other academic institutions.

Personal leaves accounted for a yearly average of about 10% of all leaves throughout the decade. These leaves are more likely to be at the personal expense of the leavetaker, somewhat independent of organizations, and usually involve study, research, writing, or a combination. Some fellowships may be available here for financial help.

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[7]These figures were obtained from the institutional research unit of the university.

[8]A concept called Unit Leave Ratio will be developed later based on leaves per faculty member. It will characterize organizational units.

[9]It would be interesting to investigate the political nature of off-campus assignments.

In Table 2, where the percentages are based upon the actual 2174 leaves,[10] the leaves are grouped by type and academic discipline. One faculty member may be reported several times in the 2174 summarization. Because the study is now investigating academic disciplinary relationships, not faculty, this duplication is permissible. Initially the faculty can be divided into two categories: professional and non-professional. The non-professional orientation arises almost entirely in the literary college,[11] and in 1968-69 this group of faculty constituted about 45% of the entire university faculty; the professionally-oriented, of course, contained the approximate 55% balance. There is an assumption that there is a distinction between these two categories, and that the ratio was fairly constant over the ten-year period.

On this basis, 45% of the faculty, the non-professionals, took 51.7% of the leaves during the decade; the professionals (55%) took only 48.3% of the leaves.[12] Of the 51.7% taken by the non-professional group (1119 leaves), the natural scientists took the major portion or about 41.7%,[13] the social scientists garnered about 32.2%, and the

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[10]The total number of leaves in the tables will rarely be 2174 because of missing data. 2165 will often be encountered. Also, percentages often will not add exactly to 100.0% because of the dropping of the last number of a two-place computer-developed percentage.

[11]Although in the literary college, faculty in the Library Unit and Journalism Unit were classified as professional. Also, branch units contained both professional and non-professional.

[12]For all practical purposes, this split can be considered 52%/48%.

[13]For the entire university, 13.9% of the faculty (natural scientists) took 20.6% of the leaves; social scientists (14.2% of faculty) took 17.6% of the leaves, while humanists (16.4% of faculty) took 13.5% of the leaves. The humanists and professionals appear to have some similarities in this regard. This is based on absolute numbers of leaves, no regard for length.

TABLE 2

ACADEMIC DISCIPLINE AND TYPE OF LEAVE
(% OF EACH TYPE BY EACH DISCIPLINE)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	
% of[a] Faculty	Academic Discipline	Type of Leave				Totals[b]	
		OCA	SAB	TEMP TRAN	PERS	Freq.	%
16.4	Humn.	7.5	15.3	14.3	17.1	292	13.5
14.2	Soc. Sci.	18.9	12.4	20.9	33.0	381	17.6
13.9	Nat. Sci.	28.7	17.2	22.0	15.2	446	20.6
45.0							
55.0	Prof.	44.9	55.1	42.9	34.7	1046	48.3
	Freq.	492	1022	441	210	2165	
100.0	%	100.0	100.0	100.1	100.0		100.0

[a]Figures from Institutional Research Unit.

[b]Hereafter, "Freq." means "Frequencies"; "%" means "Percentages."

humanists participated in the balance of 26.1%. (See Table 4.) Additionally, of the total number of faculty in the literary college in 1968-69,[14] 30.9% were natural scientists, 32.6% were social scientists, while 36.5% were humanists. Tables 2 and 4 indicate that the literary college faculty member has a greater probability of taking leave than a professional faculty member in the university at large. They also say that natural scientists are more likely to be on leave--slightly more--than the social scientists, and considerably more than the humanists. The tables also suggest that the increase in leavetaking during the decade took place in the natural sciences.

Table 3 displays the percentage of each leave type taken by

[14]1968-69 University Telephone Directory headcount.

TABLE 3

ACADEMIC DISCIPLINE AND TYPE OF LEAVE
(% OF ALL TYPES BY EACH DISCIPLINE)

Academic Discipline	Type of Leave[a]				TOTALS
	OCA	SAB	TEMP TRAN	PERS	
Humn.	12.7	53.4	21.6	12.3	100.0
Soc. Sci.	24.4	33.3	24.1	18.1	99.9
Nat. Sci.	31.6	39.5	21.7	7.2	100.0
Prof.	21.1	53.8	18.1	7.0	100.0
TOTALS	22.7	47.2	20.4	9.7	100.0

[a]See Table 2 for actual numbers.

each of the four disciplines. The table points out the relatively greater emphasis on off-campus assignments, lesser emphasis on sabbaticals, and least emphasis on personal leaves which make up the natural scientist's leave character.

On the other hand, the humanists stress the sabbatical, and the social scientists turn out to be more democratic in their leave policy. The latter group does not take a large share of sabbaticals, but increases its usage of off-campus assignments, temporary transfers, and personal leaves--the latter being the highest percentage of all four disciplines.

Table 3 shows one similarity existing between the professionals and the humanists. Both disciplines rely heavily upon the sabbatical for leaves; however, these two disciplines diverge from each other in all three of the other leave types. The professional group is similar to the natural scientists insofar as personal leaves are concerned, and the humanists and natural scientists are very similar when temporary

transfers are considered. These similarities are the most striking; all the other comparisons between disciplines and type of leave are fairly unequal.

Referring back to Table 2, the humanities faculty took 13.5% of all leaves (See Totals), but only 7.5% of all off-campus assignments. In a complete reversal, natural scientists took 20.6% of all leaves and 28.7% of all off-campus assignments. There is a possibility that off-campus assignments are in the special province of the natural sciences including those professions which are founded in the natural sciences.[15] It is also not difficult to think that the closer a discipline is to technology, the more likely an off-campus leave opportunity has of occurring.[16] This may be a built-in characteristic of a discipline in a technological society. If the hypothesis had been stated that off-campus assignments are more likely to be taken by natural scientists, social scientists, and humanists and in that order, the hypothesis would have been confirmed. Further, it is known by Table 2 that 55% of the faculty (the professionals) took only 45% of the off-campus assignments, a ratio of faculty to leaves even less than that of the humanists.

Still referring to Table 2 it can be seen that the professional faculty took quite a bit less than their proportionate share of personal leaves: 55% of the faculty took only 35% of this leave category; the same group was more proportionate, but not too much so, insofar as

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[15]Table 9 later indicates that Medicine and Public Health have the highest off-campus assignment Unit Ratio (leaves per faculty member), .44 and .76 respectively. The literary college unit ratio is .25 for off-campus assignments, and four major university units took no off-campus assignments at all.

[16]But see Engineering, Table 9.

off-campus assignments were concerned (45%) or temporary transfers (43%). The professional and non-professional groups each took their proportionate share of sabbaticals (55% and 45%).

Table 4 is a comparison of academic discipline choice of leave types in the literary college only.

TABLE 4

ACADEMIC DISCIPLINE AND TYPE OF LEAVE---LITERARY COLLEGE ONLY
(% OF EACH TYPE BY EACH DISCIPLINE)

Academic Discipline	Type of Leave				Totals		% of Faculty[a]
	OCA	SAB	TEMP TRAN	PERS	Freq.	%	
Human.	13.7	33.9	25.0	26.2	292	26.1	36.5
Soc. Sci.	34.3	27.6	36.5	50.4	381	32.2	32.6
Nat. Sci.	52.0	38.5	38.5	23.4	446	41.7	30.9
Freq.	271	459	252	137	1119		
%	100.0	100.0	100.0	100.0		100.0	100.0

[a]1968-69 University Telephone Directory headcount. Includes instructors and lecturers but not visiting or emeritus professors.

In Table 5 the literary college faculty is divided initially into natural scientists (30.9%), social scientists (32.6%), and humanists (36.5%). Then, to analyze this and other tables, a term called *leave parity* is introduced. Leave parity is defined as a condition of equality between percent of faculty and percent of leaves for any particular group: discipline, college, school, or department. In this way actual leaves taken can be compared with the leaves the group would have taken if a one-to-one ratio existed. *Zero parity* is defined as equality of the percent of faculty and percent of leaves. The ratio of these two would equal 1.0 if zero parity existed. Negative parity (-)

TABLE 5

ACADEMIC DISCIPLINE LEAVE PARITY--LITERARY COLLEGE ONLY

Academic Discipline	% of Faculty		Type of Leave				TOTAL
			OCA	SAB	TEMP TRAN	PERS	
Human.	36.5	Parity:	99	168	92	50	408
		Actual:	37	156	63	36	292
		Differ.:	-62	-12	-29	-14	-116
Soc. Sci.	32.6	Parity:	88	150	82	45	365
		Actual:	93	127	92	69	381
		Differ.:	+5	-23	+10	+24	+16
Nat. Sci.	30.9	Parity:	84	142	78	42	346
		Actual:	141	176	97	32	446
		Differ.:	+57	+34	+19	-10	+100
Number of Leaves			271	459	252	137	1119

means deprivation while positive parity (+) means the percent of leaves a group has taken is greater than the percent of faculty that group is of its larger group. Table 5 shows the computation for determining parities for each discipline and leave category. Table 6 then shows the plusses and minuses in table form, and how much each discipline accounts for deviations from zero parity. They both refer to the literary college only.

Humanities faculty take less off-campus assignments, less sabbaticals, less temporary transfers and less personal leaves than their faculty size appears to warrant. This is translated from the actual versus the parity figures in Table 5 to plusses and minuses in Table 6. The comparative percentage of faculty in each discipline is included in

TABLE 6

ACADEMIC DISCIPLINE SUMMARY OF NEGATIVE AND POSITIVE LEAVE PARITIES--LITERARY COLLEGE ONLY

Academic Discipline	Type of Leave				Total	% of Deviation
	OCA	SAB	TEMP TRAN	PERS		
Human.	(-)	(-)	(-)	(-)	-(116)	-100.0
Soc. Sci.	(+)	(-)	(+)	(+)	+(16)	+13.8
Nat. Sci.	(+)	(+)	(+)	(-)	+(100)	+86.2

Table 4. The greatest deprivation (less than zero parity) is in off-campus assignments with temporary transfers suffering next most, personal leaves next and sabbaticals being the closest leave category to zero parity for the humanists.

The social scientists are deprived only in one category, sabbaticals, and the deprivation is rather small. The greatest excess over parity for the social scientists exists in the personal leave category.[17]

The natural scientists do not exceed their parity figure for personal leaves, but this negative difference is slight. In all other categories, this group of faculty takes much more than its zero parity share of off-campus assignments, sabbaticals, and temporary transfers.[18]

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[17]The concept of parity is an explanatory device only; whether a discipline should have equal leavetaking with respect to others is a philosophical and more difficult question.

[18]Indicating where off-campus assignments may be most influenced over the long run.

Tables 7 and 8 are the first of the tables using the single leave data for 1384 faculty. The tables describe, for each discipline, the percentage of the number of leaves taken by each faculty member in the study. Of the 1384 faculty taking leaves 62.7% took only one leave during the ten-year period; 24.2% took two leaves, and 8.8% took three leaves. Thus, only about 4% of the faculty who took leaves during the period took four or more leaves.[19] (Length of leaves will be discussed later. See Tables 45, 46, and 47.) Both the humanists and the professionals took slightly more than the average 62.7% share of the one-leave-only category meaning that their other percentages were lessened. The social scientists and natural scientists took less than the near 63% average of the one-leave-only category indicating their multiple leave tendency. The natural scientists exhibited the greatest percentage of multiple leavetaking beyond three leaves per faculty member.

Table 8 removes the effect of the professional group, and compares by discipline the number of leaves taken in the literary college only. The comparison is for each of the number of leaves taken by each of the three disciplines. When this comparison is made there is a tendency toward zero parity in the one-leave-only category for all three disciplines. As might be expected now, the humanists are slightly deprived, and the natural scientists have a positive parity in the one-leave-only category. Beyond that category, the multiple leave characteristics of the social scientists and natural scientists begin to emerge with the natural scientists taking more multiple leaves than the social scientists.

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[19]The last column includes the comparative percentage for all 2174 leaves (Table 2), and shows the natural scientists gaining 3% in total leave percentage while the professionals lost 3%.

TABLE 7

ACADEMIC DISCIPLINE AND PERCENT OF NUMBER OF LEAVES TAKEN PER FACULTY MEMBER--1384 FACULTY

Academic Discipline	Number of Leaves per Faculty Member									TOTALS		Compare[a] 2174
	1	2	3	4	5	6	7	8	9	Freq.	%	
Human.	65.8	21.9	9.2	2.0	1.0					196	14.2	13.5
Soc. Sci.	56.4	23.4	11.9	3.4						236	17.1	17.6
Nat. Sci.	56.4	24.1	10.0	4.1	2.1	2.1		0.8	0.4	241	17.5	20.6
Prof.	66.1	23.5	7.4	1.3	1.4	0.1	0.1			706	51.2	48.3
TOTALS Freq.	865	334	122	31	17	6	1	2	1	1379[b]		
TOTALS %	62.7	24.2	8.8	2.2	1.2	0.4	0.1	0.1	0.1		100.0	

[a]Table 2: 2174 leaves. [b]5 leaves no discipline.

TABLE 8

ACADEMIC DISCIPLINE AND PERCENT OF NUMBER OF LEAVES TAKEN--LITERARY COLLEGE ONLY

Academic Discipline	% of Faculty	% of Leaves		Number of Leaves[a]								
		(2174)	(1384)	1	2	3	4	5	6	7	8	9
Human.	36.5	26.1	29.2	32.4	25.6	25.7	18.1	23.5				
Soc. Sci.	32.6	32.2	35.0	33.4	40.0	40.0	36.2					
Nat. Sci.	30.9	41.7	35.8	34.2	34.4	34.3	44.7	61.5	100.0		100.0	100.0
TOTALS	100.0	100.0	100.0	59.2	24.9	10.4	3.2	1.0	0.7	0.0	0.3	0.1

[a]See Table 7 for actual numbers.

In Table 9 the percent of leaves (21%) is crossed against the major units of the university over the ten-year period. The same table also contains the 1968-69 percent of faculty in each of these units in Column 2. In Colum 3 the percent of leaves taken (the number of leaves taken is in the Totals Colum), and in Column 4 the plus or minus discrepancy between the faculty percentage and the percent of leaves taken by that unit is shown as Deviation from Parity. (Column 5, Unit Ratio, will be discussed shortly.)

In the fifteen professional (including the branch units) university organizations, plusses are registered in six units, minuses in eight units, and zero parity in two. None of the deviations from parity are large. The overall deviation of 5.3% (plus) for the literary college is the largest of all the sixteen units. The next largest plus deviations arise in the Engineering unit (1.8%), a very large size faculty group, and a similar 1.8% in the Pharmacy unit, a very small size faculty group. The plus deviation in Engineering occurs in sabbaticals (a very high 60% rate), temporary transfers, and personal leaves thus making up for its fairly extreme negative deviation (-7.9%) in off-campus assignments. This last deviation is surprising inasmuch as engineering does have a solid foundation in the natural sciences which had a large plus deviation in off-campus assignments. Evidently the professional/non-professional distinction is important to off-campus assignments, and this will be further seen when discussing the health-oriented professions.

The largest minus deviations from zero parity in the non-literary college units are found in the Dental unit (-2.8%) and the Nursing unit (-2.3%). The Dental unit is low in all four kinds of

TABLE 9

MAJOR UNIVERSITY UNITS AND PERCENT OF EACH TYPE OF LEAVE

Major Unit	(2) % of Faculty	(3) % of Leaves	(4) Deviation from Parity	(5) Unit[a] Ratio	Type of Leave				Total[b] Freq.
					OCA	SAB	TEMP TRAN	PERS	
Arch.	3.1	4.1	+1.0	1.04	4.4	77.5	12.4	5.6	89
Bus.	2.6	3.4	+0.8	.99	18.9	58.1	20.3	2.7	74
Dent.	3.6	0.8	-2.8	.17	27.8	44.4	27.8	0.0	18
Ed.	4.0	4.2	-0.2	.81	17.6	65.9	14.3	2.2	91
Engin.	10.5	12.4	+1.8	.92	4.8	60.4	23.1	11.6	268
Law	1.8	2.1	+0.2	.89	24.4	46.7	24.4	4.4	45
Med.	11.1	10.6	-0.5	.73	44.5	36.7	12.2	6.5	229
Mus.	4.4	3.5	-1.0	.61	8.0	74.7	8.0	9.3	75
Branch	2.6	1.6	-1.0	.47	22.9	40.0	34.3	2.9	35
Nurse	2.5	0.2	-2.3	.05	0.0	50.0	0.0	50.0	4
Pharm.	0.5	1.4	+1.8	2.06	25.8	45.2	22.6	6.4	31
Pub. Hl.	2.2	2.1	0.0	.73	76.1	2.2	17.4	4.3	46
Soc. W.	1.2	1.1	0.0	.66	0.0	70.8	25.0	4.2	24
Nat. Res.	1.7	1.2	-0.5	.53	0.0	80.8	15.4	3.8	26
Branch	2.6	1.0	-1.6	.27	0.0	52.4	33.3	14.3	21
Lit.	45.0	50.3	+5.3	.87	24.8	40.3	22.6	12.3	1089
UNIV.	100.0	100.0	0.0	.77					
				TOTALS Freq.	492	1022	441	210	2165
				TOTALS %	22.7	47.2	20.4	9.7	100.0

[a]Unit Ratio = Number of Leaves (1960-1970) ÷ Number of Faculty in Unit (1968-69). See discussion on page 60.

[b]Percentages are in Column 3.

leavetaking, and it took no personal leaves during the ten-year period. The Nursing unit took no off-campus assignments or temporary transfers during the decade. From this data it does not appear that any *gross* deviations from zero parity exist in the non-literary college units of the university.

An additional unit measure of leavetaking was developed called Unit Ratio, and is enumerated in Column 5 of Table 9. This is defined as a representative ratio between the number of faculty members in a unit for a particular academic year, and the number of leaves taken during the decade by that particular unit. The year 1968-69 was selected in order to determine the representative numerator. Unit Ratios for each unit as found in Column 5 range from a low of .17 of a leave per 1968-69 faculty member in the Dental unit to 2.06 leaves per 1968-69 faculty member in the Pharmacy unit. The mean Unit Ratio, the University's, is .77. It is a measure of a leave tendency of an institution or a unit of the institution. The Unit Ratio for the Literary College is .87 indicating greater leaveability compared to the entire institution, and to professionals. Unit Ratios do not say how long a leave might be or what kind, but the probability is about .47 that a leave was a sabbatical, .22 that a leave was an off-campus assignment, .20 temporary transfer, and .09 personal.[20]

Table 10 confirms greater leaveability for the literary college unit comparing its leave type parity characteristics. It shows that the overall 5.3% plus deviation from zero parity for the non-professional literary college consists of a 9.8% plus deviation (representing about 47 leaves) in off-campus assignments, a 12.7% plus deviation

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[20]Length of leaves will be discussed later.

TABLE 10

LITERARY COLLEGE LEAVE PARITY CHARACTERISTICS

	Type of Leave				Total
	OCA	SAB	TEMP TRAN	PERS	
Literary Unit Parity	45.0	45.0	45.0	45.0	45.0
Literary Unit Actual	54.8	43.9	55.7	63.8	50.3
Deviation from Parity	+9.8	-1.1	+12.7	+18.8	+5.3
Number of Leaves Involved	49	11	47	39	124

in temporary transfers (representing about 47 leaves), and an 18.8% plus deviation from zero parity (representing about 39 leaves) in personal leaves. This is over the ten-year period. A small negative deviation (-1.1, 11 leaves) in sabbaticals exists for the literary college, but because sabbaticals are the largest group of leaves, this minus deviation in that category decreases the overall deviation to plus 5.3%.

Tables 9 and 10 show that each separate college or university unit exhibits its own peculiar leave characteristic. The Medical unit, for example, is the recipient of a proportionately high number of off-campus assignments (about 20% of the total, 102 of 492); its faculty also took fewer personal leaves and sabbaticals than the overall average. It and the Public Health unit account for over 56% of the off-campus assignments taken by the professional faculty. Four professional units took no off-campus assignments. Additionally, the percent of sabbatical takers is far over the general average in the

Architecture, Education, Music, Social Work, Natural Resources, and Engineering units. The Public Health unit is considerably below the general average for sabbaticals as is the Engineering unit for off-campus assignments.

Tables 11 and 12 are the university major unit percentage breakdowns of the quantity of leaves taken by each of the unit's faculty members. Some comparative figures are incorporated into these tables. Unit percent of faculty is shown in the last column of Table 11, and this verifies, by comparing those percentages with the percentages in the preceding column, that the Engineering unit and the Literary College are the chief deviators from zero parity on the plus side.[21] Table 12 indicates that with 10.5% of the faculty, the Engineering unit took 14.0% of the one-leave-only category, 15.3% of the two-leave category, and 11.5% of the three-leave category. The literary college with 45% of the faculty took 49.7% of the two-leave category, 56.6% of the three-leave category, and 71.0% of the four-leave category. Other noticeable plus discrepancies arose in the Business unit which, with 2.6% of the faculty, took 9.0% of the entire three-leave category. The Dental unit stands out negatively as was suggested earlier, in the one-two-three-leave categories. Tables 11 and 12 show the same data with the percentages running in both directions.

Table 13 explains where the 5.3% plus deviation (2174 leaves) occurred in the literary college. The figures in this table show the percentages of each category of leave occurring in each of the units

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[21]With 1384 faculty and a one-leave basis, however, the deviation from zero parity for the literary unit is only 1.8 as compared with 5.3 for 2174 leaves.

TABLE 11

MAJOR UNIVERSITY UNITS AND THEIR PERCENT OF NUMBER OF LEAVES (1-9) TAKEN--(1384 FACULTY)

Major Unit	Unit Percentage of Each Number of Leaves per Faculty Member									Compare 2174	TOTAL		% of Faculty
	1	2	3	4	5	6	7	8	9		Freq.	%	
Arch.	60.6	36.1	1.6	1.6						4.1	69	4.4	3.1
Bus.	51.2	19.5	26.8		2.4					3.4	41	3.0	2.6
Dent.	72.7	9.1	9.1		9.1					0.8	11	0.8	3.6
Ed.	76.8	15.9	5.8	1.4						4.2	69	5.0	4.0
Engin.	64.7	27.3	7.5	0.5						12.4	187	13.6	10.5
Law	68.7	18.7	12.5							2.1	32	2.3	1.8
Med.	71.3	17.3	6.0	2.0	2.0	0.7	0.7			10.6	150	10.9	11.1
Mus.	70.7	24.1	3.4	1.7						3.5	58	4.2	4.4
Branch	41.2	35.3	5.9	5.9	11.8					1.6	17	1.2	2.6
Nurs.	100.0									0.2	4	0.3	2.5
Pharm.	43.7	25.0	12.5		18.7					1.4	16	1.2	0.5
Pub. Hl.	64.5	25.8	6.4	3.2						2.1	31	2.2	2.2
Soc. W.	73.7	26.3								1.1	19	1.4	1.2
Nat. Res.	68.4	26.3	5.3							1.2	19	1.4	1.7
Branch	88.9	5.6	5.6							1.0	18	1.3	2.6
Lit.	57.9	25.7	10.7	3.4	1.1	0.8		0.3	0.1	50.3[a]	646	46.8[a]	45.0
Freq.	865	334	122	31	17	6	1	2	1		1379		
%	62.7	24.2	8.8	2.2	1.2	0.4	0.1	0.1	0.1	100.0		100.0	100.0

[a]Assuming this is 51% and 47% for 2174 and 1384 leaves, respectively, it is apparent that multiple leaves are slightly more characteristic of the professional, non-literary college faculty due to the 4% difference.

TABLE 12

MAJOR UNIVERSITY UNITS' PERCENT OF NUMBER (1-9) OF LEAVES TAKEN--(1384 FACULTY)

Major Unit	Unit Comparison for Each Number of Leaves Taken								
	1	2	3	4	5	6	7	8	9
Arch.	4.3	6.6	0.8	3.2					
Bus.	2.4	2.4	9.0		5.9				
Dent.	0.9	0.3	0.8		5.9				
Ed.	6.1	3.3	3.3	3.2					
Engin.	14.0	15.3	11.5	3.2					
Law	2.5	1.8	3.3						
Med.	12.4	7.8	1.4	9.7	17.6	16.7	100.0		
Mus.	4.7	4.2	1.6	3.2					
Branch	0.8	1.8	0.8	3.2	11.8				
Nurs.	0.5								
Pharm.	0.8	1.2	1.6		17.6				
Pub. Hl.	2.3	2.4	1.6	3.2					
Soc. W.	1.6	1.5							
Nat. Res.	1.5	1.5	0.8						
Branch	1.8	0.3	0.8						
Lit.	43.2	49.7	56.6	71.0	41.2	85.3		100.0	100.0

TABLE 13

MINOR UNIVERSITY UNITS (LITERARY COLLEGE) AND TYPE OF LEAVE

Minor Unit	(2) % of Faculty	(3) % of Leaves	(4) Deviation from Parity	(5) Unit Ratio	(6) % of Res. $	Type of Leave				Freq.[a]
						OCA	(8) SAB	TEMP TRAN	PERS	
Anthro.	2.8	4.2	+1.4	1.48	0.4	45.6	23.9	17.4	13.0	46
Astron.	1.2	0.9	-0.3	.71	11.8	30.0	50.0	20.0	0.0	10
Botany	3.0	3.0	0.0	.97	2.7	54.5	33.3	9.1	3.0	33
Chem.	3.7	2.7	-1.0	.73	8.3	13.3	56.7	23.3	6.7	30
Class.	1.9	2.0	+0.1	1.00	0.1	31.8	36.7	18.2	13.6	22
Com. Sci.	1.3	0.3	-1.0	.20	1.1	0.0	100.0	0.0	0.0	3
Econ.	4.4	5.8	+1.4	1.24	2.1	15.9	28.6	38.1	17.5	63
Eng.	8.3	7.2	-1.1	.84	0.4	7.7	60.3	20.5	11.5	78
F. East	1.5	0.8	-0.7	.53	0.2	0.0	44.4	33.3	22.2	9
Geog.	1.3	2.4	+1.1	1.73	0.3	30.8	38.5	26.9	3.8	26
Geol./Min.	2.4	2.0	-0.4	.81	0.9	31.8	45.4	18.2	4.5	22
Germ.	2.3	1.5	-0.8	.65	0.1	5.9	64.7	23.5	5.9	17
Hist.	5.0	5.8	+0.8	1.13	0.2	19.0	31.5	12.7	36.5	63
Hist./Art	2.1	2.6	+0.5	1.16	0.1	50.0	32.1	3.6	14.3	28
Journ.	1.2	1.1	-0.1	.86	0.0	8.3	66.7	25.0	0.0	12
Lib. Sci.	1.7	0.5	-1.2	.31	0.0	0.0	66.7	16.7	16.7	6
Ling.	1.1	0.5	-0.6	.54	0.7	28.6	28.6	14.3	28.6	7
Math.	7.9	11.4	+3.5	1.41	6.2	1.6	40.3	41.1	16.9	124
N. East	1.6	1.0	-0.6	.61	0.1	18.2	72.7	0.0	9.1	11
Phil.	1.8	2.6	+0.8	1.40	1.1	10.7	35.7	46.4	7.1	28
Physics	4.9	5.9	+1.0	1.16	34.3	32.8	37.5	23.4	6.2	64
Pol. Sci.	4.2	6.0	+1.8	1.38	0.1	26.1	29.2	27.7	16.9	65
Psych.	15.2	8.9	-6.3	.57	17.0	23.7	39.2	25.8	11.3	97
Roman.	4.4	3.3	-1.1	.73	0.2	5.6	52.8	25.0	16.7	36
Slav.	1.5	1.2	-0.3	.76	0.0	0.0	53.8	23.1	23.1	13
Sociol.	3.5	3.5	0.0	.99	3.7	26.3	36.8	18.4	18.4	38
Speech	3.3	1.6	-1.7	.49	0.2	0.0	83.3	16.7	0.0	18

Zoology	5.0	10.4	+5.4	2.01	7.3	65.5	28.3	6.2	0.0	113
LITERARY COLLEGE	100.0	100.0	+5.3	.98	100.0					
					FREQ.	268	439	247	133	1082
					%	24.8	40.5	22.7	12.2	100.0

[a]Percentages are in Column 3.

in the literary college. The table also enumerates each department's percent of faculty (Column 2), and department percent of total leaves (Column 3). The number of leaves taken is in the totals column. A plus or minus deviation from zero parity is therefore determinable (Column 4), and a departmental Unit Ratio is developed in Column 5 by dividing the 1968-69 faculty count by the number of leaves taken in that department during the ten-year period. The mean of the unit ratios for the literary college on this basis is .98 as compared with .77 for the entire university. Earlier, in Table 9, a literary college Unit Ratio of .87 was mentioned. The reason for the difference in Tables 9 and 13 for the literary college's unit ratio arises out of the data used in the two tables which were necessarily different. Table 9 arose out of data from the university's institutional research section, and was for 1968-69 nine-month FTE faculty. Table 13's Unit Ratio arose out of the 1968-69 telephone directory headcount. The telephone directory would not be as up-to-date at time of printing as the institutional research section, and it does not reflect FTE numbers. Regardless of which number is used, the use of the number is only as an indicator, and the comparisons are reasonably close.

The 5.3% plus deviation, as was earlier shown in Table 10, consisted of plus deviations in off-campus assignments, temporary transfers, and personal leaves. The plus portion of the off-campus assignment is fairly well accounted for in Table 13 in the Zoology unit which, with 5.0% of the faculty, took 27.6% of these leaves. The excess in temporary transfers can be accounted for by the Mathematics and Economics units, while the History and Mathematics units can account for most of the plus deviation in the personal leave category.

Table 13 also contains the unit percentage of the total of average research dollars available to each minor unit over a five-year period, 1964-68 (Column 6). Column 3 contains the percentage of the total number of leaves for each unit (number of leaves divided by the total number of leaves), and Column 5 contains the Unit Ratio for each unit (unit number of 1968-69 faculty divided by unit number of leaves, 1960-70). Average research dollars were correlated (Pearson product-moment) with Unit Percent of Leaves (.379), and Unit Ratio (leaves per faculty member) (.091). Additionally, Unit Percent of Leaves was correlated as a check with Unit Ratio (.588). This fairly high correlation can be accounted for because the unit number of leaves is a numerator in one percentage and denominator in the other. A one-tailed *t*-test which tested the null hypothesis that $r = 0$ (no association) was run ($\alpha = .05$) on the Research Dollar/Unit Percent of Leave correlation and did not confirm the null hypothesis ($t = .48$). A one-tailed *t*-test to test the null hypothesis that $r = 0$ ($\alpha = .05$) for Unit Research Dollars/Unit Ratio was also run, and the null hypothesis was confirmed in this case. In the case of the first significance test (non-confirmation), at an $\alpha = .01$, one tail only level, the $r = 0$ null hypothesis was confirmed indicating that the association between research dollars and number of leaves taken by that unit is not a strong one disappearing statistically some place between the .025 and .020 significance level. This relationship will be discussed later in Chapter 5, Research Hypotheses, when the leavetaking/research dollar hypothesis is tested.

Table 14 develops, for each of the 1384 faculty involved, the percentages of each of the number-of-leaves categories for each unit in

TABLE 14

MINOR UNIVERSITY UNITS (LITERARY COLLEGE) AND THEIR PERCENT OF NUMBER OF LEAVES (1-9) TAKEN

Unit	Number of Leaves									(11) Compare 2174	(12) Total	
	1	2	3	4	5	6	7	8	9		Freq.	%
Anthro.	30.4	43.5	21.1	4.3						4.2	23	3.5
Astron.	57.1	42.9								0.9	7	1.1
Botany	72.2	11.1	5.6		5.6			5.6		3.0	18	2.8
Chem.	63.6	31.8	4.5							2.7	22	3.4
Class.	50.0	42.9	7.1							2.0	14	2.2
Com. Sci.	100.0									0.3	2	0.3
Econ.	51.4	22.9	20.0	5.7						5.8	35	5.4
Eng.	67.3	23.6	7.3	1.8						7.2	55	8.5
F. East	71.4	28.6								0.8	7	1.1
Geog.	25.0	50.0	8.3	16.7						2.4	12	1.8
Geol./Min.	57.1	28.6	7.1		7.1					2.0	14	2.2
Germ.	76.9	15.4	7.7							1.5	13	2.0
Hist.	63.4	24.4	7.3	4.9						5.8	41	6.3
Hist./Art	50.0	8.3	16.7	8.3	16.7					2.6	12	1.8
Journ.	90.0		10.0							1.1	10	1.5
Lib. Sci.	80.0	20.0								0.5	5	0.8
Ling.	60.0	40.0								0.5	5	0.8
Math.	56.8	27.0	10.8	5.4						11.4	74	11.4
N. East	62.5	37.5								1.0	8	1.2
Phil.	50.0		42.9	7.1						2.6	14	2.2
Physics	56.4	30.8	5.1	7.7						5.9	39	6.0
Pol. Sci.	50.0	27.8	11.1	11.1						6.0	36	5.6
Psych.	64.6	21.5	13.8							8.9	65	10.0
Roman.	68.0	24.0	4.0	4.0						3.3	25	3.9
Slav.	55.6	33.3	11.1							1.2	9	1.4
Sociol.	57.1	38.5	3.8							3.5	26	4.0
Speech	80.0	20.0								1.6	15	7.3

Zoology	41.0	15.4	17.9		7.7	12.8		2.6	2.6	10.4	39	6.0
FREQ.	378	164	69	22	7	5	0	2	1		645	
%	58.3	25.3	10.6	3.4	1.1	0.8	0.0	0.3	0.1	100.0		100.0

the literary college. The unit percentage of total leaves (2174) is taken from another table, and compared with the 1384 unit percentage (Columns 11 and 12). The difference between these percentages are quite small with the largest difference being in the Zoology unit where the greatest amount of off-campus assignments occurred, and where in both the one- and two-leave categories, that unit is below average, making it highly multiple-leave oriented. It would appear, however, that the study might not have suffered if one leave per faculty member, never overlooking a sabbatical, had formed the basis for leave population. Both Tables 13 and 14 are expanded somewhat in Tables 51, 52, and 54.

Variable 2: Type of Sabbatical

Sabbatical leaves were classified into four kinds: those which lasted one term (at full pay); those lasting two terms (at half pay); those taken for a certain number of months, generally six (at full pay); and those taken for a certain number of months, usually twelve (at half pay).

Table 15 indicates how these four kinds of sabbaticals were distributed over the entire decade. The one-term sabbatical for the university as a whole was clearly the preferred type (67.8%), while about two out of ten sabbatical takers preferred to leave for the entire academic year (see last column). Slightly more than one out of ten sabbatical leaves were taken at full pay for a period not exceeding six months. This is the equivalent of the one-term sabbatical. The half-pay sabbatical for the twelve-month period was not at all popular (1.7%). It appears that the one-semester (fall or winter) sabbatical lost some of its popularity over the entire decade with both the two-

TABLE 15

ACADEMIC YEAR AND TYPE OF SABBATICAL

Type of Sabbatical	Academic Year										Total	
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	Freq.	%
One Semester	71.	85.	79.	73.	68.	59.	60.	67.	67.	59.	693	67.8
Two Semester	16.	11.	14.	18.	20.	30.	21.	18.	19.	23.	201	19.6
Months/ Half Pay	0.	0.	0.	3.	0.	2.	4.	0.	3.	3.	18	1.7
Months/ Full Pay	13.	4.	7.	6.	12.	9.	15.	15.	11.	15.	110	10.7
FREQ.	56	72	92	106	95	104	113	122	135	127	1022	
%	5.4	7.0	9.0	10.3	9.3	10.1	11.1	11.9	13.2	12.4		100.0

semester leave and the six-month/full-pay leave showing gains in popularity. The increase in full sabbaticals at half pay throughout the decade will be touched upon later.

Table 16 crosses the four sabbatical types with the four disciplines and includes a reminder of the percentage of total faculty in each professional/non-professional category. It should be noted that 55% of the faculty (professional) take 58.4% of the one-term sabbaticals, and 55.2% (zero parity) of all sabbaticals. The same group takes 81.8% of the six-months/full-pay sabbaticals, and if these are combined with the one-semester/full-pay type, the professionally-oriented faculty accounts for 61.6% of the most popular sabbatical form. This may be a result of the styles or manner of academic appointments.

TABLE 16

ACADEMIC DISCIPLINE AND TYPE OF SABBATICAL
(% OF EACH TYPE BY EACH DISCIPLINE)

% of Faculty	Academic Discipline	Type of Sabbatical				Total	
		One Sem	Two Sem	Months Full	Months Half	Freq.	%
45.0	Human.	14.6	24.9	3.6	5.6	156	15.2
	Soc. Sci.	11.3	20.9	5.5	5.6	127	12.4 (44.8)
	Nat. Sci.	15.7	27.4	9.0	11.1	176	17.2
55.0	Prof.	58.4	26.9	81.8	77.8	563	55.2
	FREQ.	693	201	110	18	1022	
100.0	%	67.8	19.6	10.7	1.7		100.0

Table 16 also divulges some preferential sabbatical differences between the professional and non-professionals. In the one-semester sabbatical category, their percentages adhere quite closely to the concept of zero parity. On the other hand, only 26.9% of the professional faculty selected the two-semester sabbatical indicating at first glance either its unconcern or inability to take a full year of sabbatical leave. However, if the sabbatical based on months at half pay is considered as being similar to the two-semester, half-pay sabbatical, then the half-pay sabbatical percentage for the professional group is raised to 47.0%. This still indicates, however, that the full-year sabbatical is less typical of the professional group even though that group shows greater preference for the sabbatical based on months rather than semesters.

Table 17 looks at the same data from a different standpoint. Each discipline is investigated for its preferences for each kind of sabbatical. The similarities between the three non-professional literary college disciplines is quite apparent inasmuch as none of the three deviate from each other in the one- and two-semester categories of sabbaticals. There is a hint that the sabbatical based on months, whether for six or twelve, tends in the direction of pure science (humanities to social sciences to natural sciences), and then escalates in usage when professional faculty are considered. Whether this escalation is a result of professional faculty being even nearer to pure science would be a speculation. Its basis is most likely in the formal structure of the curriculum which, in the professional schools, does not adhere closely to the Fall-Winter-Spring-Summer semester system in use at this university. Thus, leaves are more likely to be based on

months in the professional group.

TABLE 17

ACADEMIC DISCIPLINE AND TYPE OF SABBATICAL
(% OF ALL TYPES BY EACH DISCIPLINE)

Academic Discipline	Type of Sabbatical[a]			
	One Semester	Two Semester	Months Full	Months Half
Human.	64.7	32.0	2.5	0.8
Soc. Sci.	61.4	33.0	4.7	0.9
Nat. Sci.	61.9	31.2	5.7	1.1
Prof.	71.9	9.6	16.0	2.5

[a]See totals in Table 16 for rows and columns.

Table 18 extracts the non-professional faculty out of Tables 16 and 17 for study of the literary college only. It contains a reminder of the percent of non-professional faculty in each discipline. Both the humanists and the social scientists exhibit slight negative parity by taking fewer sabbaticals than their percent of faculty might suggest (Columns 6 and 7). The natural scientists, on the other hand, with 30.9% of the literary college faculty, account for 38.3% of the sabbaticals. (See also Table 4.) Comparing the non-professionals in Table 18 to the professional group in Table 16, there are large differences between each group in each sabbatical category. Only 62.7% of the non-professionals (Table 18) selected the one-term sabbatical as opposed to 71.9% of the professionals (Table 17). More non-professionals (32.0%) took the two-term sabbatical than the professionals (9.6%). The non-

TABLE 18

ACADEMIC DISCIPLINE AND TYPE OF SABBATICAL--LITERARY COLLEGE ONLY
(% OF EACH TYPE BY EACH DISCIPLINE)

Academic Discipline	Type of Sabbatical[a]				(6) Total		(7) % of Faculty
	One Sem	Two Sem	Months Full	Months Half	Freq.	%	
Human.	35.1	34.0	20.0	25.0	156	34.0	36.5
Soc. Sci.	27.0	28.5	30.0	25.0	127	27.7	32.6
Nat. Sci.	37.9	37.5	50.0	50.0	176	38.3	30.9
FREQ.	288	147	20	4	459		
%	62.7	32.0	4.3	1.0		100.0	

[a]Quantities in Table 16.

professionals took a much smaller percent of the full-pay, six-months leave (4.3%), as opposed to the professionals who selected this category 16.0% of the time. If all full-pay sabbaticals are combined, the non-professionals selected them roughly 67% of the time; the professional faculty selected them roughly 88% of the time. Thus, it appears that the professional faculty takes slightly greater advantage of sabbaticals, and in doing so, also utilizes the full-pay option much more frequently than the faculty who teach in the literary college. As a result the literary college faculty would appear to be away longer on the average.

Table 19 (1384 faculty) divulges some information about how disciplines compare over a period of time in their tendencies to

TABLE 19

ACADEMIC DISCIPLINE AND NUMBER OF SABBATICALS PER FACULTY MEMBER (1384)

Academic Discipline	Number of Sabbaticals		Frequency
	One	Two	
Human.	90.1	9.9	142
Soc. Sci.	88.7	11.3	115
Nat. Sci.	90.0	10.0	159
SUB-TOTALS	89.9	10.1	416
Prof.	89.9	10.1	513
FREQ.	834	95	929[a]
%	89.8	10.2	100.0

[a]1384 - 929 = 455 of the faculty (32.9%) who did not take a sabbatical during the decade, but who took some other kind of leave. It would appear that less than 50% of the current faculty (estimating it near 3000 at the end of 1969-70) took leave from this university during this 10-year period.

utilize the sabbatical. There are almost identical percentages for faculty in each discipline taking two sabbaticals during the ten-year period (about 10%). The social scientists have a slightly larger percentage taking two sabbaticals than the other three disciplines but it is too small for generalizing.

Table 20 reveals some additional facts when sabbatical categories are crossed with the major units of the university. Several units, using rounded percentages, took a much larger percentage of their leaves in the one-term category than the all-university average of 68%. The Law unit took 95% of its sabbaticals in that category, Architecture 87%, Engineering 90%, and the Business unit 91%. The Medicine unit, moreover, took a large 46% of its sabbaticals in the six-months/full-

TABLE 20

MAJOR UNIVERSITY UNITS AND TYPE OF SABBATICAL

Major Unit	% of Faculty	(3) % of Sabbaticals	(4) Deviation from Parity	Type of Sabbatical[a]				TOTAL[b]
				One Semester	Two Semester	Months Full	Months Half	
Arch.	3.1	6.7	+3.6	86.9	--	--	--	69
Bus.	2.6	4.2	+1.6	90.7	--	--	--	43
Dent.	3.6	0.1	-3.5	--	--	--	100.0	8
Ed.	4.0	5.9	+1.9	76.6	--	--	--	60
Engin.	10.5	15.8	+5.3	90.0	--	--	--	162
Law	1.8	0.2	-1.6	95.2	--	--	--	21
Med.	11.1	8.2	-2.9	26.4	--	--	46.0	84
Mus.	4.4	5.5	+1.1	75.0	--	--	--	56
Branch	2.6	0.1	-2.5	71.4	--	--	--	14
Nurs.	2.5	0.1	-2.4	--	--	--	--	2
Pharm.	0.5	0.1	-0.4	--	--	--	71.4	14
Pub. Hl.	2.2	0.1	-2.1	--	--	--	--	1
Soc. W.	1.2	0.2	-1.0	58.8	41.2	--	--	17
Nat. Res.	1.7	0.2	-1.5	52.4	--	--	--	21
Branch	2.6	0.1	-2.5	--	--	86.3	45.4	11
Lit.	45.0	42.9	-2.1	64.4	32.3	--	3.2	439
FREQ.				693	201	18	110	1022
%	100.0	100.0		67.8	19.6	1.7	10.7	100.0

[a]Some of the percentages were omitted (--) because of size.

[b]Percentages are in Column 3.

pay category (University average, 11%), and only 26% in the comparable one-semester/full-pay group (University average, 68%). This is undoubtedly due to the academic calendar differences, and the problems associated with the training of physicians.

If the unit percent of faculty (Column 2) and the unit percent of sabbaticals (Column 3) are compared, the largest plus deviation from zero parity occurs in the Engineering unit where 10.5% of the faculty took 15.8% of the sabbaticals. This 5.3% positive differential is accounted for by that unit's 90.0% use of one-term, full-pay sabbaticals where the overall average is only 67.8%. All other major units are not too far from zero parity insofar as sabbaticals are concerned. (Plus and minus deviations are exhibited in Column 4.)

Table 21 (1384 faculty) looks at how many faculty in each major unit took one or more than one sabbatical during the ten-year period. Unlike disciplines where a 10% figure obtained for two sabbaticals in each discipline, the major units of the University exhibit a percentage range from 0.0% in four units to 26.0% in the Architecture unit. The overall average was still near 10%, but units like Architecture, Business, Medical, and Social Work could claim that nearly 20% of their faculty took two sabbaticals in ten years indicating a sabbatical-oriented faculty. The literary college, on the other hand, fell below the overall average with its 8.7%.

Table 22, sabbatical type and literary college only, investigates the 42.9% of sabbaticals taken by the non-professional literary college (45.0%) of the entire faculty. The greatest deviations from zero parity (Column 4) occurred in four units: English (-2.4%), Mathematics (+3.4%), Zoology (+2.3%), and Psychology (-6.6%). All other

TABLE 21

MAJOR UNIVERSITY UNITS AND NUMBER OF SABBATICALS (1384 FACULTY)

Major Unit	Number of Sabbaticals		Total	
	One	Two	Freq.	%
Arch.	74.0	26.0	54	5.8
Bus.	80.5	19.5	36	3.8
Dent.	85.7	14.3	7	0.7
Ed.	94.7	5.3	57	6.1
Engin.	92.7	7.3	152	16.3
Law	95.0	5.0	20	2.1
Med.	80.0	20.0	82	8.8
Mus.	86.0	14.0	50	5.3
Branch	84.6	15.4	13	1.4
Nurs.	100.0		2	0.2
Pharm.	100.0		14	1.5
Pub. Hl.	100.0		1	0.1
Soc. W.	78.5	21.5	14	1.5
Nat. Res.	83.3	16.7	18	1.9
Branch	100.0		11	1.1
Lit.	91.3	8.7	398	42.8
FREQ.	834	95	929	
%	89.7	10.3		100.0

deviations for all other units were quite close to zero parity (+ and - 0.9% being the next largest deviations from zero parity). A 1.0% deviation represents 4.4 leaves, and it would appear that the greatest deviator, the Psychology unit, took about twenty-nine sabbaticals less than its one-to-one faculty-leave ratio would allow, and this amounts to about three sabbaticals per year.[22] The non-use in the literary

[22]If instructors, lecturers, and other non-professorial ranks are dropped, the Psychology unit (which employs the most non-professorial faculty) accounts for 13.5% of the faculty, and has a negative deviation in sabbaticals of 4.9%. This represents slightly over two sabbaticals per year. It also shows that size of a unit may not necessarily encourage or discourage leavetaking. Other factors may be at work such as taking non-sabbatical leaves. The Psychology unit departs negatively from parity when all leaves are considered (see Table 13), even if sabbaticals are dropped from the consideration.

TABLE 22

MINOR UNIVERSITY UNITS AND TYPE OF SABBATICAL

Minor Unit	(2) % of Faculty	(3) % of Sabbaticals	(4) Deviation from Parity	Type of Sabbatical[a]				TOTAL[b]
				One Semester	Two Semester	Months Full	Months Half	
Anthro.	2.8	2.5	-0.3	72.7	27.3	--	--	11
Astron.	1.2	1.1	-0.1	20.0	40.0	40.0	--	5
Bot.	3.0	2.5	-0.5	63.6	36.4	--	--	11
Chem.	3.7	3.8	+0.1	70.6	23.5	5.8	--	17
Class.	1.9	1.8	-0.1	62.5	25.0	12.5	--	8
Com. Sci.	1.3	0.6	-0.7	100.0	--	--	--	3
Econ.	4.4	4.1	-0.3	83.3	16.7	--	--	18
Eng.	8.3	10.7	+2.4	80.8	17.0	2.1	--	47
F. East	1.5	0.8	-0.7	50.0	50.0	--	--	4
Geog.	1.3	2.2	+0.9	70.0	30.0	--	--	10
Geol./Min.	2.4	2.2	-0.2	90.0	10.0	--	--	10
Germ.	2.3	2.5	+0.2	90.9	9.1	--	--	11
Hist.	5.0	4.5	-0.5	70.0	30.0	--	--	20
Hist./Art	2.1	2.0	-0.1	66.7	33.3	--	--	9
Journ.	1.2	1.8	+0.6	62.5	37.5	--	--	8
Lib. Sci.	1.7	0.8	-0.9	75.0	25.0	--	--	4
Ling.	1.1	0.4	-0.7	--	100.0	--	--	2
Math.	7.9	11.3	+3.4	52.0	48.0	--	--	56
N. East	1.6	1.8	+0.2	25.0	75.0	--	--	8
Phil.	1.8	2.2	+0.4	40.0	60.0	--	--	10
Physics	4.9	5.4	+0.5	66.7	33.3	--	--	29
Pol. Sci.	4.2	4.3	+0.1	68.9	26.3	5.3	--	19
Psych.	15.2	8.6	-6.6	39.4	52.6	7.9	--	38
Roman.	4.4	4.3	-0.1	68.4	31.6	--	--	19
Slav.	1.5	1.6	+0.1	28.6	71.4	--	--	7
Sociol.	3.5	3.2	-0.3	71.4	28.6	--	--	14
Speech	3.2	3.4	+0.2	80.0	13.3	6.7	--	15

Zoology	5.0	7.3	+2.3	68.7	18.7	9.4	3.2	32
FREQ.				283	142	13	1	439
%	100.0	100.0	NONE	64.5	32.3	2.9	0.3	100.0

[a]A (--) in a cell means zero (0) frequency. [b]Percentages are in Column 3.

college of the twelve-month/half-pay sabbatical is also quite evident, and Table 20 earlier indicated that that kind of leave was popular only in the Medicine unit and one branch unit.

Table 23, Minor Unit and Number of Sabbaticals, reports the departmental tendencies to use the sabbatical frequently or infrequently. Here, as it was for disciplines, 10% is the average for the minor university units taking two leaves, and it appears that the Zoology, Mathematics, and Psychology departments are the three highest sabbatical repeaters. A comparison of the 1384 group percent of sabbaticals (Column 4) for each unit with the same percentage based on 2174 leaves (see Column 5) indicates rather close similarities regardless of the population.

Variable 3: Type of Temporary Transfer

Three kinds of temporary transfers form the basis of discussion with Table 24 as the guide. This chronological table reveals that leaves wherein the faculty member transferred temporarily to governmental institutions have been decreasing slowly on a year-to-year basis throughout the decade. On the other hand, leaves wherein the faculty member was employed at another academic institution have been slowly increasing on a year-to-year basis. The latter type of leave accounted for a large 69.8% of all temporary transfers over the ten-year span, and the current yearly rate is approximately 7% greater. Similarly, governmental leaves accounted for an average of 20.4% of all temporary transfers, but this figure has been exceeded only once in the last five academic years. Leaves to industry have remained fairly steady between 8% and 11%.

Tables 25 and 26 classify temporary transfers by discipline.

TABLE 23

MINOR UNIVERSITY UNITS AND NUMBER OF SABBATICALS (1384 FACULTY)

Minor Unit	Actual Number of Sabbaticals Taken		(4) Faculty 1384	(5) Leaves[a] 2174
	One	Two		
Anthro.	9	1	2.5	2.5
Astron.	5	0	1.3	1.1
Botany	9	1	2.5	2.5
Chem.	17	0	4.3	3.8
Class.	6	1	1.8	1.8
Com. Sci.	2	0	0.5	0.6
Econ.	14	2	4.0	4.1
Eng.	41	3	11.1	10.7
F. East	2	1	0.8	0.8
Geog.	7	1	2.0	2.2
Geol./Min.	9	1	2.5	2.2
Germ.	7	2	2.3	2.5
Hist.	20	0	5.0	4.5
Hist./Art	7	1	2.0	2.0
Journ.	6	1	1.8	1.8
Lib. Sci.	4	0	1.0	0.8
Ling.	2	0	0.5	0.4
Math.	38	6	11.1	11.3
N. East	6	1	1.8	1.8
Phil.	7	2	2.3	2.2
Physics	22	1	5.8	5.4
Pol. Sci.	15	2	4.3	4.3
Psych.	30	4	8.6	8.6
Roman.	15	2	4.3	4.3
Slav.	7	0	1.8	1.6
Sociol.	12	1	3.3	3.2
Speech	13	1	3.5	3.4
Zoology	24	4	7.1	7.3
FREQ.	356	39	395	439
%	91.2	9.8	100.0	100.0

[a]See Table 13, Column 8.

Table 25 shows, on the one hand, that the non-professional literary college group, 45% of the entire faculty, takes 58.1% of all temporary transfers which generates a positive temporary transfer deviation from zero parity of 13.1%. This is about 59 leaves or near six temporary leaves per year difference between that group and the professionals.

TABLE 24

TEMPORARY TRANSFERS PER ACADEMIC YEAR

Type of Transfer	Academic Year										Total	
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	Freq.	%
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	10.0	16.9	23.8	15.1	[illegible]	[illegible]	[illegible]
Industry	6.6	4.0	9.2	7.8	7.3	12.0	8.2	2.4	9.5	9.2	54	9.9
Academic	52.1	72.0	69.9	66.7	68.3	69.0	72.9	73.8	75.4	77.5	317	69.8
FREQ.	46	50	43	51	41	42	37	42	53	49	454	
%	10.1	11.0	9.4	11.0	9.0	9.2	8.1	9.2	11.6	10.7		100.0

TABLE 25

ACADEMIC DISCIPLINE AND TYPE OF TEMPORARY TRANSFERS
(% OF EACH TYPE BY EACH DISCIPLINE)

Academic Discipline	Type of Transfer			Total		% of Faculty	Parity Deviation
	Government	Industry	Academic	Freq.	%		
Human.	1.0	13.3	18.9	61	14.4	16.4	-2.0
Soc. Sci.	23.4	3.3	22.3	90	21.2	14.2	+7.0
Nat. Sci.	19.3	6.6	25.0	95	22.4	13.9	+8.5
SUB-TOTAL	43.7	23.2	66.2	746	58.1	45.0[a]	+13.1
Prof.	56.3	76.8	33.8	177	41.9	55.0[a]	-13.1
FREQ.	98	30	295	423			
%	100.0	100.0	100.0		100.0	100.0	0.0

[a]Rounded-off.

TABLE 26

ACADEMIC DISCIPLINE AND TYPE OF TEMPORARY TRANSFERS
(% OF ALL TYPES BY EACH DISCIPLINE)

Academic Discipline	Type of Transfer		
	Government	Industry	Academic
Human.	1.7	6.5	91.8
Soc. Sci.	25.5	2.0	73.3
Nat. Sci.	20.0	2.1	77.9
SUB-TOTAL	17.4	2.7	79.9
Prof.	31.6	12.5	55.9
FREQ.	98	30	295
%	23.1	7.2	69.7

The bulk of these leaves are of the academic variety, and the disparity between professionals and non-professionals is based on greater academic leave opportunities given to the literary college faculty. The table is also an indication that the professional faculty member is more likely to be the recipient of an industrial leave, and surprisingly shows that the humanist is an industrial leavetaker. However, the industrial category for the literary college is quite small (only seven leaves) and that statement about the humanists should not be taken too seriously. It arose out of the writing professions, illustrating the extreme difficulty of classifying university studies as professional or non-professional.

The extremely high percentage of academic temporary transfers utilized by the humanities (91.8%) shown in Table 26 could probably have been hypothesized correctly just as the lower-than-average 55.9% academic temporary transfer rate for the professional category of faculty. This latter group takes advantage of all three kinds of temporary transfers--spreads out its use of temporary transfers--unlike any of the other three disciplines, none of which utilize the industrial temporary transfer to any great extent.

Tables 27 and 28 narrow in on the literary college faculty by discipline and type of temporary transfer. Once again the rather large disparity between the humanists, and the social and natural scientists is in evidence. Despite its 36.5% majority in the faculty (Table 27) the humanists acquired only 24.8% of the temporary transfers, while the other two disciplines very nearly divided up the remaining 75.2%. Presumably this is a result of the lack of governmental temporary transfers acquired by humanists: one in ten years. It can be noted again

TABLE 27

ACADEMIC DISCIPLINE AND TYPE OF TEMPORARY TRANSFER--LITERARY COLLEGE ONLY (% OF EACH TYPE TAKEN BY EACH DISCIPLINE)

Academic Discipline	% of Faculty	(3) % of Leaves	Deviation	Type of Transfer			Total[a]
				Govt.	Ind.	Acad.	
Human.	36.5	24.9	-11.6	1.7	6.5	91.8	61
Soc. Sci.	32.6	36.5	+3.9	25.5	2.0	73.3	90
Nat. Sci.	30.9	38.6	+7.7	20.0	2.1	77.9	95
FREQ.				43	7	196	246
%	100.0			17.4	2.7	79.9	100.0

[a]Percentages are in Column 3.

that both the social and natural scientists took less industrial temporary transfers than the humanities faculty. The number of these leaves is only about 3% of the total, however, and very little might be surmised from this data alone. Table 27 does illustrate, however, that the natural scientists, based on sheer number of leaves, are the greatest leavetakers of the three disciplines. This fact will be discussed later under another emphasis in *Research Hypothesis 6*.

Table 28 investigates the year-to-year distribution in each discipline of academic temporary transfers only because of heavy emphasis upon them in the literary college unit. Only the first nine years of the decade are shown, and they show that except for 1962-63, 1967-68, and 1968-69 in the social sciences, academic temporary transfers held fairly steady throughout the period with a possible slight decline

TABLE 28

ACADEMIC STYLE TEMPORARY TRANSFERS YEARLY--LITERARY COLLEGE ONLY (1960-69)

	Academic Year									Total	
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	Freq.	%
Human.	5.4	10.7	8.9	12.5	10.7	12.5	10.7	8.9	12.5	52	27.6
Soc. Sci.	9.1	9.1	15.1	6.1	4.5	9.1	9.1	19.7	15.1	64	34.7
Nat. Sci.	12.2	12.2	8.1	12.2	10.8	10.8	10.8	5.4	9.5	68	37.7
FREQ.	18	21	21	20	17	21	20	22	24	184	
%	9.8	11.4	11.4	10.8	9.2	11.4	10.8	11.0	12.7		100.0

occurring in the natural sciences as the decade drew to a close.

Table 29 reports the findings concerning temporary transfers by major unit of the university. Two units of the university deviate much more than others from zero parity, and in a positive fashion: the literary college group has a positive deviation from zero parity of 12.2% (about 52 of the 419 reported transfers). The other positive deviation exists in Engineering which has a plus deviation of 4.3%. On the other hand, Medicine deviates negatively by 6.6% where temporary transfers are concerned, with Music, Nursing, and Dental showing negative deviations from zero parity which stand out (in contrast with the remaining ten units of the university).

Finally, Table 30 looks at temporary transfer leaves and the departmental units in the non-professional literary college. The large positive deviation of 12.2% referred to above in the literary college unit is accounted for in a single department, Mathematics. With 7.9% of the literary college faculty, that department took 20.0% of the temporary transfers. Further, the great majority of that unit's transfer leaves were to other academic institutions, 87.5%. That department accounted for 22.1% of all academic temporary transfers with the nearest competitor being Psychology with 10.5%. Mathematics accounted for 20.0% of all kinds of temporary transfers with the closest competitor being Economics with 10.0%. Economics took nearly 28% of all the governmental temporary transfers (13 of the 28 units took no temporary transfers to a governmental institution). The closest competitor to Economics in the governmental category was Physics with 16.2%, and Mathematics with 9.0%.

TABLE 29

MAJOR UNIVERSITY UNITS AND TEMPORARY TRANSFERS

Major Unit	% of Faculty	(3) % of Leaves	Deviation	Type of Transfer			TOTAL[a]
				Govern-ment	Industry	Academic	
Arch.	3.1	2.6	-0.5	9.2	27.2	63.6	11
Bus.	2.6	3.3	+0.7	21.4	7.2	71.4	14
Dent.	3.6	1.2	-2.4	60.0		40.0	5
Ed.	4.0	3.1	-0.9	30.7	15.4	53.8	13
Engin.	10.5	14.8	+4.3	25.8	22.6	51.6	62
Law	1.8	2.6	+0.6	18.2		81.8	11
Med.	11.1	4.5	-6.6	26.3	3.3	68.4	19
Mus.	4.4	1.4	-3.0	33.3		66.7	6
Branch	2.6	2.8	+0.2	66.7		33.3	12
Nurs.	2.5	0.0	-2.5				0
Pharm.	0.5	0.7	+0.2		33.3	66.7	3
Pub. Hl.	2.2	1.4	-0.8	66.7		33.3	6
Soc. W.	1.2	1.4	+0.2	33.3		66.7	6
Nat. Res.	1.7	0.9	-0.8	25.0		75.0	4
Branch	2.6	1.6	-1.0		14.3	85.7	7
Lit.	45.0	57.2	+12.2	17.9	3.0	79.1	240
FREQ.				98	30	295	419
%	100.0	100.0		23.4	6.3	70.3	

[a]Percentages are in Column 3.

TABLE 30

MINOR UNIVERSITY UNITS AND TEMPORARY TRANSFERS

Department	% of Faculty	(3) % of Leaves	Deviation	Type of Transfer			TOTAL[a]
				Govern-ment	Industry	Academic	
Anthro.	2.8	3.3	+0.5	1	0	7	8
Astron.	1.2	.8	-0.4	0	0	2	2
Botany	3.0	1.2	-1.8	1	0	2	3
Chem.	3.7	2.9	-0.8	2	0	5	7
Class.	1.9	1.7	-0.2	0	1	3	4
Com. Sci.	1.3	0.0	-1.3	0	0	0	0
Econ.	4.4	10.0	+5.6	12	0	12	24
Eng.	8.3	5.8	-2.5	0	1	13	14
F. East	1.5	1.2	-0.3	0	0	3	3
Geog.	1.3	2.9	+1.6	3	0	4	7
Geol./Min.	2.4	1.7	-0.7	2	0	2	4
Germ.	2.3	1.7	-0.6	0	0	4	4
Hist.	5.0	3.3	-1.7	1	0	7	8
Hist./Art	2.1	0.4	-1.7	0	0	1	1
Journ.	1.2	1.2	0.0	1	2	0	3
Lib. Sci.	1.7	0.4	-1.3	0	0	1	1
Ling.	1.1	0.4	-0.7	0	0	1	1
Math.	7.9	20.0	+12.1	4	2	42	48
N. East	1.6	0.0	-1.6	0	0	0	0
Phil.	1.8	5.4	+3.6	0	0	13	13
Physics	4.9	6.2	+1.3	7	0	8	15
Pol. Sci.	4.2	7.5	+3.3	3	1	14	18
Psych.	15.2	9.5	-5.7	3	0	20	23
Roman.	4.4	3.7	-0.7	0	0	9	9
Slav.	1.5	1.2	-0.3	0	0	3	3
Sociol.	3.5	2.9	-0.6	1	0	6	7
Speech	3.3	1.2	-2.1	1	0	2	3

Zoology	5.0	2.9	-2.1	1	0	6	7
FREQ.				43	7	190	240
%	100.0	100.0		17.9	4.8	77.3	100.0

[a]Percentages are in Column 3.

Variable 4: Period when Leave Was Taken

Table 31 is the first of several tables which investigate when the faculty of the University took its leaves. The variable, *Period when Leave Was Taken* (Leave Period), is divided into five classes: fall semester, winter semester, fall and winter semester, other semesters including alternate year combinations, and leaves which were based upon months, not semesters. Table 31 develops the statistics concerning these five classes during the first nine years of the study (1934 of the 2174 leaves). Of these leaves, about one-third (34.2%) did not involve semesters but some specified monthly period. Of leaves which were taken on a semester basis (65.8%), the greatest portion (38.1%) was taken during the winter semester, with the longer two-semester leave accounting for 33.2% of semester-based leaves. Table 32 compiles these comparative percentages. The fall semester was the least popular (26.2%). One of the reasons which might account for 34.2% of leaves being based on months and not semesters was the prevalence of off-campus assignments which constituted 22.9% of all leaves. About 80% of these leaves were based on months.

Table 33 looks at the 2169 leaves recorded for the entire ten-year period, and crosses the leave periods with academic disciplines. This also permits a check on the representativeness of the 1984 leaves in the nine-year probe in Table 31. The comparison, at the bottom of the table, shows very little deviation between the two differently-sized groups, and the exceedingly small difference which does occur as a shift from leaves based on months to leaves based on semesters. Insofar as disciplines are concerned, of leaves occurring for the fall semesters, the social and natural scientists each average between 14%

TABLE 31

ACADEMIC YEAR AND PERIOD WHEN LEAVE WAS TAKEN, 1960-69

Semester	Academic Year									Total	
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	Freq.	%
Fall	17.1	23.3	20.2	13.6	17.6	14.7	13.9	15.8	19.9	341	17.2
Winter	21.7	28.3	21.1	27.1	25.3	26.1	22.1	26.2	26.2	497	25.0
Fall/ Winter	17.7	18.2	24.9	26.2	18.5	24.8	22.1	19.0	22.7	433	21.8
Combined	0.8	0.6	1.9	2.8	1.0	2.3	3.0	2.1	2.5	34	1.8
Months Only	42.7	29.6	31.9	30.3	37.6	32.1	38.9	36.9	28.7	679	34.2
FREQ.	152	159	213	230	380	217	243	279	281	1984	
%	7.6	8.0	10.7	11.2	11.2	10.9	12.2	14.1	14.2		100.0

TABLE 32

PERCENT AND AMOUNT OF LEAVES TAKEN ON A SEMESTER ONLY BASIS

Period	%	Amount
Fall	26.2	341
Winter	38.1	497
Fall-Winter	33.2	437
Combination	2.5	34
TOTAL	100.0	1305

TABLE 33

ACADEMIC DISCIPLINE AND LEAVE PERIODS

Academic Discipline	Leave Period					Total	
	Fall	Winter	Fall-Winter	Comb.	Months	Freq.	%
Human.	19.1	27.6	37.9	2.0	13.3	293	13.5
Soc. Sci.	14.7	19.2	34.4	2.6	29.1	381	17.5
Nat. Sci.	14.1	24.5	24.8	2.2	34.4	448	20.6
Prof.	19.5	27.3	12.6	1.3	39.3	1047	48.4
FREQ.	379	550	485	40	715	2169	
%	17.4	25.3	22.3	1.8	32.9		100.0
Comparison % (Table 31)	17.2	25.0	21.8	1.8	34.2		100.0

to 15%. The professional, non-literary college faculty, like the humanists, average between 19% and 20%. The latter two disciplines also are quite similar where leaves taken during the winter semester are concerned (between 27% and 28%),[23] but their similarities end there, for professional people took only 12 to 13% of their leaves on a full-year/two-semester basis while the humanities faculty of the literary college took the greatest portion of semester-based leaves on an academic year basis (37.9%). The humanists took very few of their leaves on a monthly basis (3.3%).[24] On the other hand, the professional faculty took almost 40% of their leaves on a monthly basis. The social scientists (along with the humanists) also exceed the university average of 22.3% for two-semester leaves with an average of 34.4%.

Table 34 reveals the extent of the popularity of either semesters or months for the four kinds of leave. The fact that off-campus assignments were overwhelmingly (79.5%) based upon a monthly period rather than semesters points up their flexible nature. One-semester sabbaticals which occurred during the winter semester (38.3%) were more popular than the single fall-semester type (28.4%). The two semesters' sabbatical was utilized only 18.7% of the time. On the other hand, temporary transfers to government, industry, or business for a full year--fall and winter semester--occurred in about 40% of the cases. Temporary transfers were also heavily taken on a monthly basis (36.3%) unlike both sabbaticals and personal leaves. Personal leaves exhibited

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[23]It can only be surmised that winter is more popular than fall because it runs into the summer term at its end rather than the beginning.

[24]Only 7.5% of the humanists' leaves were off-campus assignments.

TABLE 34

TYPE OF LEAVE AND LEAVE PERIODS

Type of Leave	Period when Leave Taken					Total	
	Fall	Winter	Fall/ Winter	Comb.	Months	Freq.	%
OCA	6.7	7.5	5.1	1.0	79.5	492	22.7
SAB	28.4	38.3	18.7	2.0	12.6	1023	47.2
TEMP TRAN	7.5	15.0	39.5	1.8	36.3	441	20.4
PERS	9.5	24.8	45.3	2.4	16.7	210	9.7
Freq.	377	548	485	35	715	2166[a]	
%	17.4	25.3	22.4	1.9	32.9		100.0

[a]Totals only include six not in body of data. Leave data was missing.

the same kind of preference for the fall-winter semester (45.3%).

Table 35 removes the influence of the off-campus assignments, and compares only sabbaticals, temporary transfers, and personal leaves taken on a semester basis. A major difference between these three leave types is initially revealed when the popularity of the winter term sabbatical (44.8%) is compared with the preference of the temporary transfer (63.7%), and personal leave (56.5%) for the full-year/two-semester leave. A possible explanation for the one-term popularity of the sabbatical is the full-pay provision. This explanation, however, is perplexing in that personal leaves for research, writing, and study do not have the financial steadiness of even the full-year sabbatical.

TABLE 35

TYPE OF LEAVE AND LEAVE PERIODS WITH EFFECT OF OFF-CAMPUS ASSIGNMENTS REMOVED

Type of Leave	Period when Leave Taken			Total	
	Fall	Winter	Fall/ Winter	Freq.	%
SAB	23.3	44.8	21.9	874	66.4
TEMP TRAN	12.5	23.8	63.7	273	20.7
PERS	12.0	31.5	56.5	168	12.9
Freq.	344	511	460	1315	
%	26.3	38.8	34.9		100.0

Yet it is highly preferred. There may be a motivational factor involved to account for this difference. Characteristics of the faculty (Faculty-Oriented General Findings) taking three different kinds of leaves may reveal differences in salary, rank, age, dependency characteristics, or seniority to suggest reasons for different preferences.

A comparison of leave percentages for each period with and without off-campus assignments (22.7% of all leaves) shows how that leave's heavy tendency to be taken on a months rather than semester basis affects the statistics.

	Percent of Leaves Taken During:				
Leaves	*Fall*	*Winter*	*Fall-Winter*	*Combined*	*Months Only*
With OCA	17.4	25.3	22.4	1.9	33.0
Without OCA	28.5	38.2	18.7	1.9	12.6

When off-campus assignments are considered, their preponderance in the months category makes it appear as if leaves in general are more likely to be based on a period of time less prescribed than semesters. Removing off-campus assignments from the comparison shows that the winter semester and semesters in general are the most popular basis for determining how long a leave might last or when it will occur.

Table 36 crosses the type of sabbatical taken with the period in which it occurred. The winter-term preference for sabbaticals over the fall term (difference about 15%) is clearly shown here. Secondly, the preference for the full-pay over the half-pay, full-year sabbatical is shown with about four out of five sabbaticals approved on the full-pay basis.

TABLE 36

TYPE OF SABBATICAL AND LEAVE PERIODS

Type of Sabbatical	Period when Leave Taken[a]					Total	
	Fall	Winter	Fall-Winter	Comb.	Months	Freq.	%
One-Term	41.6	56.4	0.9	0.5	0.1	693	67.8
Two-Terms	--	--	92.0	8.0	--	201	19.7
Months--Full	--	--	--	--	100.0	110	10.9
Months--Half	--	--	--	--	100.0	18	1.7
FREQ.	291	391	191	20	129	1022	
%	28.5	38.2	18.7	2.0	12.6		100.0

[a](—) = 0 frequency.

Table 37 compares leave periods for temporary transfers: governmental, industrial, and academic. There were 423 of these leaves, and 59.7% of them were academic. Slightly over 46% of the academic leaves were taken on a full two-semester basis (cf. Sabbaticals about 20%). On the other hand, only 21.4% of the governmental transfers included both semesters, and this kind of temporary transfer had a clear-cut preference (58.1%) for leaves based on months rather than semesters. This might be expected inasmuch as academics transferring to another academic institution would most likely have the leave prescribed academically, while a change to a non-academic institution would more likely fit into the non-academic patterns. Further, the temporary transfer leave taker either prefers or must leave for a longer period of time than the sabbatical taker.

TABLE 37

TEMPORARY TRANSFERS AND LEAVE PERIODS

Type of Transfer	Period when Leave Taken					Total	
	Fall	Winter	Fall-Winter	Comb.	Months	Freq.	%
Government	3.1	15.2	21.4	3.1	58.1	98	23.2
Industry	3.3	3.3	50.0	6.6	36.3	30	7.1
Academic	9.5	15.6	46.1	1.0	27.8	295	59.7
FREQ.	32	62	172	8	149	423	
%	7.6	14.6	40.7	2.0	35.2		100.0

Table 38 is an inquiry into the spread of different leave periods over all university units. It is here that the popularity of the winter semester can begin to be traced to more specific individuals. The Engineering unit, for example, has a decided preference (42.2%) for leaves which are taken in the winter semester, and this same preference, although on a smaller scale, is maintained by five other similarly large leavetaking units: Architecture, Business, Education, Law, and Music. These six professional units account for over 60% of all professional leaves. On the other hand, five medically-oriented units: Medicine, Pharmacy, Public Health, Dentistry, and Nursing predominately favor the leave which is based on months. Of their 328 leaves, 284 or 86.5% were taken on a months basis. The Education unit, also, is dissimilar to the Engineering unit in that educators do not prefer the winter semester so heavily, but shift their preference to leaves taken on a specified monthly basis. Other than that one shift, educators and engineers are similar insofar as leave period is concerned.

The literary college unit, which takes slightly more than 50% of the leaves, takes a fewer percentage of fall semester leaves, winter semester leaves, and leaves based on specific monthly periods than the professional faculty. This literary college group prefers to take its greatest percentage of leaves in the two-semester/half-pay category (31.6%) in comparison to the professional faculty (13.0%). This might be accounted for by visiting professorships which generally last one year.

Table 39 completes the university unit inquiry of leave periods, and details for each literary college unit the periods in which

TABLE 38

MAJOR UNIVERSITY UNITS AND LEAVE PERIODS

Major Unit	% of Faculty	(3) % of Period	Period when Leave Taken					TOTAL[a]
			Fall	Winter	Fall/ Winter	Combination	Months	
Arch.	3.1	4.1	34.8	37.4	17.9		10.1	89
Bus.	2.6	3.4	36.5	40.5	13.5	5.4	4.0	74
Dent.	3.6	0.8					100.0	18
Ed.	4.0	4.2	25.3	30.8	14.3	0.1	28.6	91
Engin.	10.5	12.4	23.9	42.2	14.9	0.2	16.8	268
Law	1.8	2.1	20.1	41.3	13.0	4.3	15.2	46
Med.	11.1	10.6	6.1	6.5	2.6	0.4	84.3	229
Mus.	4.4	3.5	21.3	38.7	21.3		18.7	75
Branch	2.6	1.6	14.3	14.3	17.1		54.3	35
Nurs.	2.5	0.2	25.0				75.0	4
Pharm.	0.5	1.4		12.9	3.3		83.9	31
Pub. Hl.	2.2	2.1			4.3		95.6	46
Soc. W.	1.2	1.1	29.2	12.5	50.0		8.3	24
Nat. Res.	1.7	1.2	15.4	26.9	30.8	3.8	23.1	26
Branch	2.6	1.0	9.5	9.5	19.0		61.9	21
Lit.	45.0	50.3	15.8	24.0	31.6	2.3	26.3	1092
FREQ.			379	550	485	40	715	2169
%	100.0	100.0	17.5	25.4	22.4	1.8	33.0	

[a]Percentages are in Column 3.

TABLE 39

MINOR UNIVERSITY UNITS AND LEAVE PERIODS

Minor Unit	Period when Leave Taken[a]					Total	
	Fall	Winter	Fall/ Winter	Combination	Months	Freq.	%
Anthro.	17.4	8.7	32.6	2.2	39.1	46	4.2
Astron.	--	10.0	20.0	--	70.0	10	0.9
Botany	21.2	9.1	9.1	6.1	54.5	33	3.0
Chem.	22.6	29.0	22.6	--	25.8	31	2.8
Class.	4.5	27.3	36.4	13.7	18.2	22	2.0
Com. Sci.	100.0	--	--	--	--	3	0.3
Econ.	17.5	12.7	46.0	1.6	22.2	63	5.8
Eng.	26.9	33.3	30.8	--	9.0	78	7.2
F. East	11.1	22.2	55.6	--	11.1	9	0.9
Geog.	19.2	30.8	11.5	11.5	26.9	26	2.4
Geol./Min.	17.4	34.8	8.7	--	39.1	23	2.1
Germ.	23.5	35.3	29.4	--	11.8	17	1.5
Hist.	20.6	28.6	42.9	4.8	3.2	63	5.8
Hist./Art	14.3	14.3	28.6	--	42.9	28	2.5
Journ.	8.3	41.7	33.3	8.3	8.3	12	1.1
Lib. Sci.	33.3	33.3	16.7	--	16.7	6	0.6
Ling.	--	--	71.4	--	28.6	7	0.7
Math.	8.9	25.0	57.3	--	8.9	124	11.4
N. East	18.2	18.2	63.6	--	--	11	1.0
Phil.	17.9	28.6	42.9	3.6	7.1	28	2.5
Physics	25.0	40.6	17.2	6.2	10.9	64	5.9
Pol. Sci.	9.2	26.1	29.2	1.5	33.8	65	6.0
Psych.	9.3	14.4	32.0	2.1	41.2	96	8.8
Roman.	19.4	27.8	44.4	--	8.3	36	3.3
Slav.	--	28.6	64.3	7.1	--	14	1.4
Sociol.	28.9	31.6	23.7	--	15.8	38	3.5
Speech	22.2	50.0	16.7	--	11.1	18	1.7

Zoology	7.1	15.0	6.2	--	71.7	113	10.4
FREQ.	171	260	343	23	287	1084	
%	15.8	24.0	31.6	2.3	26.3		100.0

[a]A (--) in a cell means zero (0) frequency.

its faculty favored taking leaves. Seven of the units taking the most leaves can be compared to the overall average in the following separate table.

TABLE 40

COMPARISON OF SIX SELECTED LITERARY COLLEGE UNITS FOR PERIODS WHEN LEAVES WERE TAKEN

	Period when Leave was Taken			
	Fall	Winter	Fall-Winter	Months
Math.	8.9	25.0*	57.3	8.9
Zoology	7.1	15.1	6.2	71.7
Physics	25.0	40.6	17.2	10.9
Psychology	9.3	14.4	32.0*	41.2
Economics	17.5*	12.7	46.0	22.2*
English	26.9	33.3	30.8*	8.9
Overall Lit. Average	15.8	24.0	31.6	26.3

The individuality of each department is shown quite dramatically by this chart. With six units being compared with the literary college average in four categories of leave periods, only five comparisons are near the average (see asterisked statistics). Otherwise the comparisons range from both extremes, above and below average, in nineteen out of twenty-four comparisons (79.1%). Presumably, investigation would disclose departmental reasons for these characteristics.

Variable 5: Number of Months of Leave

Tables 41 and 42 investigate that category of the previous variable, *Period when Leave Was Taken*, which was denoted as *Months*. This category is looked at from a chronological, disciplinary, and a major unit basis. The variable, *Months of Leave*, was given nine classes: 0-3, 4-6, 7-9, 10-12, 13-18, 19-24, and 25 plus. Table 41

TABLE 41

ACADEMIC YEAR (1960-69) AND NON-SEMESTER BASED LEAVES

Preferred Number of Months	Academic Year									Total		Accumulated Total
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	Freq.	%	
0-3	8.3	7.4	11.7	9.4	13.1	10.8	14.9	14.0	7.1	349	52.0	52.0
4-6	8.4	4.5	4.5	6.4	12.3	11.0	16.8	18.1	17.7	154	22.9	74.9
7-9[a]	3	3	1	3	3	3	5	4	9	34	5.1	80.0
10-12[a]	4	2	7	13	6	7	8	3	11	61	9.9	89.9
13-18[a]	9	4	9	4	5	3	0	3	4	41	6.1	96.0
19-24[a]	2	1	2	0	0	1	3	5	4	18	2.7	98.7
25-72[a]	4	4	1	1	1	2	1	0	0	14	1.3	100.0
FREQ.	64	47	68	64	80	71	95	102	80	671		
%	9.5	7.0	10.1	9.5	11.8	10.5	14.1	15.2	11.8		100.0	
Comparison with Table 1 %'s (all leaves)	6.6	6.9	9.4	9.7	9.7	9.6	10.7	12.3	12.4			

[a]Frequencies rather than percentages are given in these rows due to the small numbers involved.

TABLE 42

ACADEMIC DISCIPLINE AND NON-SEMESTER BASED LEAVES

Discipline	Months of Leave									Total	
	0-3	4-6	7-9	10-12	13-18	19-24	25-36	37-48	Over 49	Freq.	%
Human.	41.4	19.5	9.8	9.8	12.2	2.4	2.4	2.4		41	5.8
Soc. Sci.	36.9	25.2	9.0	15.3	8.1	2.7	0.9		1.8	111	15.7
Nat. Sci.	70.3	18.6	1.3	3.4	4.9		1.3			145	20.5
Prof.	48.1	27.1	4.4	10.2	5.1	3.4	0.7	0.7	0.2	410	57.9
FREQ.	357	174	34	68	42	18	7	4	3	707	
%	50.4	24.6	4.8	9.6	5.9	2.5	1.0	.5	.5		100.0
Accumulated Totals	50.4	75.0	79.8	89.4	95.3	97.8	98.8	99.3	99.8		

investigates the year-by-year development of non-semester based leaves. As might be expected no particular year dominated these figures although it appears as if there were a slight tendency to utilize this method of taking a leave slightly more frequently toward the end of the decade. By comparing the totals in Table 41 (bottom of table) of the percentage of all leaves taken each year with the percentages arising out of Table 39 proper, it would appear that the ratio of non-semester based leaves to all leaves fluctuates around a one-out-of-three basis with no specific pattern emerging.

Earlier, in Table 33, Column 6 showed that 32.9% of all leaves were based on months, not semesters. Table 42 then reveals that 52% of all leaves based on months lasted three months or less. Almost 75% of all similar leaves lasted six months or less; almost 90% last no longer than one year, and 98% lasted no longer than two years.

Table 42 shows that 57.9% of these non-semester based leaves occurred in the professional discipline, and it is possibly worthy of note that there is an ascending order from humanities (5.8%), social scientists (15.7%), and natural sciences (20.5%) for the 42% balance. There is therefore only a slight parity deviation (3%) in the total of those percentages from the percentage of faculty in professional and non-professional categories (55% and 45% respectively). Further, the order and percentages correspond somewhat to the order and percentage of the total of off-campus assignments taken by the four disciplines (see Table 2): humanities (7.5%), social scientists (18.9%), natural scientists (28.7%), and professionals (44.9%). Any real difference in the comparison resides in the natural sciences and professional group: natural scientists take a lesser percent (20.5%) of leaves based on

months than their percentage of off-campus assignments (28.7%), and the professionals take a greater percent (57.9%) of leaves based on months than their percentage of off-campus assignments (44.9%).

Table 43 investigates relationships which might exist between the variable, *Number of Months*, and the major unit out of which the leaves arose. It is quite clear that the health-oriented professions dominate leaves for which months rather than semesters dominated. This emphasis by the health professions is undoubtedly a function of their training program such that they cannot follow the traditional academic leave policy of the balance of the academic community. Of the 2169 leaves, 32.9% are based on months rather than semesters, and of these, 27.4% are taken by the Medicine unit itself; 40.4% are taken by the entire group of five health-oriented units. Of this 40.4%, 51.2% last between zero and three months (overall average 52.0%). About 19% last for more than six months. This does not differ too much from the literary college where 56.1% of leaves based on months last no longer than three months, and 25.0% last longer than six months. It should be recalled that a vast majority of leaves in the health-oriented professional group are taken on a months basis (Medicine unit, 84%), while the vast majority of leaves in the literary college are taken on a semester basis (74%). (See Table 38.) A comparison in Table 44 for duration of leaves can be developed between the literary college and the health-oriented professions. It appears safe to conclude that the literary college faculty takes leaves which last longer than does the faculty in the health-oriented professions.

Tables 45 and 46 look at length of all leaves (whether by semester or by months) by academic discipline and major unit of the

TABLE 43

MAJOR UNIVERSITY UNITS AND NON-SEMESTER BASED LEAVES

Major Unit	Preferred Number of Months									Total		% of All Unit Leaves
	0-3	4-6	7-9	10-12	13-18	19-24	25-36	37-48	Over 49	Freq.	%	
Arch.	66.7									9	1.2	10.1
Bus.	100.0									3	0.4	0.4
Dent.	38.8	48.8								18	2.4	100.0
Ed.	50.0									26	3.6	28.5
Engin.	34.0	15.9	2.3	15.9	20.4	4.5		4.5	2.3	44	6.2	15.6
Law.	42.9									7	1.0	15.2
Med.	44.8	29.8	4.6	10.3	2.0	4.1	0.5			194	27.4	84.7
Mus.	38.4	46.1								13	1.8	18.6
Branch	42.1									19	2.6	54.2
Nurs.	33.3	66.7								3	0.4	75.0
Pharm.	42.2	46.1								26	3.6	83.8
Pub. Hl.	75.0									44	6.2	95.6
Soc. W.		50.0							50.0	2	0.2	8.3
Nat. Res.	16.7	50.0			33.3					6	0.8	23.0
Branch										13	1.8	61.9
Lit.	56.1	18.9	4.6	9.2	7.4	1.4	1.4	0.3	0.3	280	39.6	25.6
FREQ.	357	174	34	68	42	18	7	4	3	707		
%	50.4	24.6	4.8	9.6	5.9	2.5	0.8	0.5	0.4		100.0	32.9

TABLE 44

COMPARISON BETWEEN LITERARY COLLEGE AND HEALTH-ORIENTED PROFESSIONS FOR DURATION OF LEAVES

	Semester-Based Leaves			Leaves Based on Months			All Leaves		
	6 Months or Less		Longer than 6 Months	6 Months or Less		Longer than 6 Months	Total	6 Months or Less	Longer than 6 Months
	Fall	Winter	Balance	0-3	4-6	Balance			
Literary Unit	173	262	370	157	53	70	(1085)	(645) 59.4%	(440) 40.6%
Health-Oriented	15	19	10	146	84	55	(329)	(264) 80.2%	(65) 19.8%

TABLE 45

ACADEMIC DISCIPLINE AND PREFERRED LENGTH OF LEAVE (1384 FACULTY)

Preferred Length of Leave	Academic Discipline				Total	
	Human.	Soc. Sci.	Nat. Sci.	Prof.	Freq.	%
½ Year	29.1	18.2	30.3	34.3	415	30.1
1 Year	35.2	33.0	30.3	19.3	356	25.8
1½ Years	12.2	9.3	7.9	6.8	113	8.2
2 Years	9.7	7.6	10.4	4.4	93	6.7
% Using These 4 Periods	86.2	68.1	78.9	64.8	977	70.8

TABLE 46

MAJOR UNIVERSITY UNIT AND PREFERRED LENGTH OF LEAVE (1384 FACULTY)

Major Unit	Preferred Length of Leave			
	½ Year	1 Year	1½ Years	2 Years
Arch.	45.9	26.2	13.1	1.6
Bus.	34.1	24.4	19.5	14.6
Dent.	0.0	0.0	0.0	0.0
Ed.	50.7	17.4	1.4	1.4
Engin.	45.4	23.5	8.0	5.9
Law	37.5	34.4	12.5	3.1
Med.	10.0	6.7	2.7	2.0
Mus.	50.0	20.7	8.6	3.4
Branch	23.5	23.5	0.0	5.8
Nurs.	75.0	0.0	0.0	0.0
Pharm.	0.0	18.7	0.0	0.0
Pub. Hl.	19.3	0.0	3.2	3.2
Soc. W.	26.3	57.9	0.0	10.5
Nat. Res.	47.4	21.0	10.5	10.5
Branch	44.4	50.0	5.6	0.0
Lit.	25.1	32.5	9.9	9.6
% PREFERRING[a]	30.1	25.8	8.2	6.7
# PREFERRING[a]	415	356	113	93

[a]Total percent preferring = 70.3%; total no. preferring = 977.

university. These two organizational variables are crossed with the four most popular leave lengths: *½ year, 1 year, 1½ years,* and *2 years.*

Each discipline (Table 45) can first be compared with the overall average for each leave length. The largest deviation (negative) in the *½ year* category is in the social sciences while the professional faculty shows a positive preference for the same category of leave length. Similarly, the professional group shows the greatest negative preference for the 12, 18, and 24 month leave. The social scientists largely prefer the one-year leave. However, the humanists also do not dislike the six-month leave, and show the greatest preference of all four disciplines for the eighteen-month leave. The natural scientists show the greatest preference for the two-year leave (they are also the most multiple-leave oriented), but respond equally well to the six-month or one-year leave. These four specific leave lengths are used most by the humanists (86.2% of their leaves), while the natural scientists (78.9%), social scientists (68.1%), and professional faculty (64.8%) display increasing evidence of nonconformity to the predominant pattern of leave length.

Of the major units (Table 46) the literary college (45% of the faculty) shows the greatest conformity to the overall averages, although it shows a greater preference for the year-long leave than the six-month affair. Engineering shows a decided preference for the six-month leave but conforms quite closely to the overall percentages for the other three leave lengths. Medicine, on the other hand, shows an almost complete disregard for the four most popular leave lengths, and the Dental unit took none of its leaves in the most popular leave

length categories. Throughout the entire university, the professional schools with the health-oriented exception prefer the six-month leave.

Table 47 shows the breakdown of leave-length preference for each of the minor units in the university's literary college.

TABLE 47

MINOR UNIVERSITY UNIT AND PREFERRED LENGTH OF LEAVE

Minor Unit	½ Year	1 Year	1½ Years	2 Years	Preferring These 4 Categories	
					Freq.	%
Anthro.	1	5	3	2	10	43.5
Astron.	2	2	0	0	4	57.1
Botany	8	5	1	0	14	77.7
Chem.	9	6	3	0	18	81.3
Class.	4	4	1	2	11	78.5
Com. Sci.	2	0	0	0	2	100.0
Econ.	7	8	5	0	20	57.1
Eng.	23	14	10	2	49	89.1
F. East	0	5	1	0	6	85.7
Geog.	2	4	2	2	10	83.3
Geol./Min.	5	3	0	1	9	64.3
Germ.	4	6	2	0	12	92.3
Hist.	9	18	3	8	38	92.6
Hist./Art	1	3	0	2	6	50.0
Journ.	4	4	0	1	9	90.0
Lib. Sci.	3	0	1	0	4	80.0
Ling.	0	2	0	2	4	80.0
Math.	13	27	7	18	65	87.8
N. East	2	3	2	1	8	100.0
Phil.	1	5	2	2	10	71.4
Physics	12	14	6	2	34	87.1
Pol. Sci.	7	12	2	3	24	66.7
Psych.	6	25	3	3	37	56.9
Roman.	5	12	3	3	23	92.0
Slav.	1	4	0	4	9	100.0
Sociol.	10	7	4	2	23	88.5
Speech	9	5	1	0	15	100.0
Zoology	14	6	2	1	23	58.9
Preferred by Minor Units:						
Freq.	164	209	64	61	498	
%	25.3	32.2	9.8	9.5		76.8

Additional Leave-Oriented General Findings (1384 Faculty)

The remaining tables in this section of leave-oriented portion of General Findings are all based on 1384 leaves (one for each faculty member in the study) while investigating two variables: *Number (or Percent) of Non-Sabbatical Leaves per Faculty Member*, and the *(Numerical) Non-Sabbatical/Sabbatical Faculty Leave Characteristic*. Both of these variables will be viewed against three organizational aspects: academic disciplines, major units, and minor units. The representativeness of these 1384 leaves has been noted.

Table 48 investigates each of the disciplines and the number of non-sabbaticals each faculty member in the study took during the ten-year period. Table 49 removes the influence of the professional discipline, and investigates only the literary college. It would be safe to assert that no difference exists between humanities, social science, and professionals in taking one or two non-sabbaticals during the decade. For these three disciplines the combined percentages for both one and two non-sabbaticals approximated 94%, 93%, and 92% respectively. The percentage for the natural scientists, however, in the combined one-two non-sabbatical group was slightly over 80%, and this 10% minus difference does appear to be substantial enough to claim a difference arising out of more than chance itself although this claim is not being tested. The result of the difference, if it were significant, is that natural scientists become characterized as multiple-leavers. This multiple-leave theory about natural scientists is supported in Table 49. Beyond the one and two non-sabbatical categories in which the natural scientists are second to the social scientists, the natural scientists begin taking greater and greater

TABLE 48

ACADEMIC DISCIPLINE AND NUMBER OF NON-SABBATICAL LEAVES (1384 FACULTY)

Discipline	Number of Non-Sabbaticals Taken									Total	
	1	2	3	4	5	6	7	8	9	Freq.	%
Human.	70.0	24.0	4.0	1.0	1.0					100	12.6
Soc. Sci.	70.8	22.7	4.3	2.2						185	23.3
Nat. Sci.	63.5	16.9	8.7	4.1	3.4	1.3		1.3	0.6	148	18.6
Prof.	76.1	16.2	4.9	1.3	0.5	0.5				361	45.5
FREQ.	570	150	43	16	8	4		2	1	794	
%	71.7	18.8	5.8	2.0	1.0	0.5		0.3	0.1		100.0

TABLE 49

ACADEMIC DISCIPLINE AND NUMBER OF NON-SABBATICAL LEAVES--LITERARY COLLEGE

Discipline	Number of Non-Sabbaticals Taken									Total	
	1	2	3	4	5	6	7	8	9	Freq.	%
Human.	23.7	26.3	16.0	9.1	20.0					100	23.1
Soc. Sci.	44.5	46.3	32.0	36.3						185	42.7
Nat. Sci.	31.8	27.4	52.0	54.5	83.3	100.0		100.0	100.0	148	34.1
FREQ.	295	91	25	11	6	2		2	1	433	
%	68.1	21.0	5.7	2.5	1.3	0.4		0.4	0.2		100.0

percentages of the multiple non-sabbatical categories. The humanists with 36.5% of the faculty never took more than 26.3% of any category of non-sabbatical quantities. The social scientists are dominant for the one or two non-sabbatical quantities; the natural scientists for three or more. Table 6 earlier showed this as deprivation of the humanities from zero parity (where all the number of all the leaves were involved). It can also be seen that the removal of the influence of the professional group in Table 49 lowered the overall average of the one-leave class, and raised the overall average of the two-leave class. This would indicate that the professional group is slightly less multiple-leave oriented than the non-professional disciplines.

This fact is illustrated in Table 50 which investigates average number of non-sabbaticals per faculty member in each university major unit. Here the literary college percent of the non-sabbatical one-leave-only category is 68.0% while the overall average is 75.2%. This indicates a one-leave-only influence in the professional faculty. It is clearly indicated, however, that the literary college dominates the non-sabbaticals with 45% of the faculty taking 54.5% of the non-sabbaticals. This would arise primarily in the combined non-sabbatical takings of the social and natural sciences (Table 48).

Table 51 looks into each minor unit for the pattern of non-sabbaticals taken. Several plus and minus deviations from zero parity exist (Column 13 contains unit % of faculty, and Column 11 contains unit % of non-sabbaticals). Plus deviations exist in Economics, History, and Mathematics. Thus, each non-professional discipline is represented. On the other hand, large negative deviations in non-sabbaticals appeared in three departments: English, Psychology, and

TABLE 50

MAJOR UNIVERSITY UNITS AND NUMBER OF NON-SABBATICALS (1384 FACULTY)

Major Unit	Number of Non-Sabbaticals Taken									Total	
	1	2	3	4	5	6	7	8	9	Freq.	%
Arch.	94.4		5.6							18	2.2
Bus.	59.1	36.3	4.6							22	2.9
Dent.	40.0	20.0	40.0							5	0.6
Ed.	75.0	20.8	4.2							24	3.0
Engin.	83.1	14.6	2.3							89	11.2
Law	73.6	21.0	5.4							19	2.3
Med.	77.0	13.0	6.0	1.0	1.0	2.0				100	12.6
Mus.	83.3	11.1	5.6							18	2.2
Branch	60.0	20.0	10.0		10.0					10	1.3
Nurs.	100.0									2	0.3
Pharm.	40.0	30.0		30.0						10	1.3
Pub. Hl.	67.7	22.5	6.4	3.2						31	3.9
Soc. W.	100.0									7	0.8
Nat. Res.	75.0	25.0								4	0.6
Branch	88.8	11.2								9	1.1
Lit.	68.0	20.7	5.6	2.5	1.4	0.4		0.4	0.1	425	53.5
FREQ.	570	150	43	16	8	4		2	1	794	
%	75.2	18.8	5.4	2.0	1.0	0.5		0.3	0.1		100.0

TABLE 51

MINOR UNIVERSITY UNITS AND NUMBER OF NON-SABBATICALS (BASED ON 1384 FACULTY)

Minor Unit	Number of Non-Sabbaticals Taken									(11) Total		(12) % of 2174	(13) % of Faculty
	1	2	3	4	5	6	7	8	9	Freq.	%		
Anthro.	9	8	2	1						20	4.8	2.5	2.8
Astron.	5									5	1.2	1.1	1.2
Botany	6		1		1			1		9	2.1	2.5	3.0
Chem.	12	1								13	3.1	3.8	3.7
Class.	7	2	1							10	2.4	1.8	1.9
Com. Sci.										0	0.0	0.6	1.3
Econ.	18	10	1	1						30	7.1	4.1	4.4
Eng.	12	8	1							21	4.9	10.7	8.3
F. East	5									5	1.2	0.8	1.5
Geog.	8	1	1	1						11	2.6	2.2	1.3
Geol./Min.	5	2		1						8	1.9	2.2	2.4
Germ.	6									6	1.4	2.5	2.3
Hist.	27	5	2							34	8.0	4.5	5.0
Hist./Art	4	2	2		1					9	2.1	2.0	2.1
Journ.	4									4	0.9	1.8	1.2
Lib. Sci.	2									2	0.5	0.8	1.7
Ling.	5									5	1.2	0.4	1.1
Math.	32	12	4	1						49	11.5	11.3	7.9
N. East	3									3	0.7	1.8	1.6
Phil.	6	6								12	2.8	2.2	1.8
Physics	19	4	3	1						27	6.4	5.4	4.9
Pol. Sci.	18	6	3	2						29	6.8	4.3	4.2
Psych.	35	12								47	11.1	8.6	15.2
Roman.	12	1	1							14	3.3	4.3	4.4
Slav.	3	2								5	1.2	1.6	1.5
Sociol.	18	3								21	4.9	3.2	3.5
Speech	1	1								2	0.5	3.4	3.2

Zoology	5	4	3	2	4	2		1	1	22	5.2	7.3	5.0
FREQ.	287	90	24	11	6	2		2	1	423			
%	67.8	21.2	5.6	2.6	1.4	0.4		0.4	0.1		100.0	100.0	100.0

Speech. The Zoology unit with 5.0% of the faculty was very close to zero parity by taking 5.2% of the non-sabbaticals; 90.9% of them were in the more-than-two-leaves categories. This unit along with Mathematics and Physics accounted for the natural scientists' characterization as multiple leavers. These three departments accounted for over 45% of the faculty who took more than two non-sabbaticals. Column 12 is a comparison column showing the percentage of the 2174 total leaves taken by each unit. In general the comparisons are comparable but deserve further investigation.

The final group of tables in this portion of General Findings (Tables 52, 53, and 54) investigates the numerical combinations of non-sabbaticals and sabbaticals taken by the 1384 faculty members. This is done by discipline, major unit, and minor unit respectively. The first item that merits attention is that 62.8% of the faculty in the study took one leave only of one kind or another, 24.2% took two leaves in combination, 8.8% took three leaves in combination (a total of 95.8%). (No statements about faculty beyond the three-leave combination would be justified due to scarcity of data.) Also, 6.8% of the faculty took the maximum of two sabbaticals during the ten years. In those categories of three leaves or less, the humanists came close to their percent of faculty (16.4%) in the one-sabbatical category (16.6%), and the two non-sabbatical/one sabbatical category (17.9%). The social scientists did not exceed their percent of faculty (14.2%) in the one or two only sabbatical groups, but in all other three or less combinations, the social scientists exceeded their zero parity figures. Apparently that group relies upon non-sabbaticals. When non-sabbaticals become involved, the professionals fall slightly toward negative parity. No

TABLE 52

ACADEMIC DISCIPLINES AND THEIR NON-SABBATICAL/SABBATICAL CHARACTERISTIC (1384 FACULTY)

Type of Leave	Sabbatical/Non-Sabbatical Combinations										Comparative Data	
	Number of Leaves										% of Leaves	% of Faculty
	One		Two			Three			Four-Nine			
Non-Sabbatical	0	1	0	1	2	1	2	3	(in varying combinations)			
Sabbatical	1	0	2	1	0	2	1	0				
Discipline									Freq.	%		
Human.	16.6	12.4	14.9	12.3	12.5	10.0	17.9	5.6	6	10.7	14.2	16.4
Soc. Sci.	8.1	26.2	13.4	18.2	32.8	15.0	23.8	27.8	8	14.3	17.1	14.2
Nat. Sci.	16.2	15.0	13.4	17.7	20.3	30.0	14.3	33.3	21	37.5	17.5	13.9
Prof.	59.1	46.4	58.2	51.7	34.4	45.0	44.0	33.3	21	37.5	51.2	54.5
FREQ.	518	347	67	203	64	20	84	18	56			
%	37.6	25.2	4.9	14.7	4.6	1.4	6.1	1.3		4.1[a]		
	← 62.8 →		← 24.2 →			← 8.8 →						
	← 95.8 →											

[a]Totals = 99.9%.

TABLE 53

MAJOR UNIVERSITY UNITS AND THEIR NON-SABBATICAL/SABBATICAL CHARACTERISTIC (1384 FACULTY)

Type of Leave	Sabbatical/Non-Sabbatical Combinations										Comparative Data	
	Number of Leaves										% of Leaves	% of Faculty
	One		Two			Three			Four-Nine			
Non-Sabbatical	0	1	0	1	2	1	2	3	(in varying combinations)			
Sabbatical	1	0	2	1	0	2	1	0				
Major Unit									Freq.	%		
Arch.	5.8	2.0	19.4	4.4		5.0			1	1.7	4.4	3.1
Bus.	3.1	1.4	4.5	2.5		15.0	9.5		1	1.7	3.0	2.6
Dent.	1.2	0.6			1.6			5.6	1	1.7	0.8	3.6
Ed.	8.1	3.2	4.5	3.4	1.6		4.8		1	1.7	5.0	4.0
Engin.	17.4	8.9	11.9	19.7	4.7	15.0	11.9	5.6	1	1.7	15.6	10.5
Law	2.3	2.9	1.5	19.7	1.6		3.6	5.6	0	0.0	2.3	1.8
Med.	9.5	16.7	1.5	9.4	9.4		8.3	11.1	8	13.8	10.9	11.1
Mus.	6.6	2.0	9.0	3.4	1.6	5.0	1.2		1	1.7	4.2	4.4
Branch	1.0	0.6	1.5	2.0	1.6		1.2		2	3.4	1.2	2.6
Nurs.	0.4	0.6							0	0.0	0.3	2.5
Pharm.	1.2	0.3		1.5	1.6		2.3	11.1	4	6.8	1.2	0.5
Pub. Hl.		5.8		0.5	10.9				0	0.0	2.2	2.2
Soc. W.	1.7	1.4	4.5	1.0					0	0.0	1.4	1.2
Nat. Res.	2.3	0.3	4.5	1.0			1.2		0	0.0	1.4	1.7
Branch	1.7	2.0		0.5			1.2		0	0.0	1.3	2.6
Lit.	37.8	51.3	37.3	48.8	65.6	60.0	54.8	61.1	38	65.5	46.8	45.0
FREQ.	518	347	67	203	64	20	84	18	58			
%	37.6	25.2	4.9	14.7	4.6	1.4	6.1	1.3		4.1		

TABLE 54

MINOR UNIVERSITY UNITS AND THEIR NON-SABBATICAL/SABBATICAL CHARACTERISTIC (BASED ON 1384 FACULTY)

Type of Leave	Sabbatical/Non-Sabbatical Combinations									Total	
	Number of Leaves									Freq.	%
	One		Two			Three			Four-Nine		
Non-Sabbatical	0	1	0	1	2	1	2	3	(in varying combinations)		
Sabbatical	1	0	2	1	0	2	1	0			
Minor Unit											
Anthro.	2	5	1	4	5		3	2	1	23	3.5
Astron.	2	2		3					0	7	1.1
Botany	8	5	1	1				1	2	18	2.8
Chem.	9	5		7			1		0	22	3.4
Class.	3	5	1	3	2			1	0	14	2.2
Com. Sci.	2								0	2	0.3
Econ.	4	14	1	4	3		6	1	2	35	5.4
Eng.	31	6	3	6	4		4		1	55	8.5
F. East	1	4	1	1					0	7	1.1
Geog.	1	2		5	1	1			2	12	1.8
Geol./Min.	6	2		2	2	1			1	14	2.2
Germ.	6	4	1	1		1			0	13	2.0
Hist.	7	19		8	2		3		2	41	6.3
Hist./Art	3	3		1			2		3	12	1.8
Journ.	6	3				1			0	10	1.5
Lib. Sci.	3	1		1					0	5	0.8
Ling.		3		2					0	5	0.8
Math.	20	22	5	9	6	1	6	1	4	74	11.4
N. East	4	1	1	2					0	8	1.2
Phil.	2	5				1	5		1	14	2.2

Physics	11	11	1	8	3		1	1	3	39	6.0
Pol. Sci.	5	13	2	5	3		3	1	4	36	5.6
Psych.	17	25	1	7	6	3	6		0	65	10.0
Roman.	9	8	2	4			1		1	25	3.9
Slav.	4	1		2	1		1		0	9	1.4
Sociol.	4	11	1	7	2		1		0	26	4.0
Speech	12		1	1	1				0	15	2.3
Zoology	15	1	2	3	1	1	3	3	10	39	6.0
FREQ.	197	180	25	97	42	12	46	11	37	648	
%	30.6	27.8	3.9	15.0	6.5	1.8	7.1	1.7	5.7		100.0

additional comments will be made about major or minor units as the same material was discussed under Tables 12 and 13, although for 2174 leaves.

Faculty Oriented General Findings

There are five faculty-oriented, rather than leave-oriented, variables: dependency load factor (DLF), age, seniority, rank, and salary (all at time of leave), which account for some interesting relationships, and help account for some of the previously discussed general findings. And if they do not completely explain, they shed some light on the earlier discoveries. These five faculty-oriented variables have the characteristic, unlike academic discipline, major unit, or minor unit, of changing through time. Thus, even though the same faculty member takes two or more leaves, each leave has or may have different dependency load, age, seniority, rank, and salary characteristics. Each of these five variables will be discussed from the standpoint of general leave classification, sabbatical type, and type of temporary transfer.

Dependency Load Factor

Dependency Load Factor (DLF) was a variable defined earlier in the following manner:

$$DLF = \sum[1 + 1(\text{if married}) + (\text{Number of Children 0-5}) + 2(\text{Number of Children 6-10}) + 3(\text{Number of Children 11-15}) + .4(\text{Number of Children 16-21})].$$

Table 55 shows the percentage distribution for each DLF between one and twenty for each of four kinds of leave. The most popular DLF for faculty who took off-campus assignments was Category 6 with

TABLE 55

TYPE OF LEAVE AND DLF (DEPENDENCY LOAD FACTOR)

Type of Leave	Dependency Load Categories																				Leaves	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Freq.	%
OCA	7.4	13.5	3.5	4.3	5.8	13.6	9.5	7.4	5.8	5.8	2.1	3.7	3.1	2.3	3.1	1.2	1.9	.4	.6	.2	486	22.6
SAB	8.0	22.8	2.7	4.7	5.6	12.6	5.8	5.6	7.3	8.6	3.3	2.8	3.8	2.2	1.8	1.0	.7	.3	.4	.2	1020	47.5
TEMP TRAN	9.0	21.4	8.1	9.4	7.4	12.4	5.5	4.4	4.1	5.5	2.8	2.3	3.0	.9	.7	1.2	.7	.2	.5	.7	435	20.2
PERS	13.5	20.2	11.5	10.0	7.2	10.0	3.8	5.7	1.4	2.8	3.3	3.3	2.8	1.4	1.4			.5			208	9.7
FREQ.	186	457	103	131	132	269	137	124	123	146	63	64	73	40	39	21	19	7	9	6	2149	
%	8.7	21.3	4.8	6.1	6.1	12.5	6.4	5.8	5.7	6.8	2.9	3.0	3.4	1.9	1.8	1.0	.9	.3	.4	.3		100.0

$a_{\overline{DLF}}$ = 5.2 dependency points per faculty member with a standard deviation of 4.2.

Category 2 a fairly close second. Category 2 represents a married couple who either have no children or whose children are all over twenty-one. Category 6 could represent, for example, a married couple with one child between 16 and 21, or two children between six and ten. As will be shown later (Table 62), the predominant age group of off-campus assignment leavetakers is between 46 and 50 with the 41-45 category next which suggests that the children have all grown up and left the family (non-relevant), or that one child between 16-21 still remains dependent upon the parents. Almost 67% of this type of leave-taker is over forty years of age.

The same prominence for Category 2 and Category 6 is present for the sabbatical takers albeit Category 2 is much more emphatic here (22.8% as opposed to 13.5%). A later look at the age configuration of sabbatical takers (Table 62) will show that those leavetakers are over-whelmingly over forty years of age (75%) when sabbaticals are taken.

Categories 2 and 6 show the same pattern for faculty who take temporary transfers to government, industry, or academia, but the age most representative of this group is somewhat lower (one age category of five years) than either the off-campus assignment or the sabbatical takers (Table 62). Only 50% of these leavetakers are over forty years of age.

Faculty who take personal leaves show the same initial preference for Category 2, but then these leavetakers split fairly evenly between Categories 1, 3, 4, 5, and 6 indicating a more youthful family pattern or a non-marriage (Category 1 = 13.5%). The age of most of the personal leavetakers is the lowest of all four leave types with 41.1% below 35, and only 37% over forty years of age.

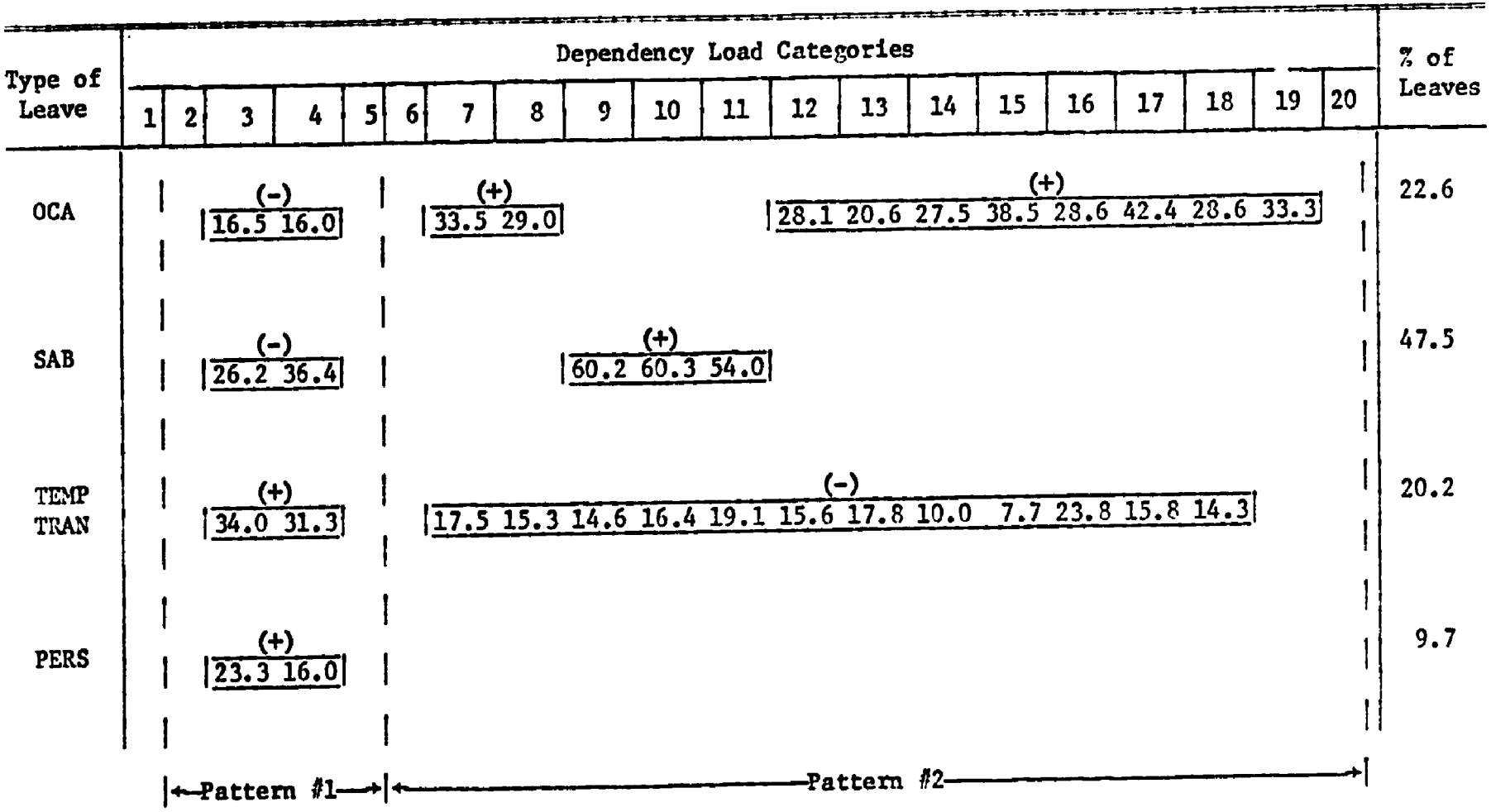
Over all four leave categories, Category 2 (husband and wife only), and then Category 6 combine for 33.8% of the total with the next approximate 50% being spread fairly evenly in the remaining categories up through 10. A tentative conclusion from these percentages is that leavetakers are generally either young marrieds with none or several very young children or old marrieds with the children gone. The in-betweens--families of four or five with two, three, or four children between 11 and 21 (categories 9 through 16) are conspicuous by their absence. This, however, could be true of any population not selected by family characteristics.

Two interesting patterns between leave categories are exhibited in Table 56. The table shows percentages only for some dependency load categories. At the far right of the table is the percentage of leaves taken in each leave category. The first pattern occurs out of Categories 3 and 4 indicating a married faculty member with one or two very young children. The percentages of faculty members who took temporary transfers in both those categories (34.0, 31.3) were 11 to 14% higher than that group's 20.2% overall average (last column). Similarly, a greater percentage of personal leavers above that group's overall average fall into Categories 3 and 4. On the other hand, the percentages for Categories 3 and 4 are below average for sabbatical takers and for off-campus assignment leavers.

This pattern is reversed at the right end of the DLF spectrum. From Category 7 to Category 16 the percentage of temporary transfer leavers is below that group's overall average while the off-campus assignment percentage is above average in Categories 7 and 8, then above average for sabbaticals in Categories 9, 10, and 11, and then

TABLE 56

TYPE OF LEAVE AND DLF (DEPENDENCY LOAD FACTOR)--THREE SPECIFIC PATTERNS



off-campus assignments begin again to show above average responses in every category from 12 to 19. These two patterns are blocked in on Table 56. What they suggest is older, more dependency-laden faculty taking sabbaticals and off-campus assignments, and younger, less dependency-laden faculty either transferring temporarily to other institutions or taking personal leaves for research, writing, and study. Further, the fact that nearly 70% of all leaves occur as off-campus assignments or sabbaticals is further suggestive of an institutional leave policy favoring the older, more dependency-laden and longer-married faculty member. It may also be that the institution does not hire anyone until that faculty member is older, more proven, and more likely to have the characteristics discussed because of that factor.

Some verification of the "aged" characteristic of the faculty who take leaves is illustrated by Table 57.

TABLE 57

LOSS OF DEPENDENCY THROUGH AGING CHARACTERISTIC

Number of Children in Family	Children at Leave		Relevant Children		Difference Between Children and Relevant Children
	Freq.	%	Freq.	%	
Zero	406	18.9	642	29.9	+236
One	309	14.4	371	17.3	+62
Two	647	30.1	491	22.8	-156
Three	464	21.6	400	18.6	-64
Four	218	10.1	170	7.9	-48
Five	77	3.6	58	2.7	-20
Six	27	1.3	17	0.8	-10

The table has been titled, *Loss of Dependency through Aging Characteristic*. Column 2 shows the number and percent of families with differing numbers of relevant children. Column 4 indicates the loss of

dependency load that has occurred by the time the leaves were taken. The two categories, zero-relevant and one-relevant, both increased substantially, while two, three, four, five, and six-relevant all decreased. Both zero-relevant and one-relevant would lend themselves to DLF Categories 2 and 6.

Table 58 is added to show that no DLF differences exist of any consequence regardless of the leave population, 2174 or 1384. Numbers and percentages for both populations and percent of change are included in the table.

TABLE 58

COMPARISON OF DLF (DEPENDENCY LOAD FACTOR) BETWEEN 2174 LEAVES AND 1384 FACULTY

DLF Category	Frequencies[a]		Percentages		Change
	2174 Leaves	1384 Faculty	2174 Leaves	1384 Faculty	
1	186	125	8.6	9.1	+0.5
2	457	276	21.2	20.1	-1.1
3	103	77	4.8	5.6	+0.8
4	132	91	6.1	6.6	+0.5
5	132	89	6.1	6.5	+0.4
6	270	161	12.5	11.7	-0.8
7	138	91	6.4	6.6	+0.2
8	124	74	5.8	5.4	-0.4
9	123	82	5.8	5.9	+0.1
10	146	98	6.8	7.2	+0.4
11	63	41	2.9	3.0	+0.1
12	64	40	3.0	2.9	-0.1
13	73	42	3.4	3.0	-0.4
14	40	28	1.9	2.0	+0.1
15	39	19	1.8	1.4	-0.4
16	21	14	1.0	1.0	0.0
17	19	10	0.9	0.7	-0.2
18	7	3	0.3	0.2	-0.1
19	9	4	0.4	0.3	-0.1
20	2	1	0.1	0.1	0.0
21	3	2	0.1	0.1	0.0
22	1	1	0.1	0.1	0.0
TOTALS	2152	1369	100.0	100.0	

[a]Totals do not agree because of missing data.

Table 59 shows the percentages of faculty in each of the twenty dependency load categories based upon the kind of sabbatical that was taken. The entire group of faculty who took leaves, including sabbaticals, during the ten years of the study is included for comparative purposes. Column 8 considers only the sabbatical takers.

Overall, Categories 2 and 6 characterized sabbatical takers as was discussed previously. Column 2 shows that this same 2/6 characteristic applies to the non-sabbatical takers, but within the sabbatical group of four classes, only the one-semester (fall or winter) leave-takers maintain the clarity of this characteristic. Other dependency categories begin to appear more predominately for the other kinds of sabbaticals. Neither of the two sabbaticals classes (two terms or twelve months at half pay) show the Category 2 DLF characteristic with anywhere near the same percentages. This is particularly true of the two-term sabbatical which maintains a great deal of equality from Category 1 through Category 10. Excluding consideration of sabbaticals taken on a months basis at half or full pay, this general equality of DLF categories in the two-semester, half-pay sabbatical group as opposed to the unequal Category 2 and 6 characteristic of one-semester, full-pay sabbaticals might be explained by other faculty characteristics discussed below.

The first explanation for the difference would appear to be financial inasmuch as the longer two-term sabbatical requires that a faculty member finance himself for one-half year. As will be shown later, however, the difference that exists between one- and two-term sabbatical takers insofar as salary at time of leave is concerned is extremely small (Table 73). In both cases the salary category most

TABLE 59

SABBATICAL LEAVES AND DEPENDENCY LOAD FACTOR

Dependency Category	Type of Sabbatical					2174[a] Leaves	Total[b] Sabbaticals	
	None	One Term	Two Terms	Months/Full	Months/Half		Freq.	%
1	9.2	7.9	8.0	7.3	16.7	8.6	82	8.0
2	19.9	24.4	9.0	18.2	11.1	21.3	232	22.7
3	6.7	2.3	10.7			4.8	27	2.6
4	7.3	4.8	9.2	1.8	5.6	6.1	48	4.7
5	6.6	5.3	11.4	3.6	5.6	6.1	57	5.6
6	12.5	12.6	9.6	10.9	16.7	12.5	128	12.5
7	7.0	5.5	7.2	10.0		6.4	59	5.8
8	5.9	5.2	8.1	7.3	16.7	5.8	57	5.6
9	4.3	6.6	10.6	11.8	11.1	5.7	64	6.3
10	5.1	9.5	11.0	5.4		6.8	88	8.6
11	2.6	2.3	5.5	5.4	5.6	2.9	34	3.3
12	3.1	3.5	1.5	0.9	5.6	3.0	29	2.8
13	3.0	3.9	3.0	5.4		3.4	39	3.8
14	1.6	1.9	1.0	5.4	5.6	1.9	27	2.6
15	1.9	1.6	2.0	2.7		1.8	18	1.7
16	1.0	1.0	0.5	1.3		1.0	10	0.9
17	1.1	0.4	1.5	0.9		0.9	7	0.6
18	0.3	0.4				0.3	3	0.3
19	0.4	0.4		0.9		0.4	4	0.4
20	0.4	0.3				0.3	2	0.2
FREQ.	1132	692	200	110	18	2151		
%	52.6	32.2	9.3	5.1	0.8	100.0		
Sabbaticals Only	FREQ.	692	200	110	18		1020	
	%	67.8	19.6	10.8	1.7			100.0

[a]21-4 - 23 missing data = 2151.

[b]Sabbaticals only. See Table 2, Column 4.

characteristic was $12,500 to $14,999 with the two-term/half-pay sabbatical takers appearing slightly more likely to be in a lesser salary category. Their rank at leaves were also similar (Table 70) as was marital status (not shown). However, as will be shown, the two-semester/half-pay sabbatical taker has less seniority (Table 66), and is also slightly younger (Table 63). Both of these factors probably account for the small salary differential noted above.

Looking back at one of the previous tables (Table 15) it should be noticed that the professional faculty (55% of total) took more than their zero parity amount (53.4%) of one-term sabbaticals, but only a very small amount (26.9%) of two-term sabbaticals. Thus the non-professional literary college group dominates the DLF characteristics of the two-term sabbaticals, spreading their characteristics throughout all categories.

The same discussion is applicable to Table 59 when it excludes non-sabbaticals from the data (see Column 8), and gives the DLF category percentages for sabbaticals only. The one difference between the two sets of data which appears to be meaningful is the percentage increase in Column 8 in DLF Category 10 which, when only sabbaticals are considered, is increased to a more definite third rank behind Category 2 and 6. This emergence of Category 10 is additional evidence of a more mature family man taking sabbaticals.

During the ten-year period 417 leaves of absence defined as temporary transfers occurred. Table 60 exhibits the DLF characteristics of this group of leavetakers as well as the group which did not take a temporary transfer leave (see Column 2). Analysis shows that the sub-group which transferred temporarily to another academic

TABLE 60

TEMPORARY TRANSFERS AND DEPENDENCY LOAD FACTOR

Dependency Category	Type of Transfer				(6) 2174 Leaves	(7) Total Transfers	
	(2) None	Government	Industry	Academic		Freq.	%
1	8.7	7.4	6.7	9.2	8.7	36	8.5
2	21.4	16.8	13.3	23.3	21.3	88	21.1
3	3.9	5.3	6.7	9.6	4.8	35	8.3
4	5.2	6.3	20.0	8.9	6.1	38	9.1
5	5.7	6.3	10.0	6.8	6.1	29	6.9
6	12.5	14.7	16.7	12.0	12.5	54	12.9
7	6.6	9.5	6.7	4.1	6.4	23	5.5
8	6.1	3.2	10.0	4.4	5.8	19	4.5
9	6.1	4.2	6.7	3.8	5.7	17	4.1
10	7.1	10.5		4.4	6.8	23	5.5
11	3.0	4.2		2.7	2.9	12	2.8
12	3.1	4.2		2.0	3.0	10	2.4
13	3.5	6.3		2.4	3.4	13	3.1
14	2.1	2.0		1.0	1.9	4	0.9
15	2.1			1.0	1.8	3	0.7
16	0.9			1.7	1.0	5	1.2
17	0.9			1.0	0.9	3	0.7
18	0.3				0.3	0	0.0
19	0.4			0.7	0.4	2	0.4
20	0.2		3.3	0.7	0.3	3	0.7
FREQ.	1721	95	30	292	2151		
%	79.9	4.4	1.4	13.6	100.0		
Transfers Only	FREQ.	95	30	292		417	
	%	22.7	7.3	70.0			100.0

institution took a rounded-off 70% of this kind of leave, and displayed the following category pattern: 2-6-3-1-4 (63%). Categories 1-2-3-4 of that pattern are indicative of single persons or young marrieds without children or with one or two young children (42%). Categories 2 and 6 indicate older marrieds with none or older children (the remaining 21%). The major part of the balance of the entire group (37%) remains concentrated below Category 11 (24%). Category 11 and above (13%) contains the faculty having the large families and older children. Each of these older and larger DLF categories has some representation.

The faculty who took the next more frequent temporary transfer --the governmental type--exhibited a slightly different DLF category preference: 2-6-10-7-1. One way to compare this pattern with other patterns is to find the sum of these first five category preferences. The greater the sum, of course, the more the pattern is tending toward larger and older families. The sum of this group's category preference (first five) is 26 compared with the academic category pattern sum of 16 shown in the preceding paragraph. Thus the assertion that temporary leaves to governmental posts are usually filled with older and larger family faculty patterns than leaves to other academic institutions seems quite likely to be the case. In this group of governmental leavetakers, Categories 1 and 2 account for a rounded off 24% (cf. this with the younger faculty percent--63%--in 1-2-3 for the academic leavetakers) while Categories 6, 7, and 10 account for 35%, a five-category total preference of 59%. Yet consider that of the remaining 41% there is only 1% of governmental leavetakers above DLF category 13, whereas in the previous academic group, slightly over 8% were classified in DLF categories from 13 to 20. Thus the larger family dependency character-

istic of governmental leavetakers exists only up to a certain point (DLF Category 13), and then it drops to essentially zero.

In the temporary leaves to industry (7.3% of the total), the category pattern is less reliable due to the small size of the population: 4-6-2-5-8. The sum of this grouping is 25, and it compares quite favorably with the governmental leavetaker as does the near-zero percentage above Category 9. It appears that these two tend toward the same DLF pattern with the older and larger family characteristic absent from the industrial leavetaking group: one leave out of thirty was taken by a faculty member falling in a DLF category above 9, categories which would require at least three relevant children. This compares with the academic transfer percentage above DLF Category 9 of 16.3%, and an even larger percentage in the governmental leavetaking group squeezed into Categories 10 through 14 of 26.6%.

The DLF percentage comparisons between 2151 leaves and 417 transfers which arise because of the inclusion of non-temporary transfer data can be seen in Columns 6 and 7. The differences between the two columns for each category are quite minor with the greatest differences occurring in DLF Categories 3 and 4. The percentages in these two categories increase when non-temporary transfers are removed. This indicates a less general profusion of faculty throughout the entire DLF spectrum for temporary transfers because the gain in percentage in Categories 3 and 4 is picked up fairly equally throughout the older and larger family end of the DLF grouping. This implies greater youthfulness, less family, less rank, and less salary to the faculty taking temporary transfers.

Age

The key to understanding differences in age characteristics between different kinds of leaves is to compare the first two and last two age classes for each leave type. Table 62 develops the percentages for each age and leave classification. Table 61 following below is a rank comparison based on only the first and last two age ranges.

TABLE 61

COMPARISON OF SPECIFIC AGE RANGES WITH TYPES OF LEAVE TAKEN

Type of Leave	% of Faculty in First Two Age Ranges	Rank	% of Faculty in Last Two Age Ranges	Rank
OCA	16.6	3	19.9	2
SAB	5.0	4	22.8	1
TEMP TRAN	31.6	2	12.0	3
PERS	41.1	1	8.1	4

The comparison clearly indicates a complete reversal of age characteristics from one end of the age spectrum to the other. Sabbaticals are least frequent in the first two age classes, and most frequent in the last two age classes. On the other hand, personal leaves are the most frequent in the first two age classes, and least frequent in the last two age classes. In between these two extremes, temporary transfers show an age affinity with the personal type of leavetaker in both the first and last two age classes, while off-campus assignment leavetakers show an age affinity with the sabbatical taker in both the first and last two age classes. The importance of this may lie in the

TABLE 62

AGE AND TYPE OF LEAVE

Type of Leave	Age Group								Total	
	Below 30	31-35	36-40	41-45	46-50	51-55	56-60	Over 60	Freq.	%
OCA	5.3	11.3	15.6	16.2	17.7	14.0	10.3	9.6	487	22.6
SAB	0.1	4.9	19.6	19.9	18.0	14.6	12.2	10.6	1020	46.5
TEMP TRAN	9.9	20.7	19.5	15.9	10.1	11.9	6.7	5.3	435	20.2
PERS	14.3	26.8	22.0	11.0	11.0	6.7	4.3	3.8	209	10.7
Freq.	100	251	407	374	337	283	213	186	2151	
%	4.6	11.7	18.9	17.4	15.7	13.2	9.9	8.6		100.0

fact that sabbaticals and off-campus assignments are both university-sponsored or generated while the temporary transfer or personal leave is primarily a personally initiated affair. Thus sabbaticals and off-campus assignments take on the fringe benefit characteristic, and it would appear that seniority does play a part in who acquires sabbaticals and off-campus assignments. That this is so is part of the nature of the sabbatical with its requirement of at least an associate professorial rank and six years service. That age is less a requirement for off-campus assignments although more so than for temporary transfers and personal leaves is indicated in the lower age classes of Table 62. It will be shown later that seniority, in fact, is a major characteristic of sabbaticals, then come off-campus assignments, followed not too closely by temporary transfers and personal leaves (Table 65).

A look at the 1020 sabbaticals in Table 63, where leaves are grouped according to type of sabbatical, discloses the "elderly" characteristic of sabbaticals is more characteristic of the one-term sabbatical (22% less than age 40 for one-term sabbaticals) than the two-term/half-pay sabbatical (35% less than 40 years of age). Thus the younger faculty member not only takes fewer sabbaticals but fewer of the one-term sabbaticals, and more of the two-term sabbaticals when he has fulfilled the requirements (associate professor and six years of professorial service). Although no check was made on the total number of leaves a faculty member took during his entire university career, and additionally which leave (first, second, etc.) was being recorded, an explanation of the "youth" of the two-term sabbatical taker might be found in the concept of the first leave.

By the time the first sabbatical arrives, for example, the

TABLE 63

AGE AND TYPE OF SABBATICAL

Type of Sab-batical	Age Group									
	Below 30	31-35	36-40	41-45	46-50	51-55	56-60	Over 60	Freq.	%
One Term	0.1	3.8	18.2	19.6	17.3	14.9	13.7	12.3	692	67.8
Two Term	0.0	9.5	26.0	18.0	19.5	14.5	7.0	5.5	200	19.6
Months Full	0.0	2.7	17.3	23.6	19.1	13.6	12.7	10.9	110	10.7
Months Half	0.0	11.1	16.7	27.8	22.2	11.1	11.1	0.0	18	1.7
Sab. Avg. (Table 62) FREQ.	1	52	200	203	184	149	125	108	1020	
%	0.1	4.9	19.6	19.9	18.0	14.6	12.2	10.6		100.0
All Avg. (Table 62) FREQ.	100	251	407	374	337	283	213	186	2151	
%	4.6	11.7	18.9	17.4	15.7	13.2	9.9	8.6		100.0

young faculty member has reached an associate professorship through research, teaching, service, and administrative effort, but a great many projects have had to be laid aside because of a priority on special career efforts. This initial leave--an entire year--may thus be the first real opportunity to get away from the institution, and the family may not yet be too large and family expenses too great. The combination of these first leave factors could direct the faculty member toward taking the entire academic year off at half pay. There may be a scholarship or fellowship available to alleviate the financial problem.

Table 64 discloses that temporary transfers to government and academia are fairly the same for each age classification although there is an inversion between 36-40 and 41-45 age classes in the two groups. The older of these two classes is more characteristic of the governmental leavetakers; the younger is characteristic of the academic transfer. This may be a labor market phenomenon. The group which transferred temporarily to an industrial position has an even greater abundance of young faculty takers in the first two age groups (43.4% below 35) as compared with government (29.5%) and academic (29.5%). There is a distinct falling off after age 55 which is true also of other leaves but not to the same degree.

Seniority

Seniority with respect to other variables has been referred to earlier, particularly as it might explain a differential relationship between these variables. Tables 65, 66, and 67 look at seniority insofar as type of leave, type of sabbatical, and type of temporary transfer are concerned. These tables utilize statistical information which

TABLE 64

AGE AND TYPE OF TEMPORARY TRANSFER

Type of Temp. Tran.	Age Group								Total	
	Below 30	31-35	36-40	41-45	46-50	51-55	56-60	Over 60	Freq.	%
Govt.	9.5	20.0	16.8	20.0	12.6	11.6	4.2	5.3	95	22.7
Ind.	16.7	26.7	10.0	16.7	10.0	10.0	6.7	3.3	30	7.2
Acad.	9.6	19.9	22.3	14.0	9.2	13.0	7.2	4.8	292	61.1
Temp. Tran. Avg.: FREQ.	42	85	84	65	42	52	27	20	417	
%	10.1	20.3	20.1	15.5	10.1	12.5	6.5	4.8		100.0
All Avg.	4.6	11.7	18.9	17.4	15.7	13.2	9.9	8.6	2151	100.0
Sab. Avg.	0.1	4.9	19.6	19.9	18.0	14.6	12.2	10.6	1020	100.0

TABLE 65

SENIORITY AND TYPE OF LEAVE

Type of Leave	Seniority Group (Years)								Total	
	0-4	5-8	9-12	13-16	17-20	21-24	25-28	29+	Freq.	%
OCA	24.4	20.9	14.7	14.1	11.4	7.4	2.5	4.5	483	22.5
SAB	0.0	31.5	21.3	18.3	12.8	6.2	3.9	6.0	1016	47.4
TEMP TRAN	33.6	28.0	13.6	10.3	6.9	2.5	2.5	2.5	435	20.3
PERS	47.6	26.8	11.0	6.2	2.8	3.8	1.4	0.1	209	9.8
Avg.: Freq. %	362 16.9	599 27.9	369 17.2	312 14.6	221 10.3	118 5.5	66 3.1	96 4.5	2143	100.0
Accum. Avg.	16.9	44.8	62.0	76.6	86.9	92.4	95.5	100.0		

TABLE 66

SENIORITY AND TYPE OF SABBATICAL

Type of Leave	Seniority Group (Years)								Total	
	0-4	5-8	9-12	13-16	17-20	21-24	25-28	29+	Freq.	%
One Term	0.0	30.2	18.4	18.3	14.5	7.3	4.5	6.8	689	67.8
Two Term	0.0	39.0	22.5	21.5	9.5	3.0	2.5	2.0	200	19.3
Months Full	0.0	24.8	34.9	13.8	7.3	6.4	3.7	9.2	109	10.7
Months Half	0.0	38.9	33.3	11.1	16.7	0.0	0.0	0.0	18	1.7
Sab. Avg.: FREQ.	0	320	216	186	130	63	40	61	1016	
%	0.0	31.5	21.3	18.3	12.8	6.2	3.9	6.0		100.0
All Avg.	16.9	27.9	17.2	14.6	10.3	5.5	3.1	4.5		

TABLE 67

SENIORITY AND TYPE OF TEMPORARY TRANSFER

Type of Leave	Seniority Group (Years)								Total	
	0-4	5-8	9-12	13-16	17-20	21-24	25-28	29+	Freq.	%
Govt.	38.9	23.2	16.8	8.4	6.3	4.2	2.1	0.0	95	22.7
Ind.	43.3	20.0	16.7	6.7	6.7	3.3	3.3	0.0	30	7.2
Acad.	30.1	30.5	12.7	10.6	7.5	2.0	2.7	3.8	292	61.1
Tran. Avg.: FREQ. %	138 33.1	117 28.1	58 13.9	41 9.8	30 9.6	11 2.6	11 2.6	11 2.6	417	100.0
All Avg.	16.9	27.9	17.2	14.6	10.3	5.5	3.1	4.5		

the investigator has called Seniority Four: seniority classified into four-year periods rather than any other period.

Reference has already been made to the seniority characteristics of sabbaticals because of the six-year professorial requirement.[25] Of the 31.5% leaves taken in the 5-8 years of seniority category, none were taken the fifth year, 11.8 were taken in the sixth year, and 19.7% were taken in the seventh and eighth years. Almost one-third of the faculty took sabbaticals in their first sabbatical period of six years seniority. Of the 1016 sabbaticals, at least 50% (508) were taken in an eleven-year seniority period (6-11) indicating a first-time sabbatical. The other 50% could conceivably be second or third sabbaticals for a faculty member. Also, about 75% of all sabbaticals occurred in a seventeen-year seniority period (6-17) indicating that no more than 25% of all sabbaticals could have been a third sabbatical. However, during the ten-year period it is known (Table 19) that of the 1384 faculty members who took all kinds of leaves, 929 (67%) took sabbaticals, and of this number during the ten-year period, 95 or slightly over 10% took two sabbaticals.

The seniority picture which emerges from Table 65 is that all four kinds of leaves follow a declining percentage as seniority is accumulated. This appears somewhat contrary to previous data which seemed to indicate that leavetaking was somewhat of a function of advancing chronological age. The speculation would be that as age increased, leavetaking also increased along with seniority. A return look at Table 62, *Age and Type of Leave*, clarifies the apparent contra-

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[25]It is a testimonial to the coders, key punch operators, and the computer that no sabbaticals were recorded in the 0-4 years of seniority class.

diction. Leaves occur on an increasing basis up to age 45, and then decline numerically beyond age 60.[26] Apparently the great percent of leaves is taken earlier in a faculty member's life (between 36 and 45) after which time faculty members begin taking fewer leaves of all kinds.

Thus, during the first eight years of seniority, 31.5% of all sabbaticals, 45.3% of all off-campus assignments, 61.6% of all temporary transfers, and 74.4% of all personal leaves have been taken. Slightly over 45% of all leaves have been taken in the first sixteen years of faculty seniority.

The "seniority youthfulness" of leave occurrence insofar as a faculty member of this large university is concerned is exemplified by the 47.6% in the 0-4 years of seniority in the personal leave group, the 33.6% in the temporary transfer category, and 24.4% in the off-campus assignment group. Further, as soon as faculty members are permitted, 31.5% of those who take sabbaticals, do so.

Earlier it had been suggested that one-term sabbaticals had a "chronological elderliness" characteristic in that the two-term sabbatical had a much greater percentage under 40 years of age which took that type of leave. In Table 66 it is indicated that the two-term sabbatical has an additional difference in seniority: about 39% of the two-term semester-based sabbaticals occur prior to the ninth year of seniority while nearly 30% of the one-term, semester-based sabbaticals take place prior to the ninth year of seniority, and if all one-term

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[26]The furlough year prior to retirement was not included in the study as a leave. Its inclusion, of course, as a replacement for a sabbatical could have been justified inasmuch as faculty members may time their leaves to take advantage of the furlough year provision.

sabbaticals are counted, the figure is reduced slightly, less than one percent. Thus, two-term sabbatical takers are not only chronologically younger, but have less seniority than one-term sabbatical takers. One peculiarity exists in the sabbatical category called *Months at Full Pay* which, with over 100 leaves, does not follow the declining percentage rule regarding seniority apparent in all other seniority tables. Instead, faculty who take their sabbaticals on a monthly basis at full pay (equivalent to the one-semester type) wait until their seniority is more likely to be in the 9-12 year classification before taking their sabbaticals (34.9%). This is an increase of one seniority category when most frequent seniority category is under consideration. Looking back to Table 18, *Academic Discipline and Type of Sabbatical*, it is clear that of the 110 leaves under discussion, 90 of them were taken by professional faculty, and this shift in one seniority category upward must be accounted for by the nature of the professional disciplines. Professional faculty wait longer for the first sabbatical (it had to be the first), and they take their sabbaticals on a months basis rather than a semester basis. This is particularly true of the health-oriented professions (Table 20).

Table 67 discloses the seniority pattern of temporary transfer leavetakers. In all three cases, governmental, industry, and academic, the pattern is one of greatest percent in the early years of seniority and then a declining percentage. The governmental and industrial leavetakers resemble each other closely and there is barely any difference in their seniority patterns. However, there is a difference in seniority between those two non-academic oriented leaves, and the academic temporary transfer group. This difference lies in the equal-

ity of academic leavetakers in the 0-4 and 5-8 years of seniority categories which does not exist in the rapidly declining percentages of the other two kinds of temporary transfers. Returning to Table 26, *Academic Discipline and Type of Temporary Transfer*, it can be seen that academic temporary transfers are dominated by the literary college non-professional faculty. Thus, this seniority difference may be accounted for on a disciplinary basis.

Seniority in two-year intervals rather than four years indicates an even greater declining relationship, and emphasizes the difference between the academic leavetakers and the other two types of temporary transfers (Table 63).

TABLE 63

COMPARISON OF SENIORITY IN TEMPORARY TRANSFERS IN 2-YEAR INTERVALS

Type of Temporary Transfer	Amount of Seniority in Years			
	0-2	3-4	5-6	7-8
Government	24.2	14.7	11.6	11.6
Industrial	23.3	20.0	10.0	10.0
Academic	12.3	17.8	15.1	15.4

It may be seen from the comparison and other data that more of the academic temporary transfers (0-4 category, 30.1%) are developed in the third and fourth years and not the first two years. This is different from the larger percentage of governmental and industrial leaves which occurred in the first two years of their seniority.

Academic Rank

Tables 69, 70, and 71 show the distribution of academic rank when crossed with type of leave, type of sabbatical, and type of temporary transfer. Table 69 indicates, initially, the increasing importance of rank for the two institutionally-oriented leaves (off-campus assignment and sabbatical): 81.9% above the rank of assistant professor. The table also shows the decreasing importance of rank for temporary transfers, 70.0% above the rank of assistant professor, and personal leaves, only 60.4% above the rank of assistant professor. Both of these leave types can be intuitively classified as personally rather than institutionally oriented.

TABLE 69

ACADEMIC RANK AND TYPE OF LEAVE

Type of Leave	Academic Rank				Above[a] Assistant Rank	Total
	Other	Assistant	Associate	Full		
OCA	2.0	16.1	21.5	60.4	81.9	492
SAB	.1	1.1	32.3	65.5	97.9	1022
TEMP TRAN	7.3	22.7	23.2	46.8	70.0	440
PERS	6.7	32.8	25.2	35.2	60.4	210
Freq.	57	266	594	1247		2164
%	2.6	12.3	27.4	57.6		100.0

[a]This column is the sum of the preceding two columns.

TABLE 70

ACADEMIC RANK AND TYPE OF SABBATICAL

Type of Leave	Academic Rank				Total	
	Other	Assistant	Associate	Full	Freq.	%
One Term	0.1	1.6	31.3	67.0	693	67.8
Two Term		1.0	33.8	65.2	201	19.6
Months Full		4.5	34.5	60.9	110	10.7
Months Half			55.6	44.4	18	1.9
FREQ.	1	18	333	1670	1022	
%	.1	1.2	32.3	65.5		100.0

TABLE 71

ACADEMIC RANK AND TYPE OF TEMPORARY TRANSFER

Type of Temporary Transfer	Academic Rank				Total	
	Other	Assistant	Associate	Full	Freq.	%
Government	9.2	19.4	25.5	45.9	98	33.3
Industry	10.0	26.7	30.0	33.3	30	10.2
Academic	5.4	23.8	22.4	48.3	294	56.5
FREQ.	28	97	100	197	492	
%	6.7	23.0	23.4	46.7		100.0
Sab. Avg.	.1	1.2	32.3	65.5	1022	100.0
All Avg.	2.6	12.3	27.4	57.6		

Table 70 displays the rank patterns arising out of sabbaticals. Only one of the four sabbatical categories appears to exhibit a difference from the average rank pattern, but because only 13 of the 1022 sabbaticals are involved, and because of the extreme professional faculty derivation of this category, a statement about it, the full-year leave based on months, would be misleading. This type of sabbatical reverses the emphasis upon full professor and associate professor which exists in the other three sabbatical categories. This may be accounted for because of its professional, health-oriented emphasis where less attention is paid to rank. This difference is also perceptible in the sabbaticals classified as months at half-pay.

Table 71 exhibits the rank pattern of leaves classified as temporary transfers. The initial difference between this group and the sabbatical group just discussed is the lesser degree of emphasis upon rank for leaves of the temporary kind, and the almost completely democratic rank distribution in industrial or business temporary leaves. As all leaves tend toward an academic emphasis--industrial to governmental to academic to sabbatical only--more and more emphasis is placed upon rank as a partial determinant for that leave. In the case of the sabbatical, the professor almost must have at least the associate rank, and the full professorship appeared in 65.5% of the sabbatical cases.

Salary

Table 72 describes statistically the distribution of salary over the four leave categories. The salary variable is divided into ten classes of $2,500 each except the beginning and ending open classes. Here the pattern which is exhibited conforms to the institution-oriented versus personally-oriented leavetaker. Both off-campus

TABLE 72

SALARY AND TYPE OF LEAVE

Type of Leave	Salary Categories in Units of $1,000										Total	
	Below 10	10-12.4	12.5-14.9	15-17.4	17.5-19.9	20-22.4	22.5-24.9	25-27.4	27.5-29.9	Over 30	Freq.	%
OCA	6.5	12.6	18.5	17.9	14.8	11.2	8.9	3.7	3.2	2.6	492	22.7
SAB	6.5	15.1	20.4	19.4	12.2	10.4	6.9	4.1	3.5	1.3	1023	47.2
TEMP TRAN	20.6	16.5	17.7	13.8	14.1	8.8	3.2	2.7	1.4	1.3	441	20.7
PERS	25.2	24.3	13.3	12.4	13.8	5.7	0.9	2.7	0.4	0.9	210	9.7
Freq.	243	341	406	374	289	212	131	78	59	33	2166	
%	11.2	15.7	18.7	17.3	13.3	9.8	6.0	3.6	2.7	1.5		100.0

assignments and sabbaticals increase in percentages from the below $10,000 category to a peak in the $15,000 to $17,499 class, and then decline. On the other hand, both temporary transfers and personal leaves show their highest percentage in the below $10,000 class, and then decline at different rates (personal leaves quite drastically) after $12,499. This supports the view that the latter two leaves are taken by younger, less ranked, less seniority, less dependency-laden faculty with personal leavetakers being the least. The fact that these two paired-groups set each other off brings the mean salary down into the $12,500 to $14,499 class, somewhere near the top of that last class.

Table 73 shows the distribution of salary categories over each of the four types of sabbaticals. To begin with, the averages for all sabbatical takers indicate that the mean average salary would fall somewhat over $14,000 for the entire ten-year period. This would indicate a higher salary level in 1970 inasmuch as since the early 1960's, salaries have increased. The one-term versus the two-term comparison can be made here as it appears that there is a slight tendency for the two-term sabbatical to be clustered more in the lower salary ranges than the one-term type. This corroborates somewhat earlier discussions about these two sabbatical types. Secondly, leaves which were taken by months exhibit extreme differences from the semester-based leaves. The months-based leaves are skewed to the higher salary ranges when compared with the semester-based type. The difference between these two types is the professional orientation of the monthly-based leave, a fact to which reference has already been made.

Table 74 investigates another declining percentage relationship

TABLE 73

SALARY AND TYPE OF SABBATICAL

Type of Sabbatical	Sslary Categories in Units of $1,000										Total	
	Below 10	10-12.4	12.5-14.9	15-17.4	17.5-19.9	20-22.4	22.5-24.9	25-27.4	27.5-29.9	Over 30	Freq.	%
One Term	7.6	15.9	21.1	19.9	12.55	10.0	5.8	3.6	2.7	.9	693	67.8
Two Term	6.0	18.9	23.9	22.9	11.4	8.5	4.0	2.0	2.0	.5	201	19.6
Months-Full	0.9	5.4	11.8	9.1	13.6	14.5	18.2	10.9	11.8	3.6	110	10.7
Months-Half	0.0	5.6	11.1	27.8	0.0	22.2	16.7	5.6	0.0	11.1	18	1.7
FREQ.	66	155	209	199	125	106	71	42	36	13	1022	
%	6.4	15.1	20.4	19.4	12.2	10.3	6.9	4.1	3.5	1.2		100.0

TABLE 74

SALARY AND TYPE OF TEMPORARY TRANSFER

Type of Temporary Transfer	Salary Categories in Units of $1,000											
	Below 10	10-12.4	12.5-14.9	15-17.4	17.5-19.9	20-22.4	22.5-24.9	25-27.4	27.5-29.9	Over 30	Freq.	%
Government	18.4	18.4	24.5	14.3	13.3	5.1	4.1	0.0	1.0	1.0	98	23.1
Industry	30.0	26.7	16.7	3.3	16.7	3.3	0.0	0.0	3.3	0.0	30	7.1
Academic	20.7	15.6	16.3	14.9	13.2	10.2	3.0	3.4	1.4	1.4	295	59.8
FREQ.	88	72	77	59	57	36	13	10	6	5	423	
%	20.8	17.0	18.2	13.9	13.4	8.5	3.1	2.3	1.4	1.1		100.0
Sabbatical Average	6.4	15.1	20.4	19.4	12.2	10.3	6.9	4.1	3.5	1.2		

which was discovered earlier in Table 71 concerning temporary transfers. Academic temporary transfers which constitute slightly over 70% of these temporary leaves exert the greatest influence in this direction, and overcome the influence of governmental leavetakers which finds its greatest percentage in the $12,500 to $14,499 category rather than the below $10,000 class of the academic leavetakers. The difference between these two groups is the professional characteristic of the government leavetaker as opposed to the non-professional literary college group of academic transfer leavetakers. (See Table 25, *Academic Discipline and Temporary Transfers*.) It appears apparent that professional people who took leaves were in the higher salary ranges although they are not as well-ranked as the non-professional group which took leaves.

Finally, Table 75 is provided as a check on the salaries which were collected during the study, and to substantiate the statement made earlier that $12,500 to $14,999 mean salary does not represent the 1970 condition. The 1970 condition is more nearly the $17,500 to $19,999 category as is indicated by the 1968-69 column in the table. As a matter of fact, with only 180 leaves collected for 1969-70 (70% of which were sabbaticals), the mean was approaching the $20,000 to $22,499 category. The fact that average salaries of leavetakers have been increasing fairly steadily each academic year is indicated by the italicized amounts (downward-pointing arrow) showing the highest percentage in each academic year, the pattern of which is gradually moving downward.

TABLE 75

SALARY CATEGORIES PER ACADEMIC YEAR--1960-1969

Salary Category	Academic Year[a]									Total	
	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	Freq.	%
Below $10,000	↓*28.3*	25.2	21.6	16.3	13.1	7.3	4.5	4.3	3.2	247	12.1
$10,000-$12,499	25.7	↓*28.9*	20.2	20.8	14.5	14.2	12.3	9.3	13.5	331	16.6
$12,500-$14,999	20.4	22.0	↓*24.9*	↓*22.2*	19.5	19.7	↓*19.7*	15.4	15.2	338	19.5
$15,000-$17,499	13.8	10.1	12.7	16.7	↓*24.0*	↓*23.4*	16.4	↓*19.3*	13.8	338	16.9
$17,500-$19,999	3.3	10.1	11.3	10.9	12.2	11.9	↓*18.4*	17.6	↓*17.0*	264	13.2
$20,000-$22,499	5.3	1.9	2.3	6.8	8.6	7.3	11.5	14.3	15.6	178	8.9
$22,500-$24,999	1.3	0.6	5.2	4.1	3.2	9.2	7.8	6.8	8.2	111	5.5
$25,000-$27,499	0.0	0.6	1.4	1.4	3.2	3.2	3.3	6.8	6.0	65	3.2
$27,500-$29,999	2.0	0.6	0.0	0.4	1.4	2.7	2.9	3.6	5.0	45	2.2
$30,000 and Up	0.0	0.0	0.5	0.4	0.4	0.9	3.3	2.5	2.5	27	1.3

[a]Figures in italics represent modal salary group for that year.

CHAPTER V

THE RESEARCH HYPOTHESES

I. Introductory comments[1]

The major research effort of the study was made specific in the following statement:

> What are the relationships in this university between leavetaking and (1) age, (2) seniority, (3) salary, (4) dependency, (5) rank, (6) academic discipline, (7) promotion, (8) retention, (9) starness, (10) research dollars, and (11) productivity?

Specific research hypotheses were developed indicating what relationships or associations between the above eleven variables and leavetaking were to be investigated. These hypothetical relationships were not meant to be exhaustive of the subject matter. Additionally, the direction of influence was not meant to go always in the direction of leavetaking. Not only might leavetaking be a criterion variable; it might also take the role of a predictor. Age, seniority, academic discipline, rank, and others may be influential insofar as leavetaking is concerned, but it is surely fair to say--prior to the accumulation of the data--that leavetaking is influential with respect to productivity, promotion, and retention. Thus, leavetaking was considered as both kinds of variables depending with which variable it was being associated. Table H76, Summary of Variables, assembles not only the assumed direction of influence, but pertinent characteristics of each

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[1]There will be a brief summarization of each of the major research hypothesis findings at the end of the chapter.

TABLE H76

SUMMARIZATION OF VARIABLES

Research Hypothesis	Variable Name	Type of Variable	Influence Direction	Scaling Basis	Number of Categories	Sample[a] Size
1	Age	Parametric	Predictor	Ratio	Eight	1384
2	Seniority	Parametric	Predictor	Ratio	Eight	1384
3	Salary	Parametric	Predictor	Ratio	Ten	1384
4	Dependency	Parametric	Predictor	Ratio	Four	1384
5	Rank[a]	Non-Param.	Predictor	Ordinal	Four	1384
6	Discipline	Non-Param.	Predictor	Nominal	Four	1384
7	Promotion	Parametric	Criterion	Ratio	Six	1384
8	Retention	Parametric	Criterion	Ordinal	Five	1384
9	Starness	Non-Param.	Predictor	Nominal	Two	229
10	Research $[a]	Non-Param.	Predictor	Ratio	Five	229
11	Production	Parametric	Criterion	Ratio		
		(a) Ph.D. Productivity			Six	229
		(b) Research Productivity			Five	229
		(c) Teaching Productivity			Five	229
ALL	Leavetaking	Parametric	Predictor/ Criterion	Ratio	Three	1384

[a]See Footnote 2 on following page.

of the variables involved in the hypothetical portion of the study.

Column 1, Research Hypothesis, refers to the numerical order in which the research hypotheses will be dealt with. Column 3, Type of Variable, refers to the quantitativeness or qualitativeness of the variable prior to its categorization. Column 4, Influence Direction, indicates the assumed directional influence of the hypothesis. Other directions may be investigated. Column 5, Scaling Basis, indicates the kind of scaling which could arise out of the variable's parametricity. Column 6, Number of Categories, indicates how many classes of that variable arose in its categorization, and Column 7, Sample Size, indicates the maximum sample size for each of the variables. For example, the first row of this table would be read: Research Hypothesis 1 will deal with the relationship between Age and Leavetaking with Age being a predictor of leavetaking and being based on a ratio scale. It has been broken down into eight categories. There will be 1384 faculty members involved in this hypothesis. Three of the variables require additional footnoting.[2]

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[2]It is assumed that each academic rank from the lowest to full professor is greater than the one preceding. The interval is not assumed to be equal, however, and thus the academic rank variable is ordinal. Secondly, every faculty member is assigned to either a High, Medium High, Medium, Medium Low, or Low Research Dollar category depending upon his department's research dollar average over a five-year period. Thus, ordinality or greater-thanness is present initially despite the eventual non-parametric basis for the categories. Thirdly, the 229 leavetakers are from six literary college departments, none of which are professional. Strict randomness of sampling had to be sacrificed for expediency. There are two departments in each of the three non-professional disciplines, which was intentional. Finally, the sample size of 1384 will be reduced in almost all cases because of an inability to locate the desired information. This will vary depending upon the variable involved.

II. The leavetaking variable

In each of the research hypotheses, leavetaking is a factor either as a predictor or a criterion variable. Leavetaking was initially called Availability, and was measured on a continuous scale from zero to five by means of a formula. The formula equated 0.00 Availability (Low) with 50% availability for teaching on a contractual basis, and 5.00 Availability (High) with 100% availability for teaching. (Released time was considered contractual time for teaching wherever it was applicable.) To illustrate, all faculty members not in the study because they did not take a leave have an Availability Score of 5.00 (High), by definition. There is, therefore, an equality between high availability and low leavetaking, and the reverse, low availability with high leavetaking. In the future, the variable will be referred to as leavetaking, not availability. Another example is the faculty member who had ten, nine-month contracts during the period of the study, and who also had forty-five months of leave. The leavetaking score would then be 0.00, and the faculty member would fall into the High Leavetaking category. The lower the score, the greater the leavetaking. There were five leavetaking categories: High, Medium High, Medium, Medium Low, and Low. Table H77 is a frequency distribution of leavetaking scores for 1384 faculty members.

III. Organization of the material

There will be an attempt to establish regularity of analysis. Analyses may not be completely uniform inasmuch as each hypothesis may require different techniques in order to establish or not establish a relationship, particularly the one which is hypothesized. As each of the variables is analyzed, the research hypothesis will be stated

TABLE H77

FREQUENCY DISTRIBUTION OF LEAVETAKING VARIABLE

Class Interval into which Score Fell	Designated Leave-taking Category	Assumed Midpoint	Actual Frequency	%
0.00-0.99	High	0.5	37	2.7
1.00-1.99	Medium High	1.5	57	4.2
2.00-2.99	Medium	2.5	208	15.4
3.00-3.99	Medium Low	3.5	479	35.5
4.00-4.99	Low	4.5	568	42.1
	TOTAL		1349[a]	100.0[a]

[a]In 35 cases there was no leavetaking score. The number will vary in each contingency table inasmuch as the other value for the other variable may also be missing. Percentages may not add up to 100.0 because of the dropping of digits.

Mean*	3.62 (Medium Low to Low)
Standard Deviation	1.23
Variance	1.51

*The measures of central tendency and dispersion are based on the actual availability scores, and not the categorical data. They were computed separately.

first. In most of the bivariate distributions, if the nature of the data permits, the association will be derived parametrically through analysis of variance. If an association exists, its strength will be tested by finding the proportion of change in the *Y* variable which is accounted for by *X*. The nature of the data may require the use of χ^2 for the test of association, and the contingency coefficient "C" for strength of association. The contingency table will follow the research hypothesis. In some cases only the percentages in the direction of influence toward the Y-axis are exhibited in the body of the contingency table. Total frequencies and column means will be shown as well as a grand mean.

The predictor variable, *Research $*, was researched and run separately from the other portion of the study. Also, the productivity variable was developed differently than the other variables. This was mostly a result of the departmental orientation and a difference in sample size. For this reason, the Research $/leavetaking and productivity/leavetaking hypotheses will be discussed last.

IV. The analyses

Research Hypothesis 1

> Leavetaking increases up to a certain age, after which age leavetaking continually declines.

The relationship between age and leavetaking which *Research Hypothesis 1* suggests is in Figure H1.

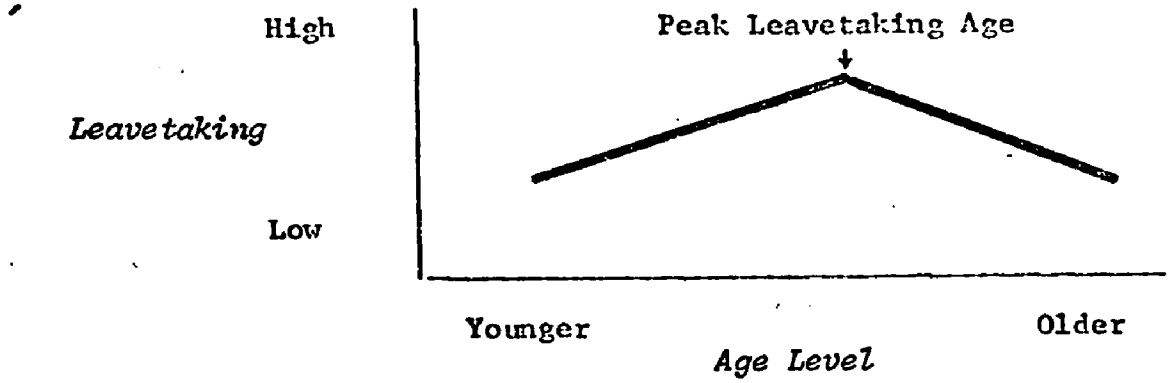


Fig. H1.--Graph of Research Hypothesis 1.

Contingency Table H73 on the following page displays the percentages and other parameters arising out of the crossing of these two variables.

It should be noted that the research hypothesis states two positions: (1) it postulates direction, meaning up and down or possible curvilinearity, and (2) it assumes an association between the two variables. No specific peak age is stated. Both of these intuitions are testable from the observed results.

Figure H2 which follows is a graphic portrayal of the linear relationship between age on leavetaking as shown by the line connecting the means of the eight age categories. It is evident that the research hypothesis postulate of up and down directions is in error. Rather than increasing up to a peak age and then declining, leavetaking

TABLE H78

LEAVETAKING SCORE AND AGE CATEGORY CONTINGENCY TABLE

Leavetaking Score		Age Categories								
		Below 30	31-35	36-40	41-45	46-50	51-55	56-60	Over 60	
High	0.00-0.99	5.6	6.9	3.5	1.7	1.5	1.2	1.6	1.0	
Medium High	1.00-1.99	15.3	6.3	6.0	3.5	1.5	3.1	2.5	1.9	
Medium	2.00-2.99	35.3	19.5	16.5	12.9	13.2	15.5	10.7	9.6	
Medium Low	3.00-3.99	30.6	49.7	37.2	36.9	33.2	33.5	29.5	24.0	
Low	4.00-4.99	15.3	17.6	36.8	46.1	50.7	46.6	55.7	63.5	
Mean Leavetaking Score		2.84	3.14	3.47	3.73	3.84	3.71	3.85	4.02	$\bar{X}$ = 3.61
Frequencies		72	159	285	241	205	161	122	104	1349

is much the same across all age categories and is generally declining.

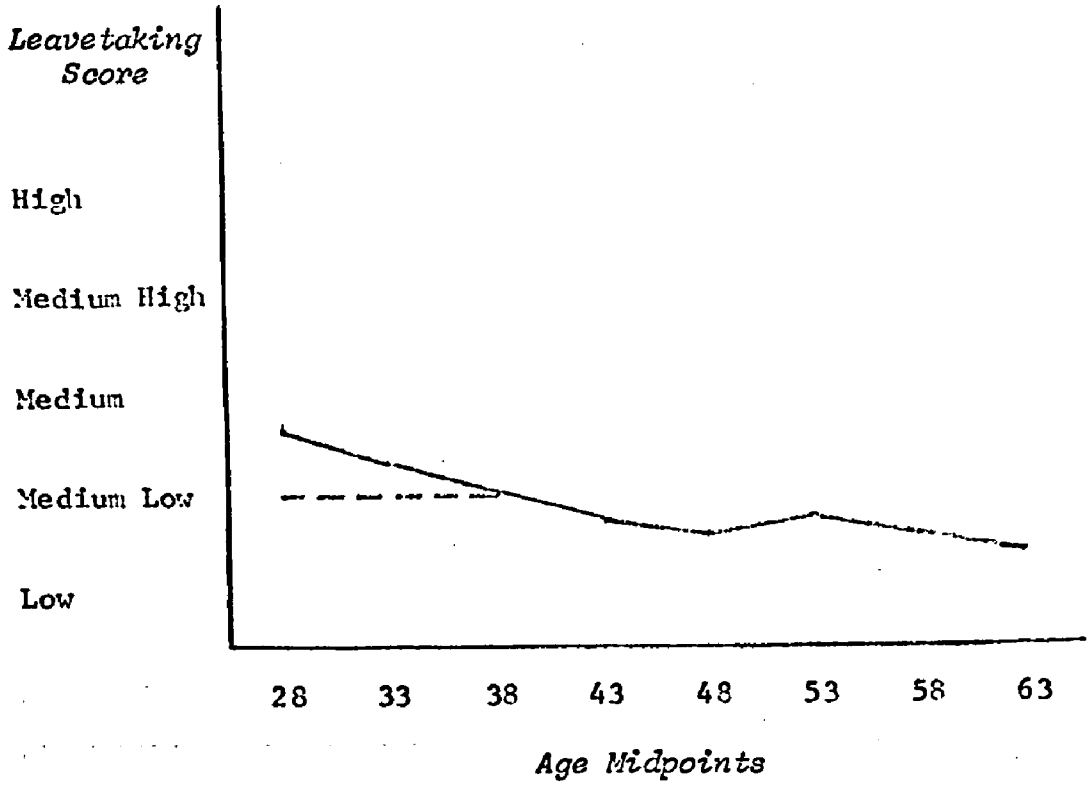


Fig. H2.--Linear trend of leavetaking with age.

Average leavetaking scores are plotted across age categories. Instead of increasing, leavetaking apparently begins at its highest level--which is not too high when using the scaling technique of the study--and then continually decreases. There appears to be a point about age fifty-three when a spurt of leavetaking occurs which increases the average leavetaking score slightly, but then the decline in leavetaking begins again and continues even more. Additionally, the line may be even flatter than it appears inasmuch as the younger faculty member's leavetaking score may appear more in the direction of high leavetaking merely as a result of a lack of duration of time in the study. Thus, the "long run" has not been permitted to operate as much for younger faculty as for older faculty, and this would increase their

leavetaking scores. The dotted line in Figure H2 suggests the possibility of this young faculty characteristic.

The second postulate about the relationship was that an association did, in fact, exist. Analysis of variance was used to test for association. A significant *F* of 65.34 was derived. The following is the Analysis of Variance Summary.

TABLE H79

ANALYSIS OF VARIANCE SUMMARY--AGE ON LEAVETAKING

Source	*SS*	*df*	*MS*	*F*
Among	407.32	7	58.19	65.34
Within	1203.09	1341	.89	
Total	1610.41	1348		$F_{.01} = 2.65$
				$\omega^2 = .25$

The strength of the association as measured by ω^2 indicated that about 25% of the variance in leavetaking was accounted for by age.

Two additional steps were taken in this initial hypothesis concerning the association between age and leavetaking. The difference between all eight means using *t*-tests for uncorrelated large sample means was investigated at a significance level of .05. Some differences would always be found to be significant. In this case, however, twenty of the twenty-eight possible differences were found to be above the critical ratio. The analysis of the *t*'s disclosed that the association gets weaker with increasing age, disappearing in the mid-forties with one exception near age fifty-three. It was at this age that a spurt in leavetaking occurred. Finally, difference between variances was tested, and of the twenty-eight *F* ratios which resulted, eight of

them proved to be significant at the .05 level. Two of these were exceedingly close and none of them were excessive. It appeared reasonable to assume that the variances were equal, an important assumption of the analysis of variance *F* test.

Investigation of the reversed relationship of leavetaking on age, which may be difficult to conceptualize, was done through additional analysis of variance tests. The following table gives the five age means for each leavetaking category.

TABLE HSO

MEAN AGE OF EACH LEAVETAKING CATEGORY

Leavetaking Category	*Mean Age*
High	44.0
Medium High	39.5
Medium	44.4
Medium Low	42.5
Low	47.6

An *F* developed out of the statistical test of 65.43 which was significant at the .01 level. A strength of association was carried out and an ω^2 (.16) derived. Of the ten differences between means, 90% of them were found to be significant at the .05 level.

The analysis of the findings with respect to *Research Hypothesis 1* can be concluded in a short summary. There is an association between a faculty member's age and his leavetaking characteristic, but it is not very strong, Knowledge of a faculty member's age, for example, only increases knowledge about his leavetaking characteristic by 25%. Additionally, knowledge of a faculty member's leavetaking characteristic only increases knowledge about his age about 16%. Finally, the most important finding is that leavetaking is much the same across

all age categories and is generally declining.

TABLE H81

ANALYSIS OF VARIANCE SUMMARY--LEAVETAKING ON AGE

Source	*SS*	*df*	*MS*	*F*
Among	25374	4	6343.50	65.43
Within	130306	1344	96.95	
	155680	1348		$F_{.01} = 3.33$
				$\omega^2 = .16$

Research Hypothesis 2

> Leavetaking increases as seniority increases up to a certain seniority level, after which level leavetaking continually declines.

The relationship between these two variables which *Research Hypothesis 2* is meant to suggest can be seen in Figure H3.

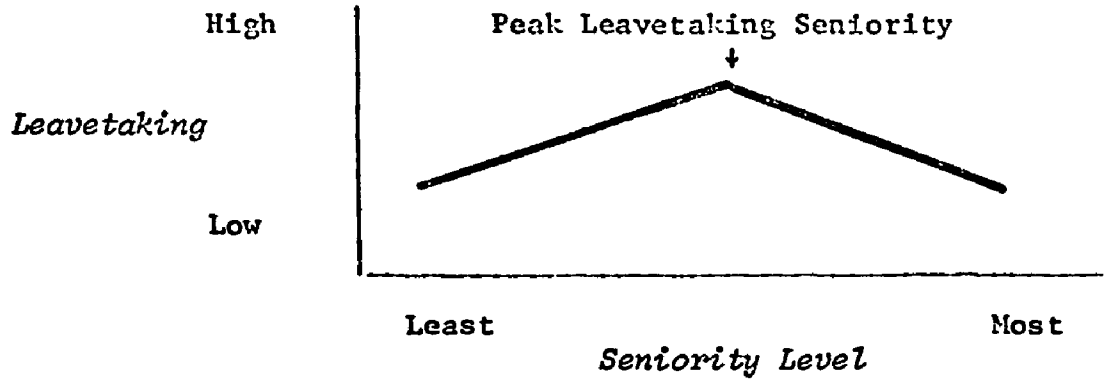


Fig. H2.--Graph of Research Hypothesis 2.

Contingency Table H82 on the following page displays the percentages and other parameters arising out of the crossing of the leavetaking and seniority variables.

The analysis should note that *Research Hypothesis 1* and *Research Hypothesis 2* do not differ in intent. The intuitions which led to the hypothesis concerning age led also to the hypothesis regarding the relationship between leavetaking and seniority. The primary reason for this similarity was another intuition that age and seniority were highly correlated. In order to substantiate this intuition, a Pearson product-moment correlation was run on age and seniority. In this specific case, 2144 faculty members were involved meaning that some duplication of the 1384 faculty members in the study occurred. However, age and seniority were not duplicated inasmuch as they arose out of the time of one specific leave. Each leave was taken at a different time.

TABLE H82

LEAVETAKING SCORE AND SENIORITY CATEGORY CONTINGENCY TABLE

Leavetaking Score		Seniority Categories (Years)								
		0-4	5-8	9-12	13-16	17-20	21-24	25-28	Over 29	
High	0.00-0.99	9.0	1.4	1.2	1.0	3.5	0.0	0.0	1.6	
Medium High	1.00-1.99	18.4	1.7	3.2	2.6	3.5	6.5	0.0	1.6	
Medium	2.00-2.99	29.5	13.8	11.7	14.7	10.5	8.7	11.4	7.8	
Medium Low	3.00-3.99	29.5	41.9	36.4	37.9	38.5	21.7	31.4	21.9	
Low	4.00-4.99	19.7	41.2	47.4	43.7	50.0	63.0	57.1	67.2	
Mean Leavetaking Score		2.88	3.78	3.75	3.70	3.72	3.91	3.95	4.01	$\bar{\bar{X}}$ = 3.67
Frequencies		234	413	297	190	114	46	35	64	1343

A correlation of .56 was derived. In place of a *t*-test with the null hypothesis that the correlation coefficient was actually zero, confidence limits using Fisher's *z* transformation showed there is a 95% confidence interval for an *r* between .530 and .585. It was felt that this was a high association and gave support to the initial intuition. Thus it was reasonable to believe that *Research Hypothesis 1 and 2* could be modelled after each other.

The actual findings beginning with Figure H4 show the line connecting the eight leavetaking means, one for each seniority category. At the lowest level of seniority, 0-4 years, the "long run" referred to earlier has not yet been in effect, and the percentage of leavetaking for this group is the highest of all groups. As this first seniority group passes into the next seniority group, 5-8 years using 6.5 years as the mean, there is a rather large drop to more normal levels of leavetaking. From then on leavetaking becomes less and less a percentage of a faculty member's time. The line which is generated goes from "pure" medium leavetaking at low seniority to fairly low leavetaking at maximum seniority. It appears apparent that curvilinearity, as postulated, does not exist in the data.

Analysis of variance was used to test for association. Table H83 is a summarization of that analysis including the ω^2 arising out of the test of the strength of the association shown in the text.

The association which does exist between seniority and leavetaking is not a particularly strong one as indicated by the ω^2 statistic of .14. The size of the sample in this case, and others, will have a great deal to do with small ω^2's. This indicates that about 14% of the variance in leavetaking is accounted for by seniority. Additional-

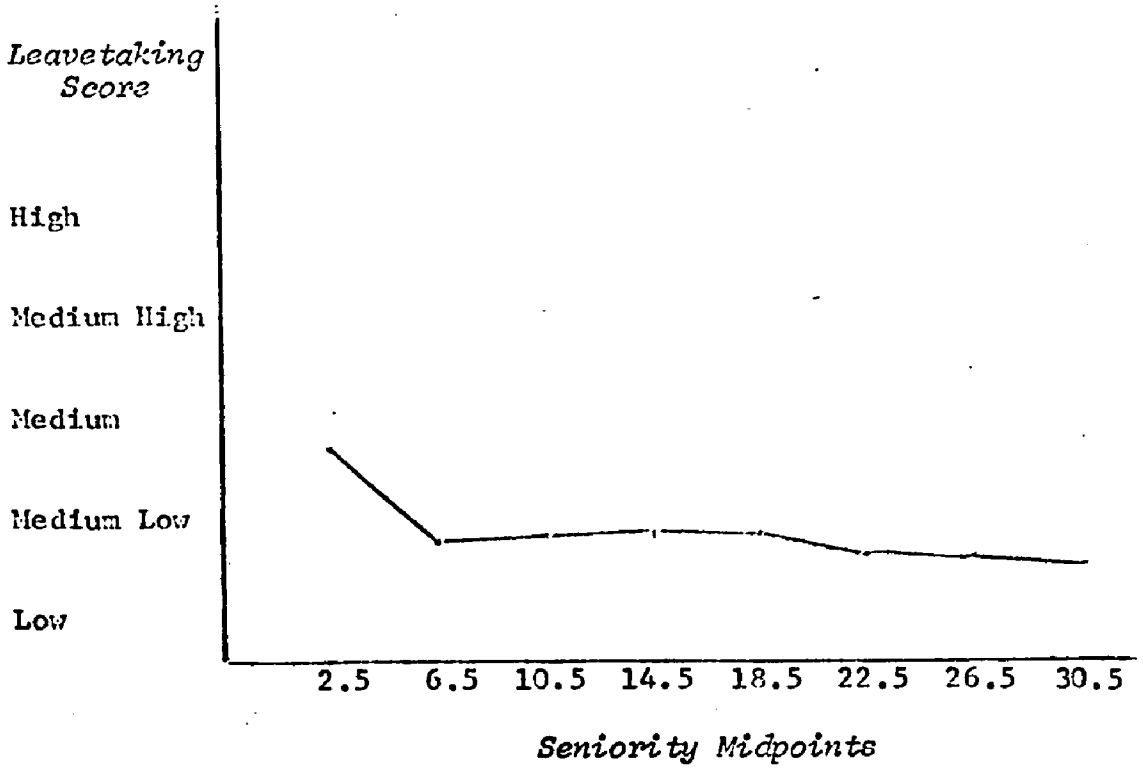


Fig. H4.--Linear trend of leavetaking with seniority.

TABLE H83

ANALYSIS OF VARIANCE SUMMARY--SENIORITY ON LEAVETAKING

Source	*SS*	*df*	*MS*	*F*
Among	196.38	7	28.650	33.78
Within	1132.85	1335	.848	
Total	1329.23	1342		$F_{.01} = 2.66$
				$\omega^2 = .14$

ly, there should be an increase in predictability in leavetaking given any seniority level. Without any specific seniority level, the prediction would best be the grand mean of 3.67 with an estimated standard deviation of .925. For the distribution shown in Table H82, the increase in overall predictability is a gain of about 8% (of the 32% possible), which is not very large. It thus seems even more apparent

that even though there is an association it is not a particularly strong one.

A *t*-test was run to test the significance of the differences between all means, and showed it was at the extremes where the significance occurred. Of the eleven significant differences of the twenty-eight possible at the .05 level (39%), six of them occurred between the mean of the lowest seniority group (0-4 years) and the next six seniority categories. Degrees of freedom in entering the distribution were generally high enough to use 1.96 as the critical ratio for all comparisons. If the .01 level of significance had been used, only the seven differences between the least seniority group and the other groups would have been significant. Realizing that the long run is not operating as well in the least seniority group, it would not be inappropriate to say that any association between leavetaking and seniority is highly skeptical because whatever significance there is develops primarily and overwhelmingly in one "treatment" group. It may be recalled that the significances in age categories also occurred at the youngest age groups, but many more differences (20 of 28) were significant. Age has much more of a statistical right to claim association with leavetaking than does seniority.

Investigation into the relationship between the seniority of leavetaking categories utilizing analysis of variance to determine association indicated that the seniority means of the five leavetaking groups were significantly different thus warranting the statement that they come from different populations. Table H84 presents the pertinent data for the test, and Table H85 summarizes the analysis of variance results. This *F* was significant at the .01 level. The amount of vari-

TABLE H84

MEAN SENIORITY OF EACH LEAVETAKING CATEGORY

Category	*Seniority Mean*
High LT	6.93
Medium High LT	7.83
Medium LT	8.46
Medium Low LT	8.33
Low LT	12.74

TABLE H85

ANALYSIS OF VARIANCE SUMMARY--LEAVETAKING ON SENIORITY

Source	*SS*	*df*	*MS*	*F*
Among	6946.88	4	1736.72	26.46
Within	87885.19	1339	65.63	
Total	94832.07	1343		$F_{.01} = 3.34$
				$\omega^2 = .07$

ance in seniority accounted for by leavetaking, however, was a meager 7% of the total.

It was appropriate to do a *t*-test of all the differences, particularly when the sample variance of the high leavetaking category appeared so much higher than the other four sample variances. This most divergent group might have accounted for all the significance. It was verified, however, that all the significance of the differences between leavetaking, insofar as their average seniority was concerned, arose out of the low leavetaking group which had the highest mean. This was by far the largest or most populated leavetaking category in the study, and thus it is appropriate to state that the seniority characteristic of leavetakers in this category only differs significantly from other leavetakers. The same information, when coupled with

the information in Table H80 concerning the mean ages of leavetakers, is further indication that leavetaking declines as a percentage of a faculty member's career as he gets older and acquires more seniority. The appropriateness of this remark, however, is subject to question because of the rather large difference in variance between each of the four leavetaking categories (other than low) with the low leavetaking group.

An *F* test of variance differences showed that 50% of the variances are significant at the .05 level, and 20% are significant at the .01 level. This indicates that the variances are not too similar, and that the *F* test should be viewed with some caution.

Research Hypothesis 3

The higher the salary level, the more likely it is that leavetaking can occur.

The relationship between leavetaking and salary level which *Research Hypothesis 3* suggests can be displayed as follows:

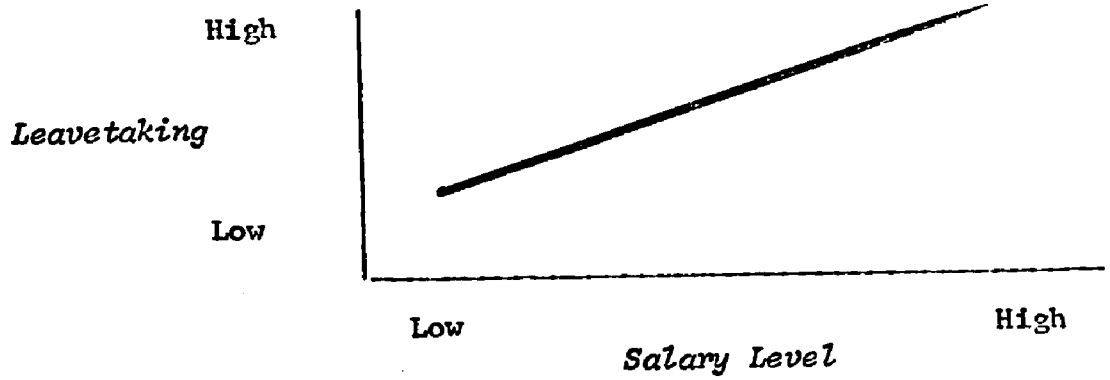


Fig. H5.--Graph of Research Hypothesis 3.

Initially the entire salary range was divided into ten $2500 salary categories, and each of these categories was considered a "treatment." Contingency Table H86 displays the figures which arose out of the ten different treatments, including the treatment means. These means were then tested for association through analysis of variance, and the *F* which resulted (9.91) was significant at the .01 level. The strength of this association was then determined by deriving ω^2. That strength was exceedingly weak (.055), indicating that 5.5% of the variance in leavetaking could be attributed to the salary level of the faculty member. Table H87 gives the summary statistics for the analysis of variance.

Figure H6 displays the levels of leavetaking for each salary level by connecting the midpoints of the salary categories. This is the line which had been postulated to be linear and rising upwards.

TABLE H86

LEAVETAKING SCORE AND SALARY LEVEL CONTINGENCY TABLE

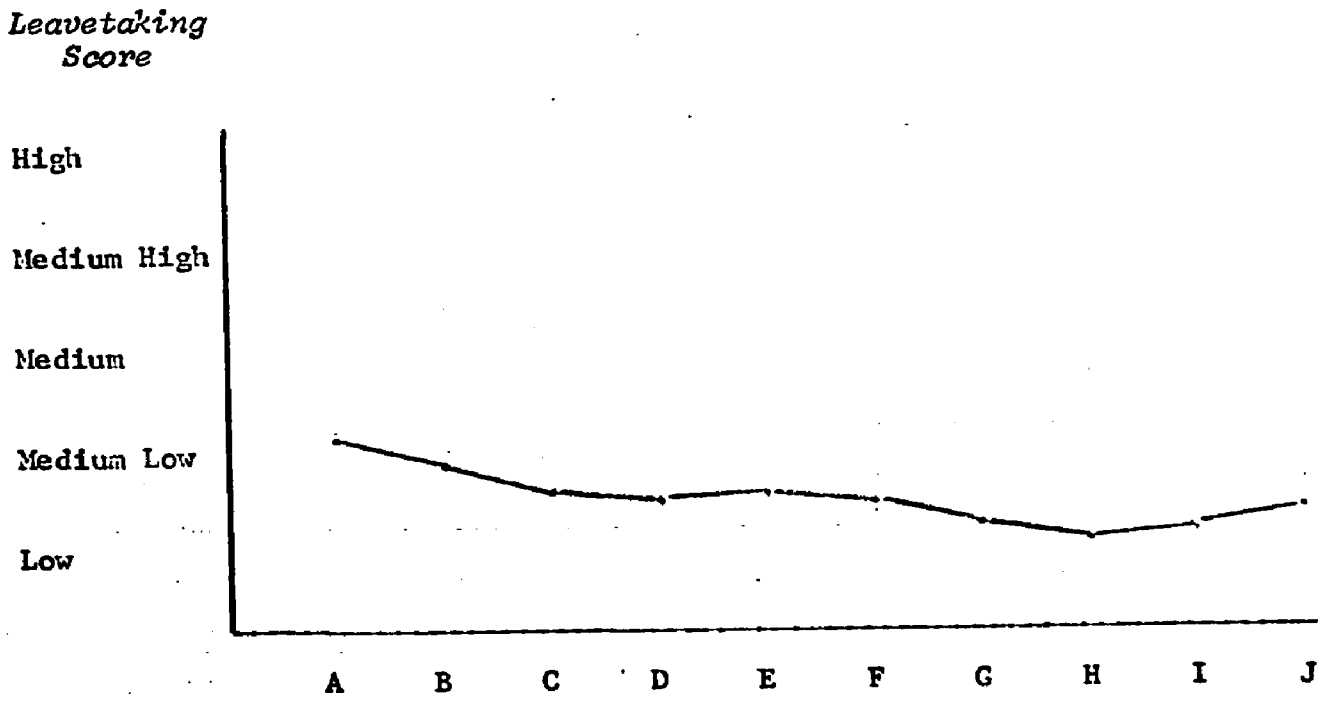
Leavetaking Score		Salary Levels in Units of $1,000[a]										
		Below 10	10-12.4	12.5-14.9	15.0-17.4	17.5-19.9	20-22.4	22.5-24.9	25.0-27.4	27.5-29.9	Over 30	
High	0.00-0.99	5.5	5.0	2.2	1.4	1.8	2.7					
Medium High	1.00-1.99	7.3	5.0	4.1	2.7	7.7	1.0	2.5	2.2			
Medium	2.00-2.99	25.1	15.4	14.1	15.6	11.7	16.2	8.9	8.9	10.3	15.4	
Medium Low	3.00-3.99	40.8	44.6	37.4	33.5	31.9	30.6	25.3	15.6	28.2	38.5	
Low	4.00-4.99	21.5	30.0	42.2	47.2	47.2	49.5	63.3	73.3	61.5	46.1	
Mean Leavetaking Scores		3.15	3.39	3.63	3.72	3.65	3.73	3.99	4.12	4.01	3.80	$\bar{X}$ = 3.71
Frequencies		191	240	270	212	163	111	79	45	39	13	1343

[a]Each category ends $1 short of the next category. Thus 12.4 is $12,499 and 12.5 is $12,500.

TABLE H37

ANALYSIS OF VARIANCE SUMMARY--SALARY ON LEAVETAKING

Source	*SS*	*df*	*MS*	*F*
Among	86.46	9	9.61	9.91
Within	1313.18	1353	.97	
Total	1399.64	1362		$F_{.01} = 2.43$
				$\omega^2 = .055$



A = $ 8750	F = $ 21250
B = 11250	G = 23750
C = 13750	H = 26250
D = 16250	I = 28750
E = 18750	J = 31250

Fig. H6.--Linear trend of leavetaking with salary.

Two viewpoints may be taken with respect to Figure H6. First, the overall trend of the line is not consistently towards high leavetaking as salary increases, but it is strongly in the other direction.

Only in the middle of the salary range, at $17,500-$20,000, leavetaking appears to increase slightly after which leavetaking decreases again until the $25,000-$27,500 category at which high salary level, an increase in leavetaking again begins to occur and continues throughout the remaining part of the salary range. The last increase is of considerable magnitude, from a mean in the low category to a mean in the medium low category. A second way of viewing the relationship of salary to leavetaking in Figure H7 is to consider that two different populations exist and refer to them as Low Salary and High Salary. The Low Salary group of treatments is shown as an upward-rising straight line or constantly decreasing leavetaking as salary increases. The High Salary group is characterized by a second line beginning with the $17,500 category and a mean of 3.65 and ending in the highest salary category with a mean of 3.80.[3] There is a suggestion of curvilinearity in this second segment. At the $27,500 level and beyond, leavetaking begins to increase. Figure H7 is intended to portray the notion of two different leavetaking families where salary is concerned. It is not intended to suggest anything beyond that speculation.

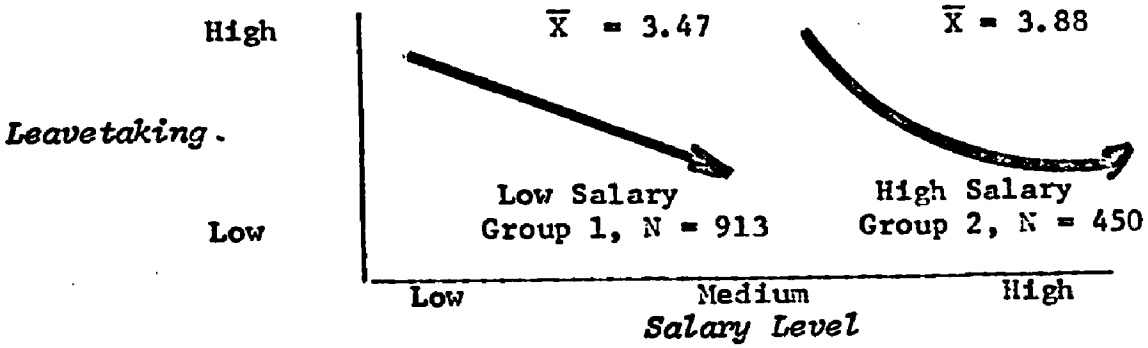


Fig. H7.--A two-group viewpoint of salary and leavetaking relationship.

[3]It will be well to reiterate here that a numerical leavetaking score closer to 5.00 means lower leavetaking than a score further away from 5.00. The lower the numerical score the greater the leavetaking.

It seems apparent that *Research Hypothesis 3* was in error, and that salary does not have anywhere near the postulated influential relationship with which the study began. Rather than leavetaking increasing consistently as salary increases (due to an imagined economic influence on the ability to take a leave), leavetaking decreases up to mid-salary range, then appears to increase slightly, at which point it again begins to decline until, at high salary levels, an increase in leavetaking reappears. The result is a jagged line or a pair of different looking lines, one straight and one curving.

Accounting for the particular nature of the line is speculative. Earlier it has been shown that the average salary of leavetakers increased rather steadily each year of the first nine years of the study. The assumption is that this would not affect the salary-leavetaking linear relationship except to move the two points where increases in leavetaking do occur to the left (as salaries increase as a function of time). Investigation into the correlations of salary with seniority, and salary with age, were made as well as into the seniority and age of faculty members falling into the $17,500-$20,000 category. The Pearson product-moment correlation between salary and seniority of 2140 leavetakers (1384 faculty) was .28. The same kind of correlation analysis revealed an r of .31 between salary and age with 2155 pairings arising out of the individual leaves of 1384 faculty members. Neither correlation was tested for zeroness. In neither case was the correlation high or high enough to suggest some sort of reason for the increase in leavetaking at $17,500.

Further investigation into the specific category revealed what appeared to be an explanation: an excessive--with respect to other

salary levels--number of individuals with a mean high leavetaking rating centered at 1.5. That specific cell contained twelve individuals when a more likely figure would have been three. Further computations indicated that if the nine theoretically excess members in the cell had had an average low 4.0 rating (between 3.5 and 4.5) rather than 1.5, the mean of that treatment would then rise above 3.75, indicating a lowering of leavetaking, and the jaggedness or split in the line would then move one category to the right, the $20,000-$25,000 category. In that column, however, an excessive count above what might be expected occurred in the medium high 2.5 leavetaking cell, and this decreased its mean more than it should. Apparently in each of these categories there is a small but excessive number of faculty with high leavetaking characteristics. It throws the means off what would be a completely linear relationship throughout, from high leavetaking to low leavetaking as salary increases. It would be impossible to state at this time whether this group is older or younger, or have more or less seniority, because of the low correlations mentioned earlier.[4]

One reason for the jaggedness or increase in leavetaking at the highest salary levels is, despite the fact that not one faculty member in these two categories has a leavetaking rating of less than 2.5, the result of a greater democracy in leavetaking at that salary level. The skewed characteristic of leavetaking at low leavetaking levels is not as pronounced in the high salary levels where faculty members are less likely to be low leavetakers if they are in that bracket. In fact, the

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[4]There is a very slight possibility that one faculty member with a high leavetaking rate would have been duplicated so many times that he would influence the mean. There are not that many faculty who took that many leaves although one faculty member took nine leaves. They were all of short duration, the equivalent of one sabbatical.

last three salary groups at the high salary level represent the intuition expressed in the original research hypothesis that the higher the salary, the greater will be the leavetaking. Only at these high levels is the hypothesis confirmed.

The analysis thus far suggests that leavetaking, rather than increasing as salary increases, decreases up to a fairly high salary level, then increases. This is suggestive of a curvilinear relationship between salary and leavetaking. The influence has been shown to be quite low, about 5.5% of leavetaking's variance.

There might be some benefit in extending the discussion of the relationship between salary levels and leavetaking to the opposite side of the coin: what influence, if any, might leavetaking exhibit statistically on salary levels? No relationship in that direction was hypothesized, but it might be appropriate to discuss that topic at this point. The investigation was accomplished through analysis of variance and ω^2 techniques. Having already discovered, by way of recapitulation, low correlations between salary and age (.31), salary and seniority (.28), and a larger correlation between age on leavetaking (.56); and additionally, a low strength of association between age on leavetaking (25%), seniority on leavetaking (14%), and salary on leavetaking (5.5%), it was quite probable that the relationship between leavetaking and its influence on salary would similarly be of low strength, if any relationship existed at all.

Table H88 displays the basic parameters of the leavetaking-salary matrix leading to the mean salaries of each leavetaking group which were needed to conduct the analysis of the variances.

A highly significant F at the .01 level arose out of the

TABLE H88

MEAN SALARY OF EACH LEAVETAKING CATEGORY

Leavetaking Group	Frequency	Percentage	Mean Salary
High	37	2.7	$12,844.59
Medium High	58	4.2	14,008.62
Medium	208	15.4	14,757.14
Medium Low	486	35.7	15,006.17
Low	572	42.0	17,403.34
TOTAL	1363	100.0	$\bar{\bar{X}}$ = $14,804.07

analysis of variance. Of the total sum of squares, however, approximately 70% of the deviations are accountable within the groups, and the other 30% balance of the variance arose because of differences between the five leavetaking groups. These differences can be seen by examining the Mean Salary column of Table H88. Mean salaries exhibit an increase in each successive leavetaking group from high to low leavetaking. It would be purely speculative to account for this without additional investigation. Table H89 presents the analysis of variance summary.

TABLE H89

ANALYSIS OF VARIANCE SUMMARY--LEAVETAKING ON SALARY[a]

Source	*SS*	*df*	*MS*	*F*
Among	4065	4	1016	143.56
Within	9620	1359	7	
Total	13685	1363		$F_{.01}$ = 3.33
				ω^2 = .29

[a]The numbers are rounded off in the SS and MS columns.

The strength of the association between leavetaking as it is reflected on salary is reflected in the ω^2 statistic of .29. This indicates, of course, that about 29% of the variance of salary is accounted for by leavetaking. This must be interpreted quite carefully inasmuch as it suggests that leavetaking influences salary levels. This is not so. The analysis indicates that people who take the most leaves also most probably have lower salaries, but what caused the appearance of that phenomenon would require additional investigation. The influence cannot be judged thoroughly inasmuch as the other variables influencing salary level have not been brought into the picture.

Research Hypothesis 4

The greater the family dependency, the less likely that leavetaking will occur.

The research hypothesis, based on the rationale that greater family responsibilities would decrease opportunities or ability to take leave, is displayed in Figure H8.

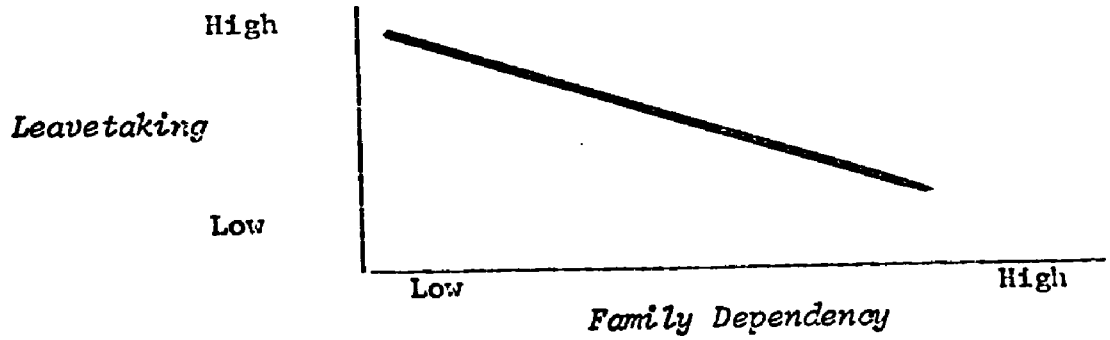


Fig. H8.--Graph of Research Hypothesis 4.

The dependency characteristic of each faculty member in the study[5] was based upon a point system. To the zero point--single, no children--was added a dependency-point for a spouse, and differing points for each of four age groups of children.[6] The dependency point range, as it turned out, was from zero to twenty-one. This range was then broken down into four categories, the percentages, totals, and means of which are displayed in Contingency Table H90.

The investigation of the actual relationship can begin with a graphic portrayal of the means of each of four dependency-point

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[5]Of the 1384 faculty in the study, only 1350 were capable of being dependency-rated because of the unavailability of data.

[6](0-5) = 1, (6-10) = 2, (11-15) = 3, (16-21) = 4 were the weights of the age groups. Ex.: Two children falling into the 11-15 age group would develop into a rating of 7 dependency points. The difference in the weights was based on the additional cost attributed to raising older children. This has been empirically verified.

TABLE H9O

LEAVETAKING SCORE AND FAMILY DEPENDENCY (DLF) CONTINGENCY TABLE

Leavetaking Score		Dependency Categories				
		Low	Medium	High	Very High	
High	0.00-0.99	3.5	1.8	1.8	5.9	
Medium High	1.00-1.99	4.9	4.0	2.4	2.9	
Medium	2.00-2.99	17.1	14.8	12.5	5.9	
Medium Low	3.00-3.99	36.8	35.1	33.	23.6	
Low	4.00-4.99	37.4	44.3	49.4	61.8	
Mean Leavetaking Score		3.49	3.66	3.76	3.82	$\bar{\bar{X}}$ = 3.68
Frequencies		649	499	168	34	1350

categories labelled Low (0-4), Medium (5-9), High (10-14), and Very High (15-21). The graph is in Figure H9(a) on the following page.

Figure H9(a) shows the actual linear relationship between leavetaking and dependency by connecting the means of each of the four categories for Low to Very High, and it is apparent from the negative slope that the research hypothesis was essentially correct: as family dependency increases, leavetaking decreases. The fact that the steady decline in leavetaking from a mean of 3.49 to 3.82[7] exists in such a short range (.33) indicates that the slope of the line--amount of decline in leavetaking with each unit decline in dependency--will be fairly small.[8] The total amount of change is easily seen, but the unit amount of change is almost imperceptible. The difficulty in character-

[7]Reminder: The lower the number, the greater the leavetaking.

[8]As a matter of fact one can estimate the slope by dividing the difference between the first and last means (.33) by twenty-one to get the average drop in leavetaking per unit change in dependency point. This results in not quite an average of .02 of the leavetaking scale, a rather small amount.

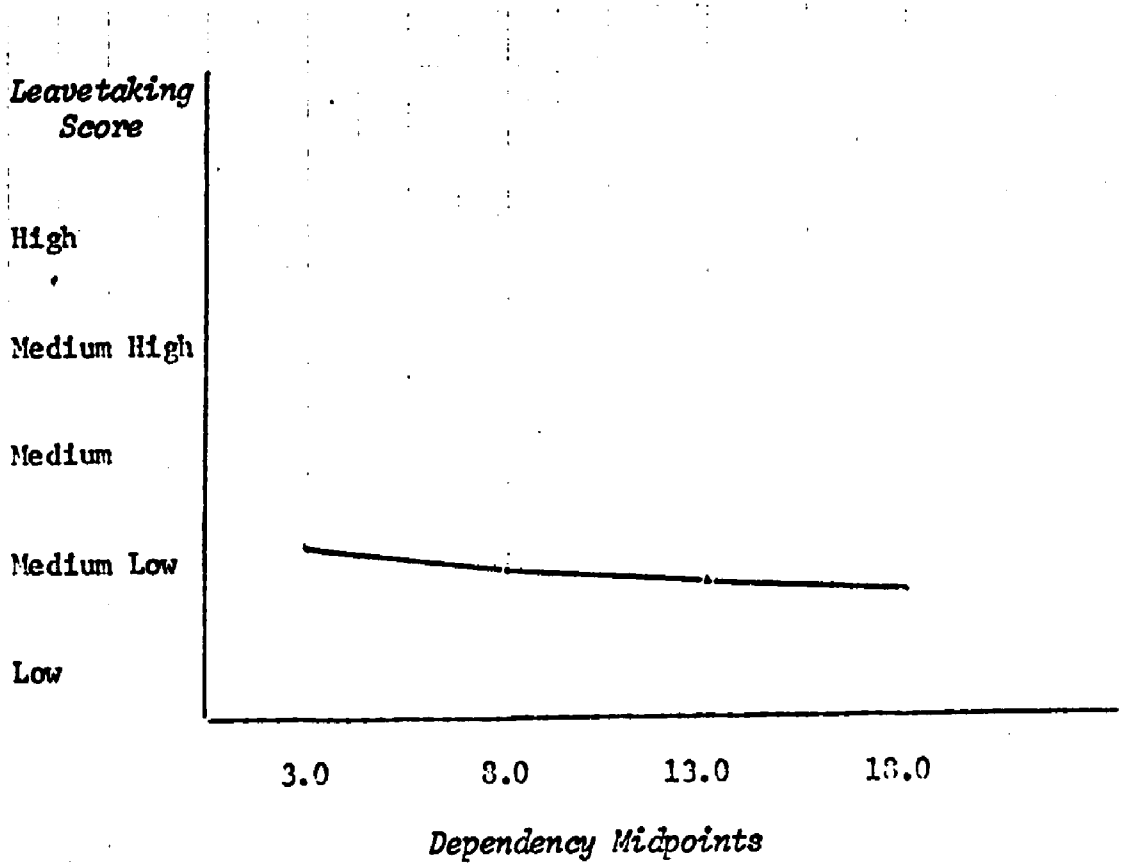


Fig. 119(a).--Linear trend of leavetaking with dependency--four categories.

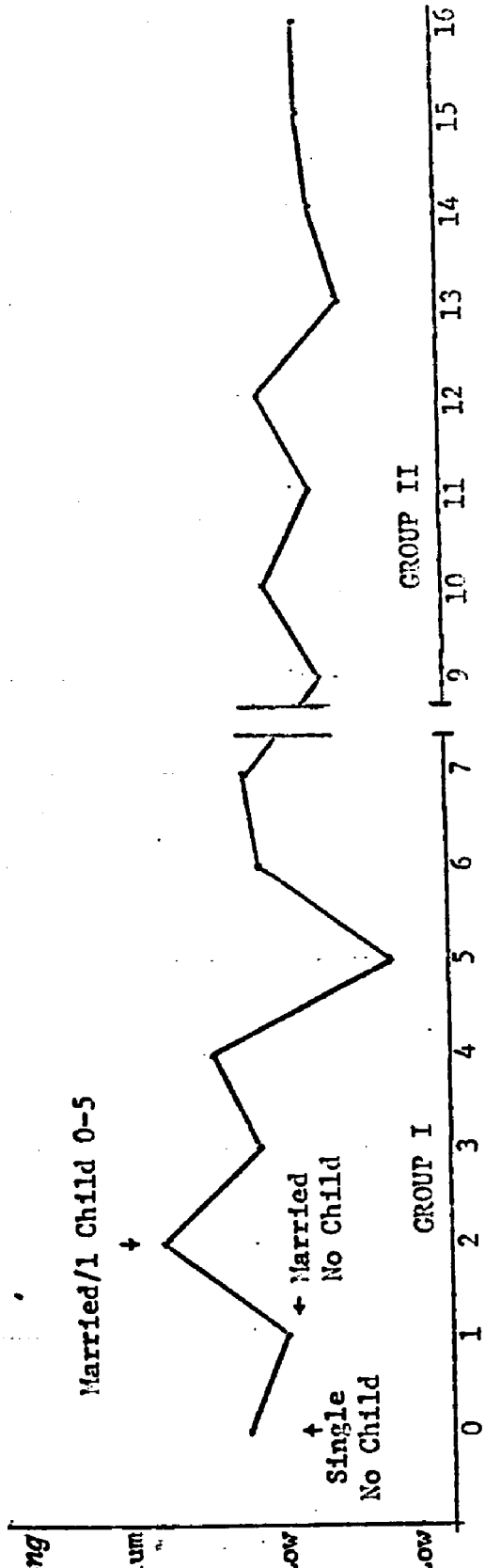


Fig. 119(b).—Linear trend of leavetaking with dependency—seventeen categories.

izing this change in leavetaking per unit change in dependency is, under the circumstances, that leavetaking does exist within such a small range. Because of this, it is quite possible that there would be no association between the two variables; that each category of dependency comes from the same population.

Prior to the investigation of the possibility of lack of association, additional investigation into the categorical relationships was conducted. The individualized means were determined first for each of the seventeen-point dependency categories beginning with the zero point of the single faculty member. Figure H9(b) displays the linear relationship which exists between categories when closer inspection is made of the data.

From the standpoint of Figure H9(b) the entire population can also be visualized as being in two groups: GROUP I and GROUP II. The first six categories where dependency is small (from zero to five dependency points) indicate that leavetaking does have some rather large variations. The frequencies in each of these first six categories range from a high of 272 to a low of 76, indicating sufficient sample size. It is interesting that the highest leavetaking level (N = 76) is reached quite substantially by the married-with-one-child-less-than-six category. The lowest leavetaking level, 4.21, is reached in category six which represents several kinds of combinations of family dependency.[9] Thus, in the low dependency categories there is wide fluctuation

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[9]Examples: Two children in the 6-10 age group = 4 plus spouse = 5. This is the most probable family pattern for category six inasmuch as it would require 4 children less than six, or, another likelihood, one 6-10 child and two 0-5 children. A 16-21 child is a good possibility. A correlation of the dependencies in that category with ages would be a further study possibility.

in leavetaking characteristic. In GROUP II, dependency categories 7 to 16 plus, the range of leavetaking is from 3.50 (higher) to 4.00 (lower). Thus, at high dependency levels there is very little difference in leavetaking.

In this case, χ^2 was used to test for association. The results were significant at the .05 level, but the null hypothesis was not confirmed at the .02 level. This somewhat verified the assertion that an association might not be too dependable between leavetaking and dependency. [Group II of Figure H9(b) exemplifies this.] The strength of the association was determined by deriving a Pearson C^2, the contingency coefficient, which indicated that about 13% of the variance in leavetaking could be attributed to dependency.[10] ($C^2 = .1325$, $\chi^2 = 24.0375$.)

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[10]The χ^2 developed from the 21 categories of dependency (84 df) was 112.86, and was significant at the .0196 level despite the fact that the expected frequency assumption might have been violated. The strength of association in the 21-category model was .2779, double that of the 4-category model.

Research Hypothesis 5

The lower the academic rank, the more likely that leavetaking will occur.

The relationship envisioned by the research hypothesis is portrayed in Figure H10.

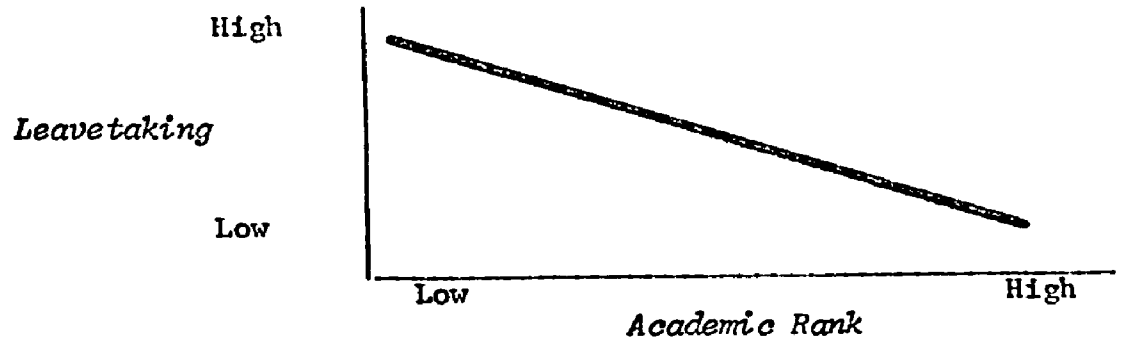


Fig. H10.--Graph of Research Hypothesis 5.

Academic rank is the first faculty-oriented variable which is being related to leavetaking and which is less than ratio in scale. Rank, however, does have the quality of being greater than, and thus can be accorded the status of an ordinal variable.

Contingency Table H91 indicates what total frequencies, cell percentages, and leavetaking means arose out of the cross of the two variables under consideration.

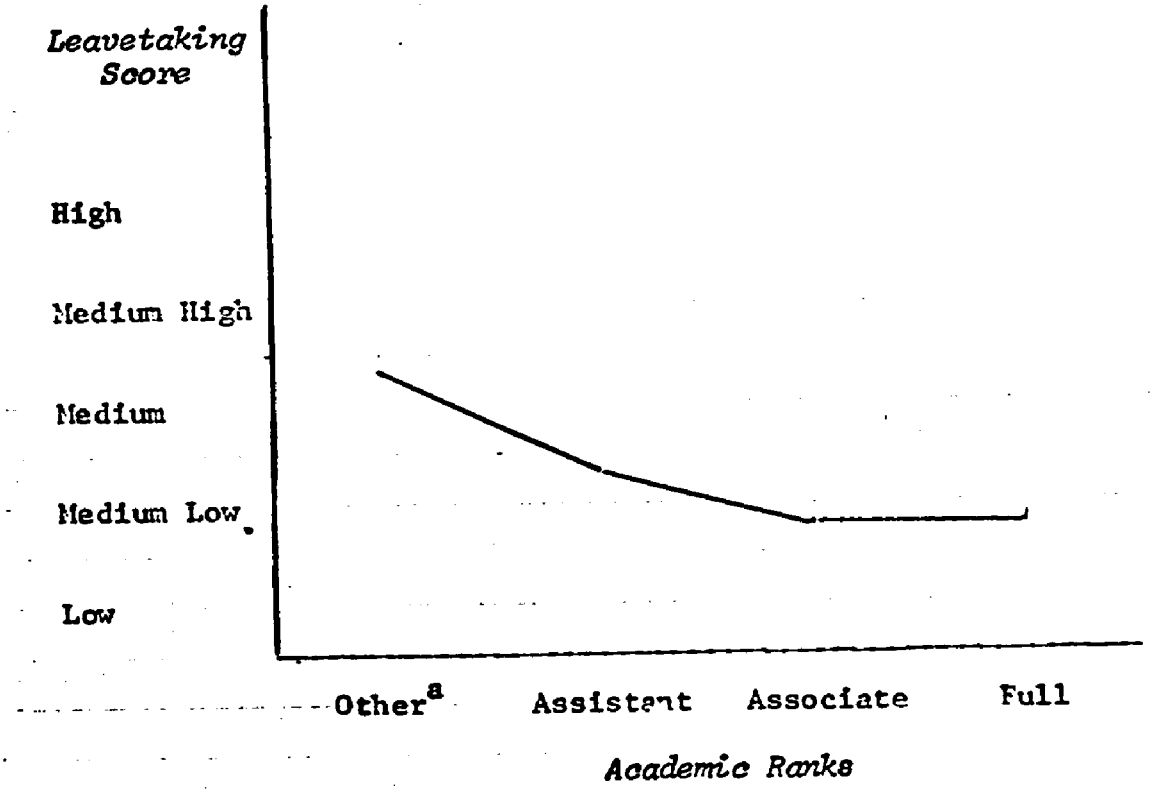
Figure H11 is the linear relationship between leavetaking and academic rank which developed when the mean leavetaking score for each academic rank was determined.

The linear relationship exhibited in Figure H11 is verification of the research hypothesis: the lower the academic rank, the more likely it is that leavetaking will occur. This is substantiated even further by figures which are not shown; in going from the lowest rank to the highest rank in any of the five leavetaking categories, there is

TABLE H91

LEAVETAKING SCORE AND ACADEMIC RANK CONTINGENCY TABLE

Leavetaking Score		Academic Ranks				
		Other	Assis-tant	Associ-ate	Full	
High	0.00-0.99	13.3	4.4	2.3	1.8	
Medium High	1.00-1.99	13.3	9.3	2.3	3.5	
Medium	2.00-2.99	28.9	24.6	11.6	14.5	
Medium Low	3.00-3.99	20.0	41.5	39.8	32.5	
Low	4.00-4.99	24.4	20.2	44.0	47.6	
Frequencies		45	183	425	704	1357
(%)		(3.3)	(13.5)	(31.3)	(51.9)	
Avg. Leavetaking Score		2.19	3.19	3.70	3.70	$\bar{X} = 3.60$



[a]*Other* refers to permanent faculty not holding any of the other three professorial ranks but not including teaching assistants, research assistants, visiting professors, etc.

Fig. H11.--Linear trend of leavetaking with academic rank.

always an increase in percentage of the row total in the next higher rank.

An *F* test was run along with *t* tests between means to see if the differences between the means associated with each rank, particularly adjacent ranks, were significant. An *F* of 26.69 was derived indicating that influential association existed between leavetaking and academic rank. An ω^2 of .053, however, indicated that this association was relatively weak inasmuch as only 5.3% of the variance in leavetaking is accountable to academic rank. Table H92 summarizes this statistical information.

TABLE H92

ANALYSIS OF VARIANCE SUMMARY--ACADEMIC RANK ON LEAVETAKING

Source	*SS*	*df*	*MS*	*F*
Among	70.48	3	23.49	26.69
Within	1201.23	1353	.88	
Total	1271.71	1356		$F_{.01} = 3.80$
				$\omega^2 = .053$

Separate *t* tests were run to determine which differences between which leavetaking means were significant. The fact that no difference in means existed between associate and full professor made the statistical test between these two "treatments" meaningless, but the tests could be run between the two lower academic ranks and the two higher ranks.

Of the five differences tested all of them were significant at the .01 level. The differences were more highly significant between the catchall category termed *Other* and the remaining three ranks

(t = 45.50, 45.44, and 19.32 respectively). The differences between assistant professor and the two higher faculty ranks, although quite significant (t = 6.58 and 7.21 respectively), were not nearly as great.

Additionally, by using the obtained standard error for all leavetaking categories, the four percent difference between the sums of only the last two leavetaking groups of associate and full professors was tested for significance.[11] A t of .71 confirmed the null hypothesis that the difference between the sum of percentages in the two groups was not significant.

The investigation might originally have been concerned with the effect of leavetaking on academic rank; that is, do high leavetakers have a propensity to be of a higher or lower academic rank more than ordinarily. Out of this investigation of the influence of leavetaking on rank--which might be saying something about the promotion policy of the institution under study--a χ^2 (104.83, df = 12) was derived that was highly significant, far above the .01 level. The contingency coefficient (C = .2678) representing the amount of strength in the association indicated that only about 7% (C^2) of the variance in rank was accountable to leavetaking. Obviously the relationship between the two variables is a rather weak one.

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[11]Associate Professor = 83.8%, Full Professor = 80.1%.

Research Hypothesis 6

Faculty members in the natural sciences are characterized by greater leavetaking than faculty members in the social sciences and humanities.

Figure H12 depicts the research hypothesis graphically.

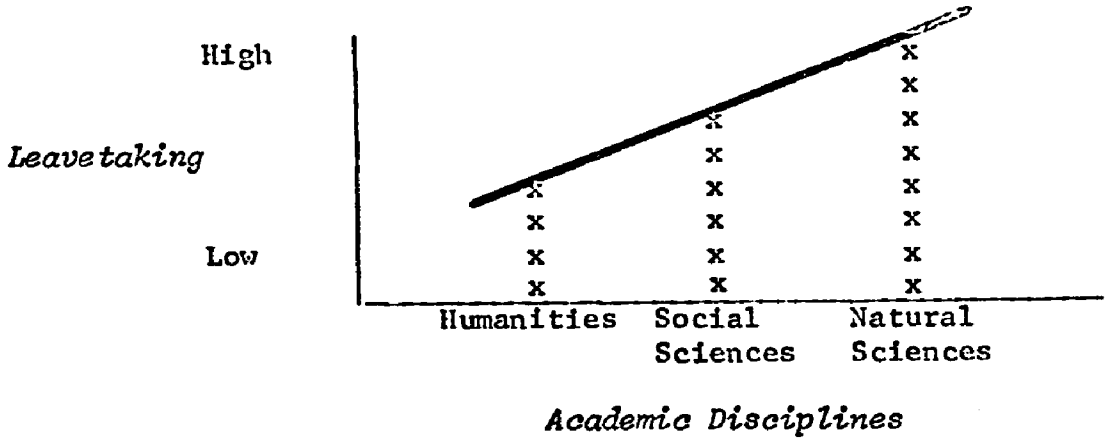


Fig. H12.--Graph of Research Hypothesis 6.

The research hypothesis is stating a belief that natural scientists are greater leavetakers than the faculty in other disciplines. It was also meant to suggest that the difference was significantly greater, and that this was true whether the measurement was taken by the number of leaves taken (where a measurement of leavetaking is not involved) as determined in the general findings, or if length of leave was also considered. The analysis will initially touch upon the latter of the two considerations. Secondly, it will consider the hypothesis with respect to number of leaves only.[12]

Contingency Table H94 portrays the percentages, frequencies, and mean leavetaking scores for each discipline (including professional which was not involved in the hypothesis).

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[12]Table H93 following is a summary of prior tables pertaining to comparisons between three of four academic disciplines. Information contained therein may be referred to in the ensuing analysis.

TABLE H93

SUMMARY OF LEAVETAKING COMPARISONS BETWEEN ACADEMIC DISCIPLINES IN GENERAL FINDINGS

Table #	*Title*: Academic Discipline and:	Pertains to[a]	
		2150 Leaves	1384 Faculty
2	Type of Leave (% of Each Type by Each Discipline)	A	--
3	Type of Leave (% of All Types by Each Discipline)	A	--
4	Type of Leave--Literary College Only (% of Each Type by Each Discipline)	B	--
5	Leave Parity--Literary College Only	B	--
6	Summary of Negative and Positive Leave Parities--Literary College Only	B	--
7	Percent of Number of Leaves Taken per Faculty Member--1384 Faculty	--	A
8	Percent of Number of Leaves Taken--Literary College Only	--	B
16	Type of Sabbatical (% of Each Type by Each Discipline)	A	--
17	Type of Sabbatical (% of All Types by Each Discipline)	A	--
18	Type of Sabbatical--Literary College Only (% of Each Type by Each Discipline)	B	--
19	Number of Sabbaticals per Faculty Member (1384)	--	A
25	Type of Temporary Transfers (% of Each Type by Each Discipline)	A	--
26	Type of Temporary Transfers (% of All Types by Each Discipline)	A	--
27	Type of Temporary Transfer--Literary College Only (% of Each Type Taken by Each Discipline)	--	A
33	Leave Periods	A	--
42	Non-Semester Based Leaves	A	--
45	Preferred Length of Leave (1384 Faculty)	--	A
48	Number of Non-Sabbatical Leaves (1384 Faculty)	--	A
49	Number of Non-Sabbatical Leaves--Literary College Only	--	B
52	Their Non-Sabbatical/Sabbatical Characteristic (1384 Faculty)	--	A

[a]A = Entire University, B = Literary College Only.

TABLE H94

LEAVETAKING SCORE AND ACADEMIC DISCIPLINE CONTINGENCY TABLE

Leavetaking Score		Academic Disciplines				
		Human.	Soc. Sci.	Nat. Sci.	Prof.	
High	0.00-0.99	2.1	3.9	4.2	2.0	
Medium High	1.00-1.99	4.6	9.1	4.2	2.6	
Medium	2.00-2.99	21.5	26.1	18.1	9.3	
Medium Low	3.00-3.99	40.5	41.3	37.8	31.5	
Low	4.00-4.99	31.3	19.6	35.7	54.53	
Frequencies		195	230	238	695	1358
(%)		(14.4)	(16.9)	(17.5)	(51.8)	=
Avg. Leavetaking Score		3.44	3.13	3.46	3.84	$\bar{X}$ = 3.59

Figure H13 is a graphic display of the mean leavetaking scores of each of the four disciplines.

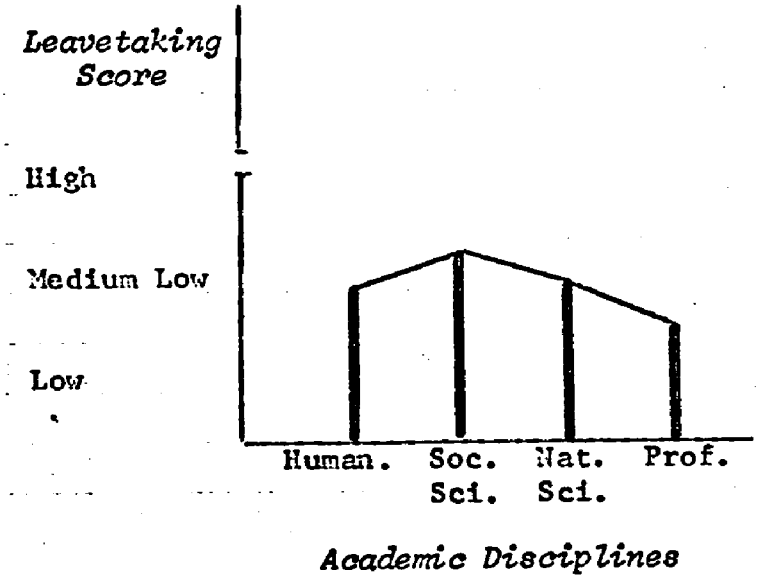


Fig. H13.--Mean Leavetaking for each academic discipline.

Using analysis of variance an *F* of 35.26 was derived from the data in Contingency Table H94. This association, however, was fairly

weak: ω^2 was equal to .07 signifying that about 7% of the variance in leavetaking might be attributed to academic discipline. Statistics for the analysis of variance are in Table H95.

TABLE H95

ANALYSIS OF VARIANCE SUMMARY--ACADEMIC DISCIPLINE ON LEAVETAKING

Source	*SS*	*df*	*MS*	*F*
Among	100.52	3	33.50	35.26
Within	1293.50	1355	.95	
	1394.01	1358		$F_{.01} = 3.79$
				$\omega^2 = .07$

A *t* test was run to determine which, if any, disciplines were significantly different from the other disciplines with respect to the above information. Table H96 indicates the results.

TABLE H96

t TEST FOR DIFFERENCES BETWEEN LEAVETAKING MEANS OF EACH ACADEMIC DISCIPLINE[a]

	Human.	*Soc. Sci.*[b]	*Nat. Sci.*	*Prof.*[c]
Human.	--	3.21**	.21	5.16**
Soc. Sci.		--	3.48**	9.41**
Nat. Sci.			--	5.04**
Prof.				--

[a]Two asterisks (**) mean significant at .01 level (2.58).

[b]Social Sciences was higher in leavetaking than Humanities and Natural Sciences.

[c]Professional was lower in leavetaking than all other disciplines.

Only one difference, that between the humanities and the natural sciences, was not significant at the .01 level. In all other cases each discipline is significantly different from other disciplines at quite a high level of probability.

These findings were not in accord with the research hypothesis. Leaving aside the leavetaking characteristic of the professional group, the natural sciences are characterized by less leavetaking than the social sciences which difference is due to more than chance alone; additionally, the natural sciences and the humanities are fairly similar in their leavetaking characteristic. Additionally, the difference between the humanities and social sciences is significant far above the .01 probability level.

The professional faculty of this university has the lowest leavetaking rating of all four disciplines. The above findings apply when leavetaking is considered as a percentage of contractual time.

There were seven tables[13] in the previous chapter which dealt with the leave characteristic of disciplines (1384 faculty members) insofar as the number of leaves taken was concerned. It was shown then, through a concept called *leave parity*, that the natural scientists took more leaves than social scientists, and social scientists took more leaves than the humanities faculty. Thus, the research hypothesis was confirmed exactly as stated assuming that the differences between the groups were significant. This numerical data points up the fact that the humanities faculty also take longer leaves when they do leave. This is verified in Table 45 (Column 2) which indicates that the humanities faculty took 21.9% of their leaves lasting over 1½ years exceed-

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[13]Tables 7, 8, 19, 48, 49, 52, 53.

ing both the natural scientists (18.3%) and social scientists (16.9%). Additionally, the humanities faculty took a larger percent of one-year leaves than either the natural scientists or social scientists.

If number of leaves is the only factor, then the research hypothesis that natural scientists exceed social scientists and social scientists exceed humanities faculty in leavetaking was confirmed. The relationship, however, between leavetaking and academic discipline is weak.

Research Hypothesis 7

The greater the amount of leave-taking, the higher the rate of promotion.

The research hypothesis is displayed in Figure H14.

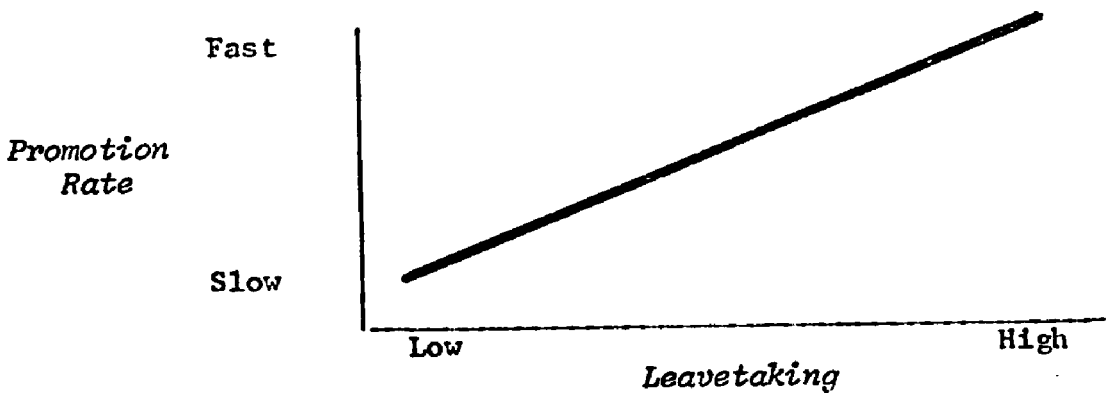


Fig. H14.--Graph of Research Hypothesis 7.

Contingency Table H97 details the statistics (percentages, total frequencies, and promotion rate means) for leavetaking categories which arose in the testing of *Research Hypothesis 7*.

TABLE H97

RATE OF PROMOTION AND LEAVETAKING SCORE CONTINGENCY TABLE

Promotion Rate	Midpoint	Leavetaking Categories					Totals	
		Low	Med. Low	Med.	Med. High	High		
Very Fast	2.0	6.1	8.5	7.8	12.2	23.3	7.9	(90)
Fast	3.5	22.7	27.8	30.1	24.4	13.3	25.5	(289)
Above Avg.	4.5	24.5	25.9	30.7	31.4	23.7	26.2	(298)
Below Avg.	5.5	18.9	15.6	16.8	17.0	13.3	17.2	(195)
Slow	7.0	19.1	17.1	10.2	7.0	20.0	16.3	(185)
Very Slow	10.0	9.6	4.7	4.2	6.9	6.7	6.8	(77)
Frequency (%)		30 (2.6)	41 (3.6)	166 (14.6)	421 (36.8)	476 (41.9)		(1134)
Average Promotion Rate (in years)		5.29	4.86	4.53	4.57	4.78	$\bar{X}$ = 5.00	

The development of an appropriate scale to measure promotion rate of faculty members had some complicated issues, the resolution of which requires explanation. All faculty members in the study had the yearly dates when they achieved each specific academic rank recorded. Those faculty members who had held at least two academic ranks would then be able to acquire an average time in years between each rank. A faculty member who had held all four ranks would develop a promotion rate resulting from the division by three of the length of time in years from the rank called *Other* to the rank known as *Full Professor*. Special rules had to be determined in two instances: a faculty member might, in 1970, be holding an open-end rank, that is, less than full professor. If an average promotion rate already existed because he or she had held two previous ranks, then the existing average was changed only if it were increased by the length of time since the last rank had been achieved. No average was ever decreased in an open-end situation. If the number of years since the time the last rank had been achieved was less than the average, and promotion was still possible, no change was made in the existing average. Faculty members who (1) had hired in as full professors, or (2) had not established an average regardless at what rank they were hired were not included in the research hypothesis. Of the 1384 faculty members in the study, 1134 were able to establish a promotion rate as well as a leavetaking rate. The promotion rate was then grouped into the six categories shown in Contingency Table H97. The faster the rate of promotion, it should be read, the lower the numerical score. Thus, 2.33 years in rank is faster than 3.67 years in rank.

Figure H15 shows the linear progress of promotion category

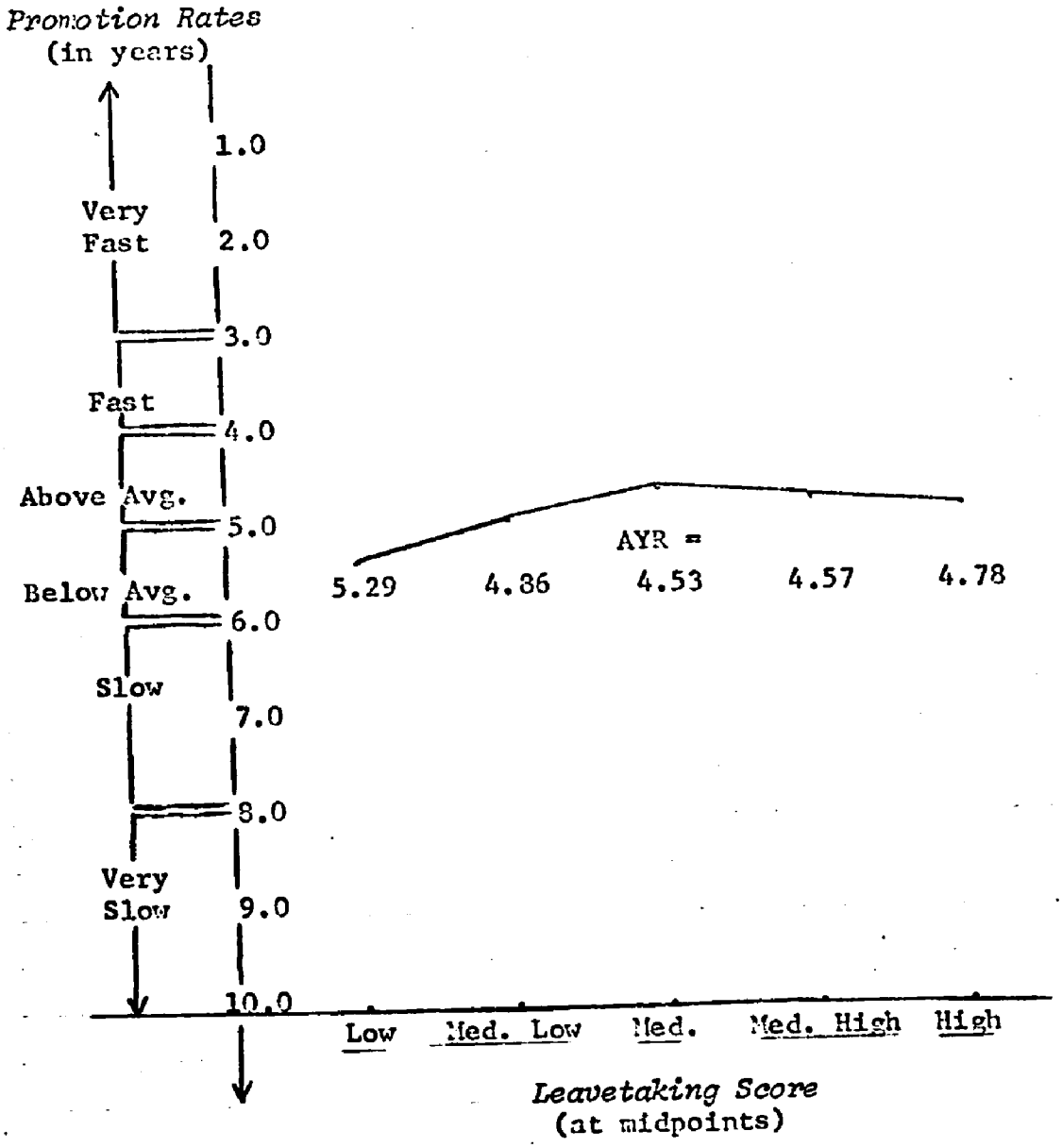


Fig. H15.--Linear trend of promotion with leavetaking.

averages from low leavetaking to high leavetaking. The categories were named and those who fell into them determined after the statistics showed the promotion characteristics.

The research hypothesis had stated (see Figure H14) that there would be a linear relationship between the two variables and it would be upward rising: low leavetaking and low or slow promotion rate, high leavetaking and high or fast promotion rate. The results of the inves-

tigation of the research hypothesis began to substantiate the postulated relationship up through the first three leavetaking categories: Low, Medium Low, and Medium. At that point in the relationship, however, promotion rates of faculty members who were the highest leavetakers during the ten years under study began to decline toward low average years in rank. The essence of the entire relationship, not supportive of the research hypothesis, is that faculty members who are in the medium leavetaking group have the fastest promotional rate. From this there might be justification in saying that if a faculty member does not leave over a period of time, he or she will "suffer" from the constant presence just as much as someone who leaves excessively and who is not around to make his or her presence felt in the peer group structure. Being around too much may be indicative of not being asked out by other institutions, of not being popular or mobile enough. Some of the issues that need to be resolved here are related to academic discipline, productivity, and departmental features. Hopefully, those issues could be further developed by the usual request for additional research.

Analysis of variance was run on the data and an F of 5.91 arose indicating that leavetaking and promotion were associated ($F_{.01} = 3.34$). Table H98 gives the summary statistics. They indicate that the promotion rate means have somewhat of a probability of coming from different populations.

The strength of the association as indicated by ω^2, however, showed that only about 2% of the total variance in promotion rate was accounted for by leavetaking. Thus, only about 2% of the total variance as shown in Table H98 exists among the five leavetaking groups as

TABLE H98

ANALYSIS OF VARIANCE SUMMARY--LEAVETAKING ON PROMOTION RATE

Source	*SS*	*df*	*MS*	*F*
Among	89.22	4	22.31	5.91
Within	4259.18	1129	3.77	
Total	4348.40	1133		$F_{.01} = 3.34$
				$\omega^2 = .02$

opposed to 98% within each of the groups themselves. This is strong evidence that the leavetaking groups are not different from each other with respect to promotion rate.

Research Hypothesis 8

Faculty members characterized as low leavetakers are less likely to be retained than high leavetakers.

A graphic model of *Research Hypothesis 8* is shown in Figure H16. In this case, as with the previous hypothesis, leavetaking was considered to be the independent or predictor variable.

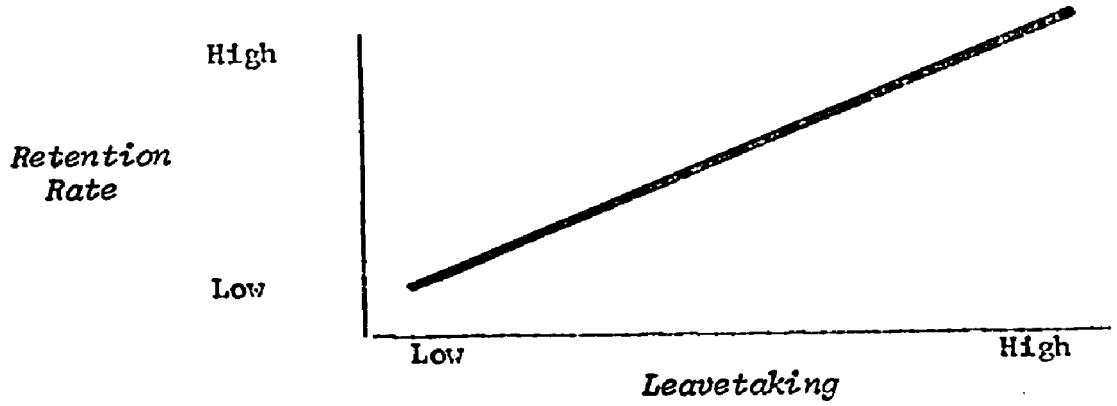


Fig. H16.--Graph of Research Hypothesis 8.

Prior to the analysis of the data involved in the research hypothesis, it would be helpful to detail the accumulated figures pertaining to retention. Not all of the faculty members who took leaves during the period of the study had left the institution by the time the period of the study ended (1970). Out of 1371 faculty members for whom information was available, 250 (18.2%) had left the institution by January, 1970. Of these, 37 (2.7%) had retired, 21 (1.5%) had died, and 192 (14.0%) per decade had voluntarily left for other organizations. These totals have been broken down on a yearly basis in Table H99.

The figures of Table H99 are not necessarily relevant to the research hypothesis, but they do indicate a rate of termination for faculty members who take leaves. In a ten-year period, for example,

TABLE H99

TERMINATIONS OF LEAVETAKERS IN YEARLY COHORTS

(1)	(2)	(3)	(4)	(5)
Year When Leave Occurred	Had Not Left by '70	Had Retired	Had Died	Had Left Voluntarily
1960-61	60.6	9.1	2.0	28.3
1961-62	62.7	10.5	3.8	22.9
1962-63	65.7	7.1	2.1	24.8
1963-64	76.6	1.9	0.6	20.8
1964-65	79.6	1.4	3.5	15.5
1965-66	82.2	0.7	2.7	14.4
1966-67	88.4	0.6	0.0	11.0
1967-68	94.2	0.0	0.6	5.1
1968-69	96.5	0.0	0.6	2.9
1969-70	100.0	0.0	0.0	0.0
TOTALS	(1121)	(37)	(21)	(192)
10 Year Avg.	81.8	2.7	1.5	14.0

approximately 40% of the first group of leavetakers had either died, retired, or left voluntarily. Over the entire ten years an average of 14% for a faculty voluntary termination rate developed.[14] It would have been ideal to compare the figures with those of a faculty cohort that had not taken leaves over the same ten-year period. This comparison, however, is outside the boundaries of the current study.

In order to test the research hypothesis it was necessary to find a group whose members could be rated in accordance with a retention characteristic. Originally every person in the study had been rated in the following manner:

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[14]This is not to be confused with the usual concept of turnover rate which may consider new hires as well as terminations.

Eventual Retention Category	
	0--retention not applicable because it would not have had time to operate--at least five years
Low R	1--voluntarily left the same year as leave
Med Low R	2--voluntarily left after obligation year (one)
Medium R	3--voluntarily left after two years
Med High R	4--voluntarily left after three years
High R	5--voluntarily left after four years
High R	6--voluntarily left after five or more years
--	7--had not voluntarily left by fifth year nor by 1970.

Out of this method of mutually excluding for retention, the following totals developed:

No Data Available	13
Not Applicable to Retention	646
Group I--Applicable to Retention (Non-Departures)	475
Deaths	21
Retirement	37
Group II--Applicable to Retention (Departures)	192
Total	1384

Each faculty member in Group II (labelled Departures), after being categorized for retention on the basis of the classification at the top of the page, was then crossed in a contingency table with the five leavetaking categories. Contingency Table H100 is the result of that crossing with the actual conditional frequencies being shown for each cell. Certain statistical liberties were then taken to develop a mean retention rate for each leavetaking category, means which are

TABLE H100

RETENTION RATES AND LEAVETAKING SCORES OF VOLUNTARY DEPARTURES CONTINGENCY TABLE[a]

Retention Categories	Leavetaking Score					
	Low	Medium Low	Medium	Medium High	High	
High (4 or more years)	10	10	6	2	3	
Medium High (3 years)	5	4	3	1	1	
Medium (2 years)	9	9	2	4	2	
Medium Low (1 year)	9	23	5	8	7	
Low (Zero years)	16	21	13	3	16	
Frequencies (%)	49 (25)	67 (34)	29 (15)	18 (9)	29 (15)	192
Average Retention Rate (in years)	2.67	2.38	2.45	2.50	1.87	$\bar{X}$ = 2.40

[a]Group II.

shown below the contingency table. The liberties consisted of assuming the number of years retained after leave (one, two, three, etc.) as the mean of a class interval. Thus, for example, the Retention Rate Class called Medium had an assumed mean of 2 (years) and an assumed class interval of 1.5 years to 2.5 years. This same technique was used with the other retention rate classes.[15]

Figure H17 shows the linear tendency of retention with respect to leavetaking in graphic form in order to make a visual comparison with the research hypothesis modelled in Figure H16.

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[15]In a sense this is attributing continuity where it might not exist although inasmuch as it is a measure of a time interval, continuity theoretically lies behind the measure. It was not measured this way, however.

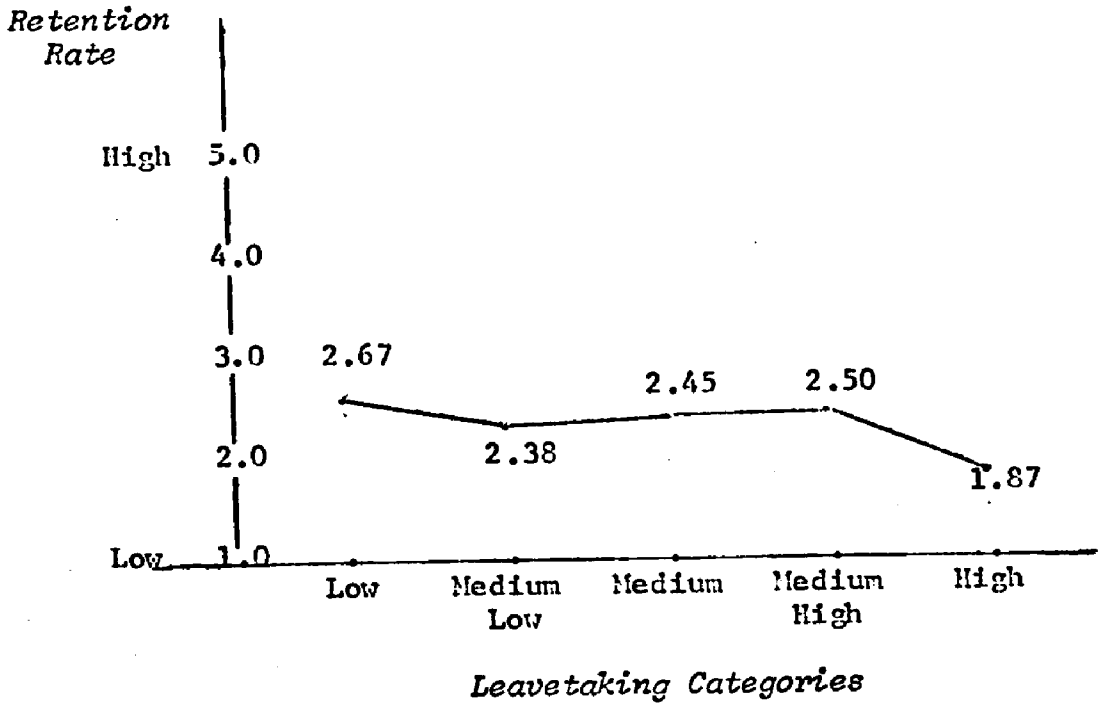


Fig. H17.--Mean retention rates in years for each leavetaking category.[a]

[a]For those who terminated.

There might be a tendency, upon viewing Figure H17, to ascribe high retention to low leavetaking and low retention to high leavetaking, statements directly contrary to the proposition of *Research Hypothesis 8*. Certainly if only the Low Leavetaking, Medium Leavetaking, and High Leavetaking Retention Rate Means were utilized to substantiate that hypothesis, the line connecting those three retention rate means (2.67, 2.45, and 1.87) indicates a linear relation with a constantly decreasing slope.[16] However, the behavior of the two in-between leavetaking categories, Medium High and Medium Low, where the means depart from this constant decline should give pause to the tentative statement that: the higher the leavetaking rate, the lower the retention rate.

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[16]The equation of the line and its slope need not be developed.

Analysis of variance was then performed on the five means to see if their differences were enough to ascribe them to different populations. The test confirmed the null hypothesis of no association between the two variables. The summary statistics are in Table H101.

TABLE H101

ANALYSIS OF VARIANCE SUMMARY--LEAVETAKING ON RETENTION

Source	*SS*	*df*	*MS*	*F*
Among	12.28	4	3.07	1.48
Within	386.95	187	2.07	
Total		191		$F_{.01} = 3.41$

It should also be remembered that the group under observation which has an N = 192 was a group of faculty members who had left the institution voluntarily. The tentative conclusion reached above, the higher the leavetaking, the lower the retention, would have applied only to the small group of voluntary leavers if it applied at all. As an indication why, a comparison can be made between Group II (called Departures) and a second group called Non-Departures (N = 475). Each individual in this second group had not left the institution after five years had passed since a leave had been taken. The percentages in Table H102 for each leavetaking category are rather enlightening.

The comparison of Departures with Non-Departures indicates that once the faculty member gets beyond a point where retention is more assured, his or her leavetaking characteristic changes from high to low. Fifteen percent of the Departures Group had a high leavetaking score whereas only ½ of 1% of the Non-Departures fell into the same category (see last column). Twenty-five percent of the Departures Group had a

TABLE H102

COMPARISON OF GROUP I (DEPARTURES) AND GROUP II (NON-DEPARTURES) IN THEIR LEAVETAKING CHARACTERISTIC

	Leavetaking Categories (in %'s)				
	Low	Medium Low	Medium	Medium High	High
Group II Departures (192)	25	34	15	9	15
Group II(a) Departures (31)[a]	32	32	20	6	10
Group I Non-Departures (475)	63	27	7	2	0.5

[a]This group of 31 stayed at least five years after the leave had occurred and then left. They represent an in-between grouping.

low leavetaking score whereas a very large 63% of the faculty who remained in the institution were low leavetakers (see first column). It would be well to hold off making any definitive statements about this comparison inasmuch as age and seniority were fairly much the same across all leavetaking categories in the earlier hypotheses, and to attribute the large difference to a supposed age or seniority influence would be haphazard. It is true that the more years the faculty member was in the study, the more likely that person had a low leavetaking rate: this was one of the early findings, that leavetaking "evens out" for all faculty after a long period of time. This evening-out process is shown in the non-departure group. The transition toward that group is shown by the percentages in the Group II(a). This group remained at least five years before leaving. The implication, which undoubtedly must have additional study to substantiate, is that it would require finer measurements of both leavetaking and retention in order to de-

velop any real association between the two variables inasmuch as faculty who have been retained over a long period of time will have nearly the same leavetaking characteristic. A finer measurement of the differences is the next requirement if leavetaking is to be truly characterized as an independent, influential variable. The same statement might be made of the categorical variable called *retention.*[17]

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[17]And probably most variables in the social sciences.

Research Hypothesis 9

> Faculty members who are adjudged "departmental stars" by their department chairmen will be greater leavetakers than those not so adjudged.

The research hypothesis is displayed graphically in Figure H18.

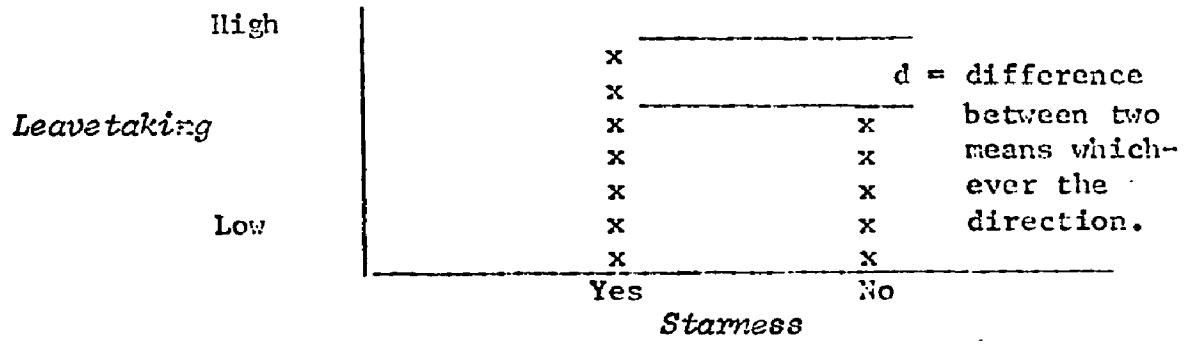


Fig. H18.--Graph of Research Hypothesis 9.

This hypothesis about departmental stars[18] is the first of three hypotheses which will depend upon a sub-sample of 229 to support or not support the research hypothesis. These 229 arose out of six literary college departments selected so as to have two each in the social sciences, natural sciences, and humanities. These departments were originally a part of the leavetaking sample of 1384 faculty, and their leaves were originally a part of the 2155 leaves.

The intention will be to discover whether the difference "d" exists as postulated, and, if so, to test that difference to see whether or not it is significant. The difference "d" will be the difference in the leavetaking score means of each of the two categories.

Contingency Table H103 is a display of the statistics arising out of the crossing of leavetaking score with departmental starness.

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[18]See Appendix B(3) for guide to departmental star definition given to each department chairman.

TABLE H103

DEPARTMENTAL STARNESS AND LEAVETAKING SCORE CONTINGENCY TABLE

Departmental Starness	Leavetaking Categories					Freq.	Mean
	Low	Med. Low	Med.	Med. High	High		
Non-Star	26.2	46.5	16.3	7.6	3.5	172	3.32
Star	21.1	32.7	36.5	9.6	0.0	52	3.15
					d = difference =		.27

The two means which arose out of the data in Table H103 developed a mean difference between star and non-star of .27. This difference was tested using the conventional *t* test for difference between uncorrelated and different sample size means. A *t* of 1.70 was derived which is not significant at the .05 level.

As a result it may be said that there is no difference between stars and non-stars insofar as their leavetaking characteristic is concerned.

Research Hypothesis 10

> The greater the availability of research dollars to the faculty member, the greater will be the amount of leavetaking.

A graphic visualization of the research hypothesis is given in Figure H19.

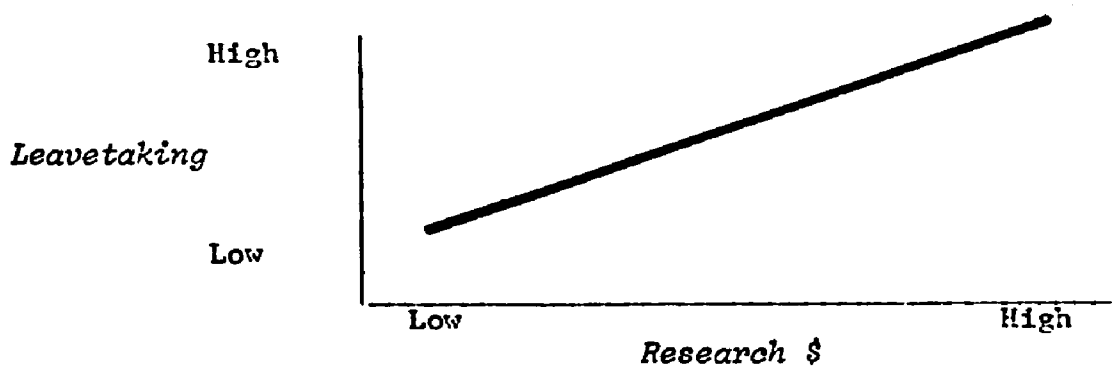


Fig. H19.--Graph of Research Hypothesis 10.

Testing of the research hypothesis was accomplished by using the sample of 229 faculty members. The amount of research dollars available to each of the individuals in the sample--a figure undoubtedly impossible to obtain or weight properly if obtained--was estimated by ascribing the average departmental research dollars to individual faculty. The amount of dollars available to all departments for sponsored research over a five-year period was first obtained from the institution's research administration unit. An average of the five years was then derived. The six departments involved in the sample were then categorized on the basis of High, Medium High, Medium, Medium Low, and Low average research dollars. The break-off point for and difference between each of these categories was sharp and distinct although there was not the same amount between each category. Using the sample and these research dollar categories meant also that the hypothesis was

TABLE H104

LEAVETAKING SCORE AND RESEARCH DOLLAR CONTINGENCY TABLE

Leavetaking Score	Research Dollars (Frequencies)				
	Low	Medium Low	Medium	Medium High	High
High	3	2	0	5	1
Medium High	8	2	1	3	1
Medium	18	10	3	11	5
Medium Low	20	12	11	31	20
Low	13	7	18	13	10
Frequencies	62	33	33	63	67
Average Leave-taking Score	3.01	3.11	3.89	3.20	3.50

testing leavetaking differences between departments and disciplines as a byproduct. Table H105 points out the research dollar relationship to academic counterparts.

TABLE H105

RESEARCH DOLLAR CATEGORIES AND ACADEMIC UNITS SAMPLED

	Low	Medium Low	Medium	Medium High	High
Academic Departments	Romance Lang. History	Economics	Zoology	Psychology	Physics
Academic Disciplines	Human.	Soc. Sci.	Nat. Sci.	Soc. Sci.	Nat. Sci.

Contingency Table H104 was then derived by crossing research dollars and the five leavetaking categories. An average leavetaking score for each research dollar category was found, and these five means were compared through analysis of variance to see if their differences were significant.

Using the five means as points to be connected from low to high research dollars, Figure H20 indicates that the research dollar hypothesis was extensively in error. Rather than leavetaking steadily increasing as research dollars became more available, leavetaking declines (gets less) rather sharply initially as research dollars become more available. At the highest levels of research dollar availability leavetaking acts erratically, increasing and decreasing.

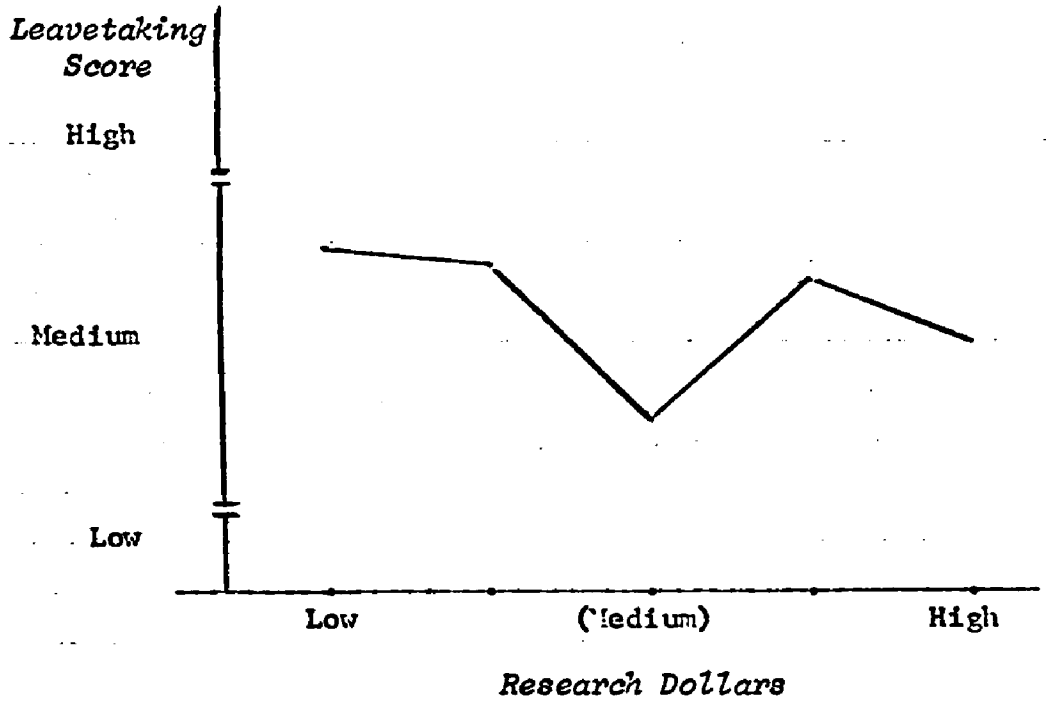


Fig. H20.--Linear trend of leavetaking with research dollars.

An analysis of variance of the five leavetaking means associated with the five research dollar categories developed an *F* of 4.68 which was significant at the .01 level (critical ratio was 3.41). The fact that the critical ratio was barely surpassed supports the previous statement that the leavetaking and research dollar variables are not too well linearly related. Research dollars may come in batches rather than along some well-defined continuum, and the notion of measuring the

relationship on a linear basis may not have any merit. It may be that the relationship must be measured by first getting an individual rather than departmental measure of research dollar and relating that measure to an individual measure of leavetaking. Table H106 is a summarization of the analysis of variance statistics.

TABLE H106

ANALYSIS OF VARIANCE SUMMARY--RESEARCH DOLLARS ON LEAVETAKING

Source	*SS*	*df*	*MS*	*F*
Among	19.95	4	4.9875	4.68
Within	236.18	223	1.0652	
Total	256.13	227		$F_{.01} = 3.41$
				$\omega^2 = .06$

Another way of looking at the figures is to plot the average scores for each of the three disciplines as in Figure H21 rather than for research dollar categories.

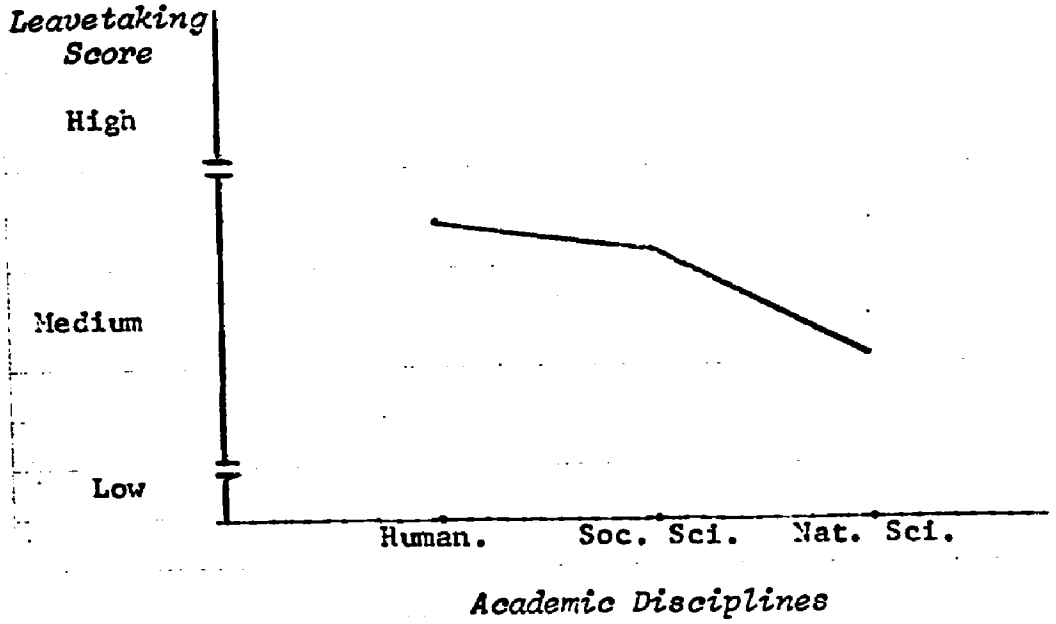


Fig. H21.--Average leavetaking score by academic discipline.

The tentative conclusion could be drawn from Figure 1121 that leavetaking is greater in the humanities than the social sciences or natural sciences, and in that order. There is a possible explanation. It may be recalled from Chapter IV, where the academic disciplines were compared insofar as *number* of leaves rather than percentage of time was concerned, that the natural scientists were greater leavetakers when all leaves were considered than social scientists and humanists in that order. This is a complete reversal of the statistics in the above figure. This was not true for all kinds of leaves. Faculty in the humanities took only a small percent of off-campus assignments, a leave characterized by its short duration. They rely a great deal on sabbaticals. Thus, the manner in which leavetaking is viewed is a major factor to consider when judgments are going to be made about that faculty variable and its relation to research dollars. This may also be an explanation for the erratic behavior of leavetaking at the high end of the research dollar spectrum: the variables must take into account the disciplinary nature of research dollars and the many facets which are involved in that nature.

Analysis of the variance between means for each of these three disciplines developed a significant F (8.13) at the .01 level. Inspection of the three means without analyzing the individual means with t-tests would indicate that the significance arises out of the difference between the natural sciences (Zoology and Physics), and the other two disciplines. The humanists and social scientists do not exhibit the kind of difference which would lead, on visual inspection, to significance. Thus, if an hypothesis had been formulated regarding academic discipline and leavetaking, it would have been confirmed if it had

stated that leavetaking measured as a percentage increases from the highest by the humanists to the lowest by the natural scientists with social scientists more closely related to the humanists. Table H107 is a summary of the analysis of variance statistics.

TABLE H107

ANALYSIS OF VARIANCE SUMMARY--ACADEMIC DISCIPLINE RESEARCH DOLLARS ON LEAVETAKING

Source	*SS*	*df*	*MS*	*F*
Among	18.25	2	19.125	8.13
Within	137.97	225	.613	
Total	156.22	227		$F_{.01} = 4.70$
				$\omega^2 = .11$

Research Hypothesis 11

The greater the amount of leavetaking,
the greater will be the productivity
of the faculty member taking the leaves.

Research Hypothesis 11 is displayed graphically in Figure H22. Leavetaking was considered the predictor variable for this last hypothesis.

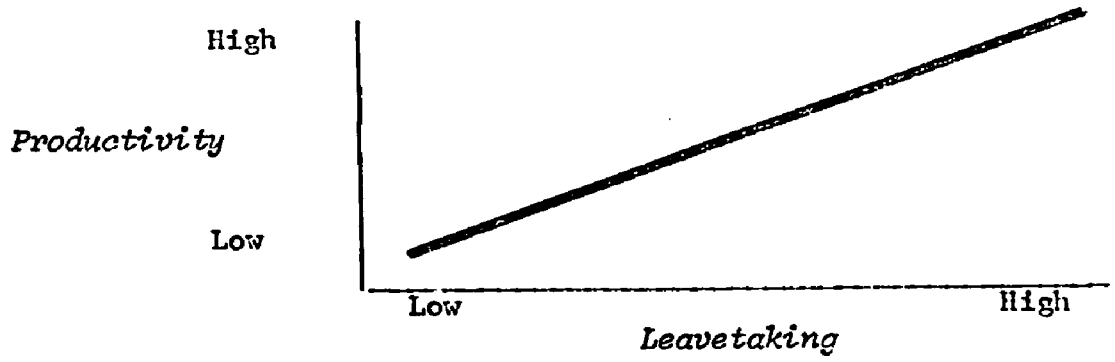


Fig. H22.--Graph of Research Hypothesis 11.

In order to test the research hypothesis as thoroughly as possible, the productivity of faculty members was considered from three different points of view: (1) the production of Ph.D. degrees, (2) the production of research, and (3) the production as a teacher.[19] Each of these three types of productivity will be discussed separately.

Ph.D. Productivity

Of the three variations of productivity that were to be used as a criterion variable, Ph.D. productivity was the simplest to measure. It is certainly the most quantitative. A prior study at the same institution arising out of an administrative assignment in the graduate school had led its investigator to a physical count of Ph.D. degrees

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[19]In terms of average number of classroom teaching hours per semester.

granted and the chairmanship of the committees behind those degrees. This included co-chairmanships. These committee chairmen, it should be noted, provide the guidance for the Ph.D. students after they go beyond the Ph.D. candidacy stage toward completion of the degree requirements. Under these conditions, the position of chairman is vital inasmuch as it can provide the necessary stimulus for both quantity and quality of the graduating Ph.D. students, and as a consequence, have an indirect effect upon the quality of the entire institution. Thus, in universities, Ph.D. committee chairmen are quite relevant to the concept of academic productivity.

This type of productivity is easily measured because the act of graduation with a Ph.D. can be counted as one unit, and these can be counted each year fairly easily. A Ph.D. Productivity Rate was therefore established using the total number of Ph.D. degrees chaired over a maximum of an eight-year period of time, and this numerator was divided by the number of years available during the eight years.

The sample of 229, already mentioned, was used for testing the hypothesis. A Ph.D. Productivity Rate for each of these 229 (228 actually available with PPR's) individuals was determined. These PPR's ranged from a low of 0.000 to a high of 2.125 degrees chaired per year. This entire range was then divided from low to high into six categories. Contingency Table H108 indicates the numerical divisions (class intervals) for each category with the Low and High categories differing in their range, and from each other, from the four intervening categories. These differences arose because of the nature of the data.

A mean Ph.D. Productivity Rate for each leavetaking category was derived, and these five means were tested by analysis of variance

TABLE H108

PH.D. PRODUCTIVITY RATE AND LEAVETAKING SCORE CONTINGENCY TABLE

Ph.D. Productivity Rate Categories[a]	Leavetaking Categories[b]					
	Low	Med. Low	Med.	Med. High	High	
1.000+	3	8	6	1	1	
.750-.999	3	5	1	1	0	
.500-.749	13	15	6	1	0	
.250-.499	9	23	9	5	0	
.001-.249	9	12	7	2	2	
0.000	24	31	17	6	8	
Frequencies	61	94	46	16	11	228
Mean Ph.D. Productivity Rate	.305	.349	.339	.297	.125	$\bar{X}$ = .321

[a]The intent of the investigator in making the divisions as they are shown was to reflect as nearly as possible the statistics which arose. For example, the low Ph.D. Productivity Rate category was established as that category containing all faculty in the sample who had chaired no committee to completion. The mean was considered to be 0.000. The category had the greatest number of subjects in it. The mean of all 228 subjects was .32 or 1/3 of a Ph.D. degree chaired per academic year. It is obvious that many faculty do not produce any Ph.D. degrees in the manner measured.

[b]Frequencies.

to see whether they were from the same or different populations. The *F* of 1.13 was quite a bit less than the *F* required at the .01 level (3.11) for significance thereby indicating with an extremely high probability that leavetaking has no influence on Ph.D. productivity. This is a direct contradiction of the research hypothesis.

Table H109 is the summarization of the analysis of variance information.

Inasmuch as a question might be raised whether production of Ph.D.'s might not be related to leavetaking in the opposite direction

TABLE H109

ANALYSIS OF VARIANCE SUMMARY--LEAVETAKING ON PH.D. PRODUCTIVITY

Source	*SS*	*df*	*MS*	*F*
Among	.5738	4	.143	1.13
Within	28.1000	223	.126	
Total	28.6738	227		$F_{.01} = 3.11$

due to the absolute necessity of being on campus in order to guide the candidate toward the end of the Ph.D. process, leavetaking was made the criterion variable. The six leavetaking means of the Ph.D. Productivity Rate categories were tested by analysis of variance and, as might be expected, they similarly produced a non-significant *F* (1.24) while requiring a critical *F* of 3.11 at the .01 level to show association.

Research Productivity

The concept of research productivity by faculty members relates quite closely to statements made earlier about the doctrine of publish or perish. This portion of the three-part productivity/leavetaking test was meant to flirt with that general theory issue. It is possible to believe that taking leaves and publishing the results of research accomplished during those leaves are related.

The measurement of the criterion variable, research productivity, provided some initial and separate problems. This "subjectivity" problem did not arise in the case of most of the other faculty variables. Most of them were greatly objective, and arose out of data contained in a personnel file. The measure of research productivity had to be developed separately. Initially an attempt had been made to count research productivity such as books, articles, monographs, etc.

It became apparent to the investigator that this measuring technique would be highly unsatisfactory, at least to him.[20] A decision was made to have department chairmen rate each of their faculty members on a 0.0 (low) to 5.0 (high) productivity basis. The rationale was simply that a recognized peer in a particular discipline would be the best judge[21] of a faculty member's research output. After permission had been granted from each chairman, and the scale method explained[22] in person and by an accompanying letter [see Appendix B(2) and (3)], the chairmen were given the names of the faculty in their department that the investigator wished to be rated. These men all had taken a leave at one time or another. The fact that the mean research productivity rating given by the six unassociated chairmen was 2.61 (2.50 was the exact middle of the scale) indicates that the method was as satisfactory as possible. A standard deviation of 1.18 further indicates that widespread rating throughout the entire possible range was utilized by the chairmen rather than bunching all faculty members around an average near the middle. The chairmen indicated by drawing an arrow on a line

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[20]The investigator would have had to judge quality as well as quantity, a task which he was not willing to add because of its qualitative nature.

[21]The use of a three-man panel would have been better, but this was impractical.

[22]The scale was explained as a continuous, equal interval, zero origin, isomorphic rating scale with the possibility of performing ordinary mathematical operations on the results. It differs from Thurstone, Likert, and Guttman scales. Its primary difference is its introduction of zero as actually zero, meaning none. Its applicability to attitude scaling becomes apparent when the zero of the rating scale is compared to the midpoint of a Likert scale, for example, which is neutral (zero). If that be the case, then Likert's (or others') scale has negative numbers or negativeness attached to it. The Likert scale, however, suffers from its inability to be amenable to ordinary mathematical operations. It might be interesting, for example, to find out what the square root of a man's productivity is, if anything.

measuring five inches long where they were rating on the 0-5 scale, and this mark was measured with a rule and converted into a decimal on a continuous scale from 0.00 to 5.00.

These ratings were then divided into five categories each 1.00 units in length. Contingency Table H110 shows the bivariate table which arose out of the crossing of research productivity and leavetaking.

TABLE H110

RESEARCH PRODUCTIVITY AND LEAVETAKING SCORE CONTINGENCY TABLE

Research[a] Productivity	Leavetaking Categories[b]					
	Low	Medium Low	Medium	Medium High	High	
High	4	13	5	3	2	
Medium High	18	30	15	5	1	
Medium	9	25	13	5	5	
Medium Low	20	19	10	1	2	
Low	10	7	3	2	1	
Frequencies	61	94	46	16	11	228
Mean Research Productivity Rate	2.27	2.74	2.70	2.87	2.59	$\bar{X} = 2.61$

[a]Each category is 0.99 in length (class interval).

[b]Frequencies are given in the cells.

Five research productivity means for each of the five leavetaking categories were derived, and these means were tested by analysis of variance for significance. The resulting *F* (1.69) was additional strong evidence of the incorrectness of the original research hypothesis that productivity and leavetaking were related. The *F* at the critical .01 level was 3.36. Research productivity of faculty members

as rated by their departmental chairmen is, with a high probability, unrelated to leavetaking.[23] Table H111 gives the summary statistics of the analysis of variance.

TABLE H111

ANALYSIS OF VARIANCE SUMMARY--LEAVETAKING ON RESEARCH PRODUCTIVITY

Source	*SS*	*df*	*MS*	*F*
Among	11.32	4	3.83	1.69
Within	506.97	224	2.26	
Total	518.29	228		$F_{.01} = 3.36$

Teaching Productivity

The department chairmen were also asked to rate the same faculty members on that which was referred to as teaching productivity. This concept was made as quantitative as possible. Theoretically, one can say that faculty members produce within the institution in one or all three different fashions: administratively, through research, or by teaching. Directing Ph.D. committees would be an example of administrative and teaching productivity. Research productivity has been dealt with. The ratings for teaching productivity, the definition of which was average number of hours usually taught per semester, were made and scored on the same type of scale as research productivity.

Unlike research productivity, however, teaching productivity had to be scored lower by the department chairmen. To begin with, the

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[23]Using research productivity as the predictor variable and leavetaking as the criterion, an insignificant *F* of 1.04 ($F_{.01} = 3.36$) developed showing that the reverse relationship is highly unlikely also.

mean teaching productivity rating was 2.09[24] (the mean research rating was 2.61), and all scores tended to be much lower on the zero to five scale. At the highest level in the scale, 5, a faculty member had to have a 12-hour semester class load. As a result of the crowding of faculty toward the low end of the scale, it became necessary to develop different size categories from low to high. Contingency Table H112 gives the categories and class intervals which were utilized.

TABLE H112

TEACHING PRODUCTIVITY AND LEAVETAKING SCORE CONTINGENCY TABLE

Teaching[a] Productivity	Leavetaking Categories[b]					
	Low	Medium Low	Medium	Medium High	High	
High--2.60+	4	10	3	4	0	
Medium High--2.30 to 2.60	16	43	18	2	3	
Medium--1.875 to 2.299	23	16	17	5	2	
Medium Low--1.250 to 1.874	9	15	5	4	3	
Low--Less than 1.250	9	10	3	1	3	
Frequencies	61	94	46	16	11	223
Average Teaching Productivity Rate	2.00	2.15	2.16	2.16	1.75	$\bar{X}$ = 2.09

[a]The midpoint of both the end classes was assumed to exist at the most logical and convenient point.

[b]Frequencies.

From the data in the table, five teaching productivity means arose which underwent analysis of variance. The *F* which developed

[24]About five hours of teaching per semester.

(1.76, $F_{.01} = 3.41$) was further evidence that the research hypothesis of a linear relationship between leavetaking and (teaching) productivity was substantially incorrect. Teaching productivity, it may be stated with a high degree of probability of being correct, is not related to leavetaking.[25] Table H113 is a summary of the analysis of variance.

TABLE H113

ANALYSIS OF VARIANCE SUMMARY--LEAVETAKING ON TEACHING PRODUCTIVITY

Source	*SS*	*df*	*MS*	*F*
Among	2.41	4	.60	1.76
Within	75.04	223	.34	
Total	77.45	227		$F_{.01} = 3.41$

The results of the three separate tests concerning productivity and its relationship to leavetaking make it amply clear that no relationship exists between these two variables, productivity and leavetaking.

[25]The converse relationship, teaching productivity as measured by department chairmen influence on leavetaking, was exceedingly non-significant ($F = .34$, $F_{.01} = 3.41$).

V. Summary of findings

1. *Age*

Although a correlation of about .5 (ω^2 = .25) exists between age and leavetaking, and although a significant difference between age categories with respect to their leavetaking is statistically present, it is apparent that the relationship falls short of providing strong predictive powers. Initially, only about 1/5th of the entire leavetaking scale is covered when a comparison of leavetaking means is made across all age categories. Nearly 75% of the total variance discovered in the bivariate frequency table (40 cells) existed within each of the age categories indicating wide dispersion of leavetaking within these groups. The means of these age groups, however, indicate very little dispersion in leavetaking characteristics across age categories.

2. *Seniority*

The relationship existing between seniority and leavetaking is even less than that of age. The correlation is about .37 (ω^2 = .24). In this case about 86% of the total variance exists within each of the seniority categories, and a slender 14% of variance exists between weak but statistically significant seniority categories. As with age, although wide dispersion exists within seniority categories, only about 20% of the total leavetaking range is encompassed by the means of the seniority groups.

3. *Salary*

The correlation between salary and leavetaking is .24 (ω^2 = .06), and 94% of the total variance between these two variables exists within each of the salary categories. The relationship is significant

and indicates some dependence. However, salary leavetaking means, like age and seniority, range over only about 20% of the leavetaking scale indicating large dispersion within groups, small dispersion between. These statistics thus indicate a weak relationship between salary and leavetaking.

4. *Dependency (DLF)*

Very little relationship exists between family dependency and leavetaking. There is an approximate .24 correlation, and about 87% of the total variance exists within the widely-dispersed leavetaking inside dependency categories, and 13% between the thinly-dispersed dependency groups. There is, however, greater dispersion in leavetaking (fluctuations greater) between small dependency-laden groups than between large dependency-laden groups indicating a steadier, more reliable relationship at larger dependency levels.

5. *Academic Rank*

About 95% of the total variance between rank and leavetaking is accounted for within each of the four rank categories. Although the entire relationship was statistically significant at the .01 level, and a linear relationship did appear as predicted, the relationship is so weak with respect to between variance ($\omega^2 = .05$) that it is appropriate to state that other variables may account for whatever relationship statistically exists.

6. *Academic Discipline*

The relationship between academic discipline and leavetaking, although statistically significant, was a rather weak one. Of the total variance, 93% came out of each of the four discipline categories

indicating a correlation of about .26 (ω^2 = .07).

7. *Promotion*

With leavetaking as the predictor rather than criterion variable, a slim relationship (statistically significant at the .01 level) arose between it and rate of promotion (AYR). However, the strength of the relationship here is extremely weak with only about 2% of the total variance occurring due to variations between leavetaking groups, and the remaining 98% occurring within each of the five leavetaking categories. This could happen by chance alone, and it probably can be safely concluded that leavetaking and promotion are unrelated.

8. *Retention*

Using only that subgroup of faculty who had taken leaves (N = 192) and had eventually departed from the university, it was statistically shown that no relationship existed between the average retention rates for each leavetaking category.

9. *Stars*

Departmental stars, defined by department chairmen who rated them as such--as someone in the department with national prominence or national disciplinary prominence--displayed no statistically significant difference from non-stars insofar as their leavetaking characteristics were concerned.

10. *Research Dollars*

Research dollars are only weakly related statistically to leavetaking. About 8% of the total variance occurs between the different research dollar categories (in average amounts of dollars avail-

able to departments), and 92% of the variance then occurs within each research dollar group. Although the relationship is significant at the .01 level, it is barely so, and because of the small percent of the between-group variance, there is justification in stating that the relationship is quite weak.

11. Productivity

Productivity was classified in three ways: average Ph.D. chairmanships completed per year, research, and teaching. In all three cases, no significant relationship was found between leavetaking and productivity.

The final chapter will summarize what these findings mean with respect to the general theory initially proposed, administrative behavior in the future, and studies which might be conducted to add to or substantiate previous leavetaking research including this study.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

Before any kind of analysis, conclusions, or recommendations can be made, the reader is reminded that the institution in which the leaves occurred has been defined as a *complex* institution. What is meant by that word *complex*? To begin with, the institution is quite large in terms of student numbers thus leading it toward mass rather than aristocratic education. It is, as the faculty statistics and organizational units show, a professionally-oriented institution. Further than this, it is a research-dominated institution with approximately 50% of its total operating budget arising out of research funds of one kind or another. Physically it is spread out. It is a high Ph.D. producer. It is high in the number of Ph.D.'s on the faculty, that degree being an almost inevitable requirement for permanent faculty status. At the lower undergraduate levels, however, teaching fellows handle about 33% of the teaching assignments. These characteristics exemplify what is meant by the word *complex*; a business word which might be similar is *conglomerate*.

"In developing programs of leaves," Ingraham says, "institutions which place a major emphasis on research must meet different problems from those which consider research only a minor function of the faculty."[1] One of the immediate differences is the purpose of the

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[1]Ingraham, *op. cit.*, p. 71.

leave; not many faculty members at this university need to take personal leaves to complete the doctorate, and as a matter of fact, only 10% of all the leaves throughout the ten-year period were noticeably personal. As Ingraham also states in referring to any replication of his exploratory survey, ". . . it would be wise to separate study for a higher degree from study as a means of updating . . . after the more formal aspects of education have been completed."[2] This is clearly the difference between university and college leaves, and supports non-empirically the general theory regarding regeneration or refurbishing.

The notion that a theory might be at stake in this analysis is a second consideration to which attention should be drawn. An attempt will be made to develop an analytic structure based upon theoretical propositions and doctrines and relate those concepts to the relationships which have been shown to exist between some rather specific variables and the taking of leaves. This analytic structure will be called a "Pattern of Analysis," and in it eight general theory "concepts" will be crossed with twelve leavetaking relationships generating an analytic matrix of ninety-six cells. The number of cells will be increased slightly by including provision for dummy or slack theory variables and dummy or slack leavetaking relationships (13 × 9 = 117 cells).

The pattern of analysis would be in several dimensions and begins by making an assumption that leavetaking (LT) on the X-axis is influenced by several variables, and these variables are additive. Thus,

$$Y_{x\text{-axis}} = \sum_{i=1}^{n} kX_1 + kX_2 + \ldots + kX_n,$$

where the k's are coefficients α, β, etc. specified as the amount of

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[2]Ingraham, *ibid.*, p. 72.

PATTERN OF ANALYSIS

VARIABLES	Y_i	X_i	Gen. Find. X_1	Age X_2	Senior. X_3	Salary X_4	Depend. X_5	Acad. Rank X_6	Acad. Disc. X_7	Promo. Rate X_8	Retent. X_9	Star X_{10}	Research X_{11}	Productivity X_{12}	Dummy X_{13}
		ω^2	**	.25	.14	.06	.13	.05	.07	.00	.00	.00	.06	.00	Bal.
Theory Propositions															
Fac. Regeneration	Y_1	U[a]													
Institution Image	Y_2	U													
Faculty Exposure	Y_3	U													
Fac. Recruitment	Y_4	U													
Faculty Retention	Y_5	U													
Fac. Production	Y_6	U													
Theory Doctrines															
Publish-Perish	Y_7	U													
Up or Out	Y_8	U													
Miscellaneous															
Dummy	Y_9	U													

[a] ω^2 = U = Unknown.

variance in the dependent variable, leavetaking, accounted for by any particular independent variable. Included in this equation is a first variable, X_1, called, in general terms, *organization-influence*, and in the present study it can be looked upon as that part of the study denominated General Findings in Chapter IV. X_1 itself, then, is actually a series of sub-variables:

$$X_1 = \sum_{j=1}^{m} X_{1_j}$$

where each *j* variable is non-individualistic or organizationally-inclined: academic discipline, academic department, major unit of the university. Additionally, X_n or X_{n_m} will always stand for a slack or unknown variable. The quantity of unaccounted variance in leavetaking should wax and wane as leavetaking studies become more and more effective and efficient. At some point it would begin to level out. For example, further studies using finer and more exacting measurements may discover that ω^2's arising out of this study for variables X_2 through X_{12} change not only the individual picture but the overall variance accountability picture as well. Thus, at this time, approximately 76% of the variance in leavetaking based on the additive assumption and without utilizing any reductions due to covariance (age with seniority, for example) has been accounted for. Most of this sum is due to the age-seniority variables (38%). It should appear plain that the 76% figure is too high inasmuch as age and seniority correlated .56, and other variables in the regression equation such as salary and dependency appear intuitively to be correlated. This inter-correlational influence should be removed or separated out into its own special category of influence on leavetaking. As this analysis across the leavetaking

regression proceeds, it can be seen that better methods of measurement and more sophisticated statistical techniques of analysis will start moving toward a regression equation which might almost totally explain leavetaking in a linear fashion.

There are two other dimensions in the problem of analysis at this point. (Additional dimensions beyond three will be discussed later.) The second dimension (the Z-axis) is the classificatory scheme used for each X_i in the regression equation.[3] Salary, for example, was classified into ten classes; age and seniority into eight classes each. This, of course, can have important implications for successful statistical analyses and final variance determinations, but it is not crucial to the current analysis at this point. It is, in a sense, too late to do anything about data which was not generated due to whatever personal or organizational constraints existed earlier.

The third dimension is the vertical theory dimension, and it forms the Y-axis of the two-dimensional plane, and consists of six propositions and two doctrines (one doctrine less than originally proposed). Thus there is an equation

$$Y_{y\text{-axis}} = LT = \sum_{i=1}^{n} hY_1 + hY_2 + \ldots + hY_n$$

where, in this case, $n - 1 = 8$ and hY_9 is the slack, dummy, or unknown influence of theory propositions on leavetaking. The h coefficients would be variance accountabilities similar to the variance accountabilities in the X-axis regression equation. Each of the theory propositions or doctrines could theoretically be measured on some kind of scale. Now the enormity of the task has been made apparent.

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[3]Not pictured.

Intercorrelations between theory propositions would be involved, and factor analytic techniques could reduce initially the number of theory propositions and doctrines to less than the current eight. The publish-or-perish doctrine, for example, certainly seems to be correlated with faculty productivity as does up-or-out doctrine with faculty retention proposition. The difficulty along the vertical Y-axis is apparent when one compares those qualitative variables with one like seniority on the X-axis which is basically a quantity to begin with. The measurement of institutional image in order to relate it to leavetaking constitutes a conceptual task that would certainly tax the creative imagination. Reduction of variables would be a first step.

As a result of this crossing of theory proposition with faculty and organizational characteristics--all in some way measured as they are related to leavetaking--each cell of the matrix could become available for more specific analysis. A cell should contain the intersection $X_{ij} \cap Y_{ij}$ in which would be contained the conditional probabilities or the covariances of the two concepts represented by the cell. The intersection of $Y_6 \cap X_{12}$ is the intersection of the concept of faculty productivity as it is related to the general theory, and faculty productivity (disregarding type of productivity for the moment) as it actually has been measured. This differs from $Y_2 \cap X_{12}$, institutional image as it is related to general theory, and faculty productivity as it actually has been measured. In both of these cells is a conditional variance.

The above Pattern of Analysis is probably the main, long-range fruit of this study rather than the shorter-range knowledge of the statistical relationships which exist along the X-axis particularly.

However, it is possible now to discuss only a few of the cells of the pattern analysis matrix, all the while making the grander assumption that the pattern itself has merit in the sense of leading to more valid specific knowledge about one social phenomenon, leaves of absence in a complex university.

This last statement brings up one additional analytical point relating to the dimensionality of the study. A fourth dimension would certainly be in order with respect to different kinds of leaves of absence, and the way each of the regression equations might differ if the leaves were sabbaticals as opposed to non-sabbaticals. A fifth dimension, already alluded to in the quote by Ingraham earlier, would be that provided by the type of institution with which one was dealing. This, of course, is beyond the boundaries of the current study, but references will be made to it. Ingraham, as have others, has made quite general inter-institutional survey comparisons which would have to be made much more sophisticated. With appropriate sampling techniques, this dimensional development would undoubtedly be simplified, and inferences could be drawn having a high degree of probability of being valid.

The above discussion might well be considered the most valuable portion of this entire study, and the following discussion will be an attempt to relate some of the major findings about X_i's of the study to the theory as originally developed. This is a conceptual attempt, then, to comprehend individual cells ot the pattern analysis matrix knowing only one of the variance statistics.

To begin with, the researcher was firmly convinced prior to the study that leavetaking was related to productivity in some fashion that

could be shown statistically. This was an even more valid initial belief, given the preponderately research-orientated style of this complex institution. The independence of productivity and leavetaking which did develop might be explained by the fact that productivity was divided into three types, with other possibly different types of faculty productivity being left out of consideration altogether. If, it might be assumed, all kinds of productivity were included *and added together* on a reasonable basis, perhaps the relationship between leavetaking and productivity might become stronger and dependence begin to appear. What this is suggesting is that combining forms of productivity would shift cell frequencies in the leavetaking/productivity matrix to a state where a significant χ^2 or F in an analysis of variance would appear. Additionally, productivity, itself, is at this time a most speculative variable, and possibly counting of published documents rather than departmental chairmen ratings would shift the nature of the independent relationship. The finding, however, raises serious questions about the general theory proposition which claims that productivity is related to the rationale of why leaves are granted in the first place. The independent finding further places the publish-or-perish doctrine and the up-or-out doctrine on rather shaky theoretical foundations as concepts related to the granting or taking of leaves.[4]

It also brings out an extremely important point about productivity. The finding suggests that productivity would be the same regardless of leavetaking policy. Yet this is not true in a more impor-

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[4]Luthans, Fred, *The Faculty Promotion Process and Analysis of the Management of Large State Universities*. Iowa City, Iowa: Bureau of Business and Economic Research, College of Business Administration, University of Iowa, 1967.

tant sense, and it is in this sense where productivity distinctions become vital. Assume that all the "players in the academic game" at this complex institution play under the same rules of leavetaking. Then an increase or decrease in leavetaking does not affect, it has been shown, the *amount* of productivity. But it can and should be argued intuitively that the equal productivity which does occur is not going to be as high in quality or as far in depth if the individual is restricted to productivity in research at one physical location. One obvious example will be given: a physicist who cannot leave to perform research at a highly-developed research laboratory will produce something at the local university, but his insights will have been limited. Even after Galileo built a telescope, his productivity remained the same; however, the quality and in-depthness (depth) of his research findings before and after the acquisition, most would agree, are considerably different. A second example in a different context arises out of the small college leavetaker visiting this complex university where just the resources of the library alone are enough to push the faculty member's productivity up to a different and higher level of analysis. His productivity before and after, however, might easily be measured on some scale as being quite similar.

Thus, despite the current statistical independence of leavetaking and productivity, it may be that the relationship needs to be greatly refined.

A second preconceived notion of the investigator was that leavetaking and research dollars surely must be related particularly in a research-oriented institution. The ω^2 relationship of .08 which did arise and shows a correlation of about .29 provided some balm--but not

too much. Of course, the method of using average departmental research dollars and ascribing that figure to individuals might provoke sighs of despair from purist statisticians. One faculty member in one of the departments, for example, could have received all of the research dollars during the five-year averaging period used. This is rather frightening, and analyzing the behind-the-scenes events of research is apparently the most disillusioning and traumatic experience of the researcher as he discovers the now obvious discrepancies of his work. Perhaps it would have been better to state the research hypothesis in terms of departmental research and departmental leavetaking to overcome this difficulty.

Another point that needs mentioning at this point is how this fairly weak relationship is itself related to general theory and institutional image. This complex institution not only has an image of high quality, but its image is based a great deal upon its research efforts. Mention of freshman-sophomore teaching by teaching fellows has already been made, and how some 33% of that teaching is turned over to less academically qualified teaching assistants. This practice is now going through an institutional crisis and may result in an enrollment freeze of undergraduates particularly with less research dollars available to the faculty. This means that institutional image (Y_2) is undergoing some kind of change.[5] If research dollars are weakly related to leavetaking, then it would appear that research dollars are being spent on-site predominantly, and this on-site research which might result in

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[5]If one looks across the regression equation to X_{13}, it can be intuitively seen that the change is occurring within that variable of the regression. The student enrollment freeze would be located somewhere in the X_{13} variable, and possibly in X_1, General Findings.

reduced teaching load did not enter into the leavetaking measurement. The amount of the reduction should be involved in the leavetaking formula in the form of a subtraction. Leavetaking, it now can be said, takes place whether or not the faculty member was on or off campus. A faculty member's teaching load could have been zero, but if he had been on campus he would have been counted as being present and not on leave. This, obviously, is a refinement in the measurement of leavetaking that needs to be carefully considered.

The question of retention of faculty members and the contribution made to it by sabbatical leaves was asked by Ingraham in his 1967 survey. Of fifty-four public universities, 33% claimed that sabbaticals contributed *substantially* to the retention of faculty members, and 50% of these institutions stated that the contribution to retention was at least *moderate*. This is a rather high total of 83%.

It will be recalled that retention and leavetaking were found to be statistically independent in the study, and this finding states something about the disparity between administrative beliefs and administrative actuality. This kind of difference is commented upon frequently in administrative or management literature. It also substantiates findings mentioned earlier about the relative contribution of leaves as a fringe benefit toward faculty morale, and discrepancies that might exist between what is and what ought to be as perceived by faculty members. If leaves are not considered too highly as a contributor to faculty satisfaction by faculty members, or as a major input toward their self-actualization,[6] then leave policy is not going to be

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[6]Theophilus, *op. cit.*

of very much importance in the retention of faculty members. This statement, of course, has different connotations for different institutions. It is a generalization which forms a part of a different dimension: institutional type. A college, for example, might find that granting leaves to its faculty members to gain additional degrees results in a very low retention rate. But the findings seem to indicate that where Ph.D. faculty members have a self-satisfying level of institutional preeminence, their retention will not be endangered by a restricted leave policy provided the restrictions are not blatantly undemocratic. However, in this complex institution, leavetaking as shown by actual frequencies is not restricted, and there may be leavetaking in terms of low class loads that is unrecorded. Although the natural sciences are favored quantitatively or numerically, the humanists are favored in terms of leave lengths. This might be the technique by which academic disciplines accommodate each other: "You take less long ones, and we'll take more short ones."

The fact that retention is independent of leavetaking has some relevance to the theory where it meets up with the notion of greater faculty exposure resulting from leavetaking. Administrators in this complex institution, particularly department heads, should not fear that exposure of the leavetaker has any tendency to lead to institutional change. The change, if it does arise, will undoubtedly be a result of other institutions and personal variables such as the relative level of salaries, a class load which prevents on-site research, or colleagues who are not satisfactory.

It is conceivable, for example, that an institution which does not have the favorable institutional quality of this particular complex

institution would suffer a loss of retention due to exposure. Not only could this be studied inter-institutionally through some of the mechanisms provided in the Pattern of Analysis, but this analysis of retention and exposure might conceivably have been studied in depth within this specific institution by major and minor units. The facts were just not pulled out of the study using either leave parity or Unit Ratio as one of the measures to relate to retention. Thus, in Table 13, Zoology exhibits a plus 5.4 deviation from zero parity and it has the highest Unit Ratio (2.01). Psychology, on the other hand, has generated a negative 6.3 deviation from zero parity and has a much smaller Unit Ratio (.57). The possible difference in retention rates here is interesting, and needs to be investigated. The problem is further complicated by the knowledge that Psychology had 17.0% of all research dollars, and Zoology only 7.3%. If all the appropriate variables can be filtered properly, possibly the relationship between retention and exposure to other environments might become more effectively understood. At this point, it can merely be stated that, overall, administrators in this institution need not have any great fear of losing faculty because of exposure. It might be different, however, for individual units where other variables might be more strongly affective. The administrative letters in Appendix C(3) point up the practical aspects of the problem of retention and exposure. This might be even a greater problem than retention: how to *unretain* faculty who have become too satisfied and complacent[7] once tenure has hardened. Certainly it should be recognized that the problem of retention and

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[7]This is not to overlook the fact that *that* letter might reflect some kind of intellectual-personality clash within a discipline rather than incompetence.

exposure in other institutions would be a highly critical one.

Originally, also, the investigator would have assumed that greater leavetaking should, through some intervening, interpersonal mechanism, lead to a faster rate of promotion for greater leavetakers. The actual finding that leavetaking and promotion are independent of each other is, once it has been verified, not very difficult to conceptualize given all the circumstances of the specific complex institution. Research, which very well might be an intervening promotional mechanism in this university, is not truly reflected in the leavetaking scores of any individual faculty member. Thus, a high leavetaker has just as much probability of being overlooked because of his lack of visibility[8] as a low leavetaker who never disappears from view. On the other hand, a low leavetaker may be just that because he is publishing articles, books, or other manuscripts as a result of research which are causing ripples within the discipline. It is essential, of course, to remember the nature of the institution: complex, research-oriented, crammed with Ph.D.'s. Given another kind of institution, say a not too affluently-endowed four-year private college and in it a high leavetaker, it seems fair to say that that high leavetaker must be capable of exerting greater influence in the budgeting process, and this greater influence could begin to affect promotional rates. Of course, this is theoretically what is happening in each of the complex institution's sub-units, and just as with retention, rate of promotion should be investigated within each of the institutional sub-units.

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[8]As a matter of fact, Jennings' business-oriented mobility-visibility findings discussed in his cited book would probably imply that the less the personal visibility, the less and longer the upward mobility. Jennings, *op. cit.*

It is of value to individual faculty members in this kind of institution to know that faculty members on leaves are not being given some kind of advantage in the promotional process which might result from a financially undemocratic situation. The undemocratic financial situation which leads to greater numbers of leaves for the natural scientists and a deprived status for humanists is possibly overcome because of the extremely strong cleavage between disciplines, each of which has its own special characteristics. It would be worthwhile, however, to ascertain whether the independence between leavetaking and rate of promotion extends equally across each discipline by comparing discipline rates of promotion. In stating this, the implication is that the investigation should enter into one of the additional dimensions as related to general theory in the earlier Pattern of Analysis discussion.[9]

Up to this point there has been some discussion about several variables and their statistical relationship to leavetaking with some more-or-less extended forays into a general theory, the support of which has been neither particularly strong nor noticeably weak. There is a good possibility that the theory is too elaborate--at least now there is--in the eyes of the investigator. There appears to be a need for more detailed dimensional investigations. Additionally, there has been some discussion of the administrative portion of leavetaking problems as a result of the findings.

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[9]A great deal of the thought behind this multi-dimensional pattern arose out of the following citation: Andrews, Frank, Morgan, James, and Sonquist, John, *Multiple Classification Analysis: A Report on a Computer Program for Multiple Regression Using Categorical Predictors*. Ann Arbor, Mich.: Institute for Social Research, University of Michigan, 1967.

To return to the previous analysis of statistical relationships, one of the findings involved the notion of a departmental star and whether or not this kind of faculty member in a particular department or discipline had different leavetaking characteristics. Now certainly it would have been a finding of major importance if it had been discovered that departmental stars happened to be the same faculty members who maximized their absences from the institution. The result of that kind of finding at this institution might have been to send faculty members into their department chairman's office demanding more or at least equal opportunities for self-actualization.[10] The negative finding of independence, then, is by inversion just as much a major finding as a positive finding would have been. However, one might have suspected that in this complex institution, if research productivity and leavetaking are unrelated, so must starness and leavetaking. In a sense a probe has been made into the general theory, particularly into the variables called publish-or-perish and up-or-out. The findings with respect to starness, research productivity, research dollars, promotion, and retention all seem to indicate that, in this institution at any rate, these doctrines are not strong. Here again the problem of multi-dimensionalizing the study appears, for certainly in this institution where each of the units seems to have its own leave peculiarities, it would not be scientifically sound to claim that the overall relationships apply equally to each unit or discipline. Leave parities and Unit Ratios were not too far out of balance, but it would be interesting to investigate extreme cases at either end of those measure-

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[10]This might be a professional view of "starness." It equals self-actualization.

ments. Insofar as administration of those units is concerned, the overall independences which have been discovered indicate a faculty which has been administrated fairly in the past and whose discrepancy rating of the institutional leave policy in the past indicates a kind of latent satisfaction.[11]

Discussion of the five preceding variables, classified here as *Miscellaneous*, leads into a discussion of the following variables and their relationships to leavetaking: Age, Seniority, Salary, and Dependency. These can be considered categorically as *Personal*. Academic Rank and Academic Discipline also remain, and they can be classified as *Organizational*. Being organizational they are related to the one large remaining variable, X_1, called General Findings in the regression, which variable itself can also be classified as *Organizational*.

The Personal category can be further divided for discussion purposes into two sections, each of which appears to have some intercorrelation: age/seniority and salary/dependency. The correlation between age and seniority was shown earlier, and the similarity of their variance accountability in leavetaking (25% and 24%) was probably to be expected. If theory is correct, the institution has had in the past (as the numbers attest) a leave program second to none inasmuch as there would be hardly any quarrel with its rating as a high-quality institution with an image of greatness. If this be the case, then, through a positively administrated leave program, its faculty across all age/seniority categories should have been experiencing a great deal of "regeneration." One hesitates, however, to make this kind of intui-

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[11] Theophilus, *op. cit.*

tive leap and to credit this institution's fine image to leave policy alone, particularly when multiple causation should be a logical necessity in the social sciences.

There is also another important consideration. The *AAUP Bulletin*[12] states that faculty development is one of three leavetaking purposes:

> and most important
> (3) the professional development of the teacher and thereby the increased effectiveness of higher education

is the way they state that consideration.

Apparently the *Bulletin* has greatly oversimplified leave purposes and the expected results of leaves. With 33% of the undergraduate courses at this complex institution being taught by graduate assistants who are several years away from an academic leave, or who might be on leave from a smaller college while personally seeking their Ph.D.'s, the professional development of this institution's faculty is not that of the teacher but mostly that of an independent researcher. This distinction about type of faculty development is one that should be made because a great amount of research being carried on in universities is for other purposes than the development of faculty and increased effectiveness of higher education. A great deal of research, particularly if dollars is the criterion, is defense-related. Thus destruction as well as construction enters the debate. It would be well to at least have the prevalent myths given their proper weight.

What is being implied here is that the faculty regeneration proposition of the general theory can be pretty well exploded if one attacks it from the institutional image point of view. Regeneration's

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[12]*AAUP Bulletin*, 1967, *op. cit.*

relationship to the age and seniority characteristics of leavetakers at this institution should have made them more weighted at the younger age levels. In a sense it was, but that was a result of the "long run" not yet being in operation. At those levels where leavetaking decisions were made, the administration has generally, and possibly intuitively only, seen to it that leaves occur throughout the entire age/seniority spectrum rather equally. The institutional image which has resulted has been due to the researcher, however, not through development of teachers.[13]

The other pair of Personal variables, salary/dependency, exhibited the same amount each but even less variance accountability in leavetaking. There are several inferences which can be made from this weak relationship. The first is that the faculty in this particular institution are well enough paid to be able to participate in leavetaking even when children are involved. Secondly, no consideration has been given those faculty who did not take leaves during the ten-year period. It is apparent that the weakness of the relationship between dependency or salary and leavetaking needs to consider faculty non-leavetakers before it can be reliably used as a justification for administrative decisions. It must be remembered, however, that the leavetaking scale went from a zero point to a maximum point, and both salary and dependency showed not too great a difference at both ends of the scale. To generalize now to non-leavetakers--those with the lowest possible rating off the scale--is probably statistically inexpert. The interval between the lowest point on the scale and the next lowest

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[13]In some cases the knowledge obtained through the research has not even reached the student on the campus and in the classroom because it has been classified.

below that (no leave at all) is that space in which a discontinuous function appears.

Another consideration that needs to be made regarding the salary/dependency low relationship to leavetaking is that a great percentage of the leaves were leaves where money was not a factor. Off-campus assignments, temporary transfers, sabbaticals for one semester or six months do not result in any financial loss to the faculty member. Only personal leaves and sabbaticals for one year or two semesters could result in financial loss, and of that group other unrecorded forms of income may replace the apparent loss.

The connection which the weak salary/dependency relationship with leavetaking has with the general theory and administrative practice may lie more in the faculty recruitment and retention proposition than anywhere else. Table 75 shows how salaries have been constantly rising throughout the decade.[14] Given this information, seekers of new faculty in some institutions might be able to show that salary and dependency do not hinder leavetaking opportunities. Naturally, in making this statement it must be considered that recruitment and retention at a high-quality institution may not be the same problem as at the lower prestige institution which, in periods of faculty shortage, might need good leave potential to enhance recruitment and encourage retention. If it can be shown that salaries and dependency load characteristics are non-hindrances, general theory is being supported.

The final category of variables related to leavetaking were characterized as Organizational: Academic Rank, Academic Discipline, and General Findings. These first two, of course, were directly

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[14]Not necessarily keeping up with the cost of living, however.

studied through research hypotheses relative to leavetaking, and those relationships were both similar and weak.

What does it mean to say that academic rank or academic discipline are weakly related to leavetaking in a complex institution? Inasmuch as the relationship itself is concerned, it is saying that neither rank nor discipline affect leave opportunities in this institution; that the institution is exceedingly democratic in its leave practices whether one is at low rank or in any particular discipline. The disciplinary equality of leave opportunity is fairly well established in the General Findings where leave parities in academic disciplines and departments were discovered. There was a certain amount of disparity between the natural sciences and humanities, a point already discussed, but when leavetaking was discussed from a percentage standpoint, the disparity flops over nearly 180 degrees. There might be a relationship here between this democratic leave posture and the high quality of institutional image, a theory proposition. It might be well for administrators to seek to maintain this kind of inter-institutional leave parity so that faculty morale is not undermined. A general theory relationship between the faculty regeneration proposition and the academic rank/leavetaking low variance accountability would seem to be that the higher academic ranks would ordinarily be most in need of regeneration inasmuch as age, seniority, and high academic rank would apparently flow together. An administrative policy should attempt to develop a statistically significant relationship in the direction of higher rank provided the leaves were for regeneration purposes. This principle, if it may be so honored, would more likely be more applicable to higher education institutions where research is not a prime

motivator, and because of which a regenerated faculty is a possibly natural result if that faculty also teaches.

The last variable to be considered, X_1 in the multiple regression model of leavetaking postulated in the "Pattern of Analysis" on the X-axis, has been left to the last inasmuch as it does deal extensively in another dimension: type of leave or leave classifications along with organizational sub-variables. Inasmuch as no statistically significant relationships to leavetaking were investigated in those dimensions, and because the material was purely descriptive insofar as type of leave was concerned, no discussion about those variables and their relationship to general theory or to administrative practice will be made. Rather, it is believed that the General Findings variable should be left as a variable for individual administrators to read and understand in the light of their special expertises. The information is certainly available for future hypotheses, and for general enlightenment.

This then brings the study to a natural sort of moratorium. Recommendations were earlier given in terms of the "Pattern of Analysis." An additional recommendation is that which also was alluded to earlier: sharpen the definitions and the measurements of variables much more adequately in whatever way is possible. Measurement and operational definition problems appear to be the most crucial consideration for all social sciences, and this study has been no exception. Leavetaking, in particular, needs greater refinement so that fine differences in that phenomenon can be detected, measured, and tested for significant differences under different treatments. As always, this is a matter of ingenuity, creativity, and hard work.

APPENDICES

APPENDIX A

ANNOTATED BIBLIOGRAPHY FROM EELLS AND HOLLIS

Appendix IV

Annotated Bibliography
(Arranged Chronologically)

1895

KAGAN, JOSIAH M. Leaves of Absence for Study Abroad. In Publications of New England Modern Language Association. *Report of Second Annual Meeting.* Boston: The Association, May 13, 1895. p. 13–21.

Excellent early statement, but chiefly concerned with secondary schools. Reports conditions in various American cities and in 10 foreign countries.

1904

HARRIS, WILLIAM T. Sabbatical Leave of Absence for Professors. In *Report of the United States Commissioner of Education,* 1904, part II. Washington: U.S. Government Printing Office, 1904. p. 1417–18.

Names seven institutions which had established systems of sabbatical leave and states their pay policies.

1913

BELCHER, KATHERINE F. The Sabbatical Year for the Public School Teacher. *Educational Review,* 45:471–84, May 1913.

Reports early efforts to establish systems of sabbatical leave in various cities and in the normal schools of the State of Washington. Gives details concening plans adopted in six cities in Massachusetts and New York; earliest at Cambridge, Mass., in 1896. Quotes President Garfield of Williams College on values of sabbatical leave system "recently established there."

1913

MONROE, PAUL. *ed.* Sabbatical Leave in University, College, and School. In *Cyclopedia of Education.* New York: Macmillan Co., 1911–15. Vol. 5, p. 240–41.

Names 32 institutions of higher education which had some type of sabbatical leave in 1913. For further details see Appendix I.

1916

KIRKPATRICK, E. A. Sabbatical Year in State Educational Institutions. *School and Society,* 3:783–84, May 27, 1916.

Brief report of postcard questionnaire returns from State institutions in all States. Of 95 institutions, 32 (in 24 States) stated that sabbatical leave was granted either regularly or occasionally.

1919

BARROWS, ALBERT L. Sabbatical Leave. In *Report Upon a Questionnaire Concerning the Organization and Facilities for Research Issued by Division of Educational Relations of the National Research Council.* Washington: The Council, December 1919. 105 p. (mimeograph). p. 21–35.

Albert L. Barrows was secretary of the Council, but his name does not appear on the report. It is attributed to him by Otis E. Randall, 1923, and elsewhere. A single confidential copy is in the archives of the Council, whose officers do not know of existence of any other copy. Two-page summary of it in *Association of American Colleges Bulletin,* 9: 189–191, April 1923. Earliest known questionnaire study on national basis, sent to 580 institutions, with replies from 311, of which 230 answered questions on sabbatical leave. For further details see Appendix I.

1922

RANDALL, OTIS E., *Chairman.* Report of the Commission on Sabbatic Leave. *Association of American Colleges Bulletin,* 8:104–18, March 1922.

Reviews earlier studies in the field. Summarizes 328 replies to questionnaires sent to 590 institutions. Finds that 58 had an "official policy of sabbatic leave," and that 70

more reported it "as practice in special cases." States 17 inferences and generalizations "for consideration and discussion." Conclusion: "The question of sabbatic leave is of far greater importance to the college world than many of us have been inclined to think."

1923

RANDALL, OTIS E., *Chairman*. Report of the Commission on Sabbatic Leave. *Association of American Colleges Bulletin*, 9:188–202, April 1923.

Review of his 1922 report and elaboration of it. Includes 2-page summary of Barrows' report of National Research Council (1919, above). Barrows' report says 99 institutions have systems of sabbatical leave, while Randall's summary of it says 102. Perhaps three institutions, replying late to the Council's questionnaire, were included in summary sent to Mr. Randall. Gives summary of report by Dean W. W. Beyer of Iowa State College "made some time ago" based on "correspondence with a selected list of colleges and universities." Quotes extensively from statements by several college and university presidents. Gives several sets of existing regulations for sabbatical leave. Presents for consideration and possible adoption 12 "conclusions and recommendations as expressing the opinion of the Association concerning the question of sabbatical leave." After discussion, the report was adopted.

1923

BLAISDELL, THOMAS G. The Small College and the Sabbatical Year. *School and Society*, 18:589–90, November 17, 1923.

Describes plan adopted at author's suggestion by a small college in the Middle West of sabbatical leave for one faculty member each year.

1924

RANDALL, OTIS E., *Chairman*. Report of the Commission on Sabbatic Leave. *Association of American Colleges Bulletin*, 10:137–140, May 1924. (Also in *AAUP Bulletin*, 10:210–212, April 1924.)

Brief comments on previous reports (1922, 1923). "We are of the opinion that further study of the matter for the present at least is unnecessary."

1925

SCOTT, FRED N., *Chairman*. Committee on Systems for Sabbatical Years. *AAUP Bulletin*, 11:90–91, February 1925.

"To begin this inquiry with a questionnaire is a doubtful policy." Refers to and summarizes previous questionnaire studies. Suggests collection of pertinent data from educational bulletins, college catalogs, and other published sources; study of men actually on sabbatical leave; and study of equivalent plans, if any, in British and European universities.

1927

LEMON, A. C. The Leave of Absence in Universities and Colleges. *Journal of Educational Research*, 16:210–212, October 1927.

Report of questionnaire sent to 80 institutions of various sizes and types. Replies received from 75, of which 43 granted leave, under various conditions, with some form of financial aid.

1928

LINSCHEID, ADOLPH. *In-Service Improvement of the State Teachers College Faculty*. New York: Bureau of Publications, Teachers College, Columbia University, 1928. 100 p. (Teachers College Contributions to Education, No. 309).

Ph.D. dissertation at Teachers College. Section "Leaves of Absence" (pp. 25–30) reports details regarding sabbatical leave in 27 of 55 institutions studied.

1929

MEYER, ARTHUR W. Leave of Absence in American Universities. *School and Society*, 2:350–60, September 4, 1929.

Analysis of returns from 61 institutions, of which 24 had regular plans of sabbatical leave. Gives numerous examples of variations in practice.

1931

CAMPBELL, OSCAR J., *Chairman*. Systems of Sabbatical Leave. *AAUP Bulletin*, 17:219–234, March 1931. (Also, Two Corrections, *AAUP Bulletin*, 18:306–07, April 1932.)

A very detailed report on questionnaires sent in May 1930 to all institutions on accredited list of American Council on Education. Replies received from 419 institutions, of which 185 reported systems of sabbatical leave. Names and various details concerning their systems given for each institution, arranged in four groups: State universities, endowed universities, colleges, and teachers colleges. States four conclusions.

1931

COOPER, LEWIS B. *Sabbatical Leave for College Teachers*. 1931. (Abstract in *University of Florida Publications*,

February 1932, Education series, vol. 1, no. 1, 88 p. Briefer abstract in University of Cincinnati, *Graduate Theses in Education, 1927–1931*, p. 41–63.)

Unpublished Ph.D. dissertation at University of Cincinnati. Based chiefly on returns from 844 higher educational institutions, of which 40 percent reported systems of sabbatical leave. Chapter II, "Historical Setting and Development," (pp. 8–13 of University of Florida abstract). Bibliography of 108 titles, of which two-thirds deal with sabbatical leave in public school systems rather than colleges and universities.

1932

BENNETT, HENRY G., *and* SCHILLER SCROGGS. Sabbatical Leave. *Journal of Higher Education*, 3:190–99, April 1932.

Report of extensive questionnaire study of 268 public and private institutions of higher education, of which 115 granted some type of sabbatical leave. "Sabbatical leave in publicly controlled institutions of higher education is for the most part a recent development which has not grown far in acceptance. . . . Eighty-seven replies gave the length of establishment of the practice a range of from 1 to 30 years. The median was 7 years."

1932

YOUNG, HENRY F. *Sabbatical Leave for Public School Teachers in the United States.* 1932. (Abstract in University of Cincinnati, *Graduate Theses in Education, 1931–1936*, pp. 234–40.)

Unpublished Ph.D. dissertation at University of Cincinnati. Has occasional references to sabbatical leave in higher educational institutions. Bibliography, 20 titles, earliest about 1900.

1936

CAMPBELL, DOAK S., *and* MONA L. LYON. Practice Regarding Leave of Absence in Southern Higher Institutions. *Peabody Journal of Education*, 14:74–79, September 1936.

Reports on 12 institutions of 117 having policies of regular sabbatical leave. Gives data on 647 faculty members who had taken such leave from these 12 institutions.

1937

SCHRAMMEL, H. E. Length of the Employment Year and Sabbatical Leaves of Absence in Teachers Colleges. *School and Society*, 45:454–56, March 27, 1937.

Gives names of 11 institutions from 29 queried which had systems of sabbatical leave.

1937

HAGGERTY, MELVIN E. Leaves of Absence. In *The Evaluation of Higher Institutions, vol. II, The Faculty.* Chicag : University of Chicago, 1937.

Part of the report of the Committee on Revision of Standards of the North Central Association. States causes which tend to "reduce a faculty to routine and thus to mediocrity," and resultant need for systems of sabbatical leave. Finds that "in less than a fourth of the [57] colleges studied is there an acceptable plan for sabbatical leave definitely incorporated in administrative policy and adhered to. . . . 'Chaotic' seems the only appropriate term to describe prevailing practice. . . . Even where an acceptable plan exists, some means appear to be required to render its operation effective."

1940

HUGHES, RAYMOND M. *A Manual for Trustees of Colleges and Universities.* Ames, Iowa: Collegiate Press, 1940. 166 p.

Contains good brief discussion of advantages of sabbatical leave and variations in types of it. (pp. 86–88).

1946

BOSLEY, HOWARD E. *The Administration of Faculty Personnel in State Teachers Colleges.* Oneonta, N.Y.: American Association of Teachers Colleges, 1946. 134 p.

Discusses sabbatical leave (pp. 117–19), stating that 40 of 107 teachers colleges studied had some form of sabbatical leave. Earliest one adopted in 1917; half of them adopted since 1930.

1947

REUBSAM, EDITH. Sabbatical Leave in Land-Grant Institutions. *AAUP Bulletin*, 33:717–720, Winter 1947.

Finds sabbatical leave granted in 29 of 52 institutions studied. Reports conditions for granting, length and frequency, compensation, obligation to institution, and purposes to be achieved.

1948

LLOYD, R. GRANN, *and* GEORGE H. WALKER, JR. Sabbatical Leave in Negro Colleges and Universities. *School and Society*, 68:190–191, September 18, 1948.

Of 102 institutions queried, 56 responded, 20 of which had plans of sabbatical leave.

1950

WOODBURNE, LLOYD S. *Faculty Personnel Policies in Higher Education.* New Yor' : Harper & Bros., 1950. 201 p.

Discussion of wisdom and costs of policy of sabbatical leave (pp. 135–141). Doubts its desirability. See also volume by same author below, published in 1958.

1951

KESSELL, W. C., *and* PAUL F. MUSE. A Study of Sabbatical Leave in Teacher Training Institutions. *Teachers College Journal,* 22:70-71, January 1951.

A study of 50 teachers colleges, of which 20 had systems of sabbatical leave.

1951

Recurrent Long Leave for University Teachers. *Nature* (London) 168: 509. September 22, 1951.

Report of a study by International Association of University Professors and Lecturers of Great Britain. Finds existence of systems of sabbatical leave in 22 countries (names given) of 37 studied. "It is in the British Commonwealth of Nations and in the United States that the practice is most firmly rooted."

1952

MILLER, M. G., *and others.* Sabbatical Leave for Workers: We've Tried It. *Rotarian,* 8:26–28, August 1952.

Six answers to question: "Would this plan work in business and industry?" from industrialists in United States, Canada, England, and New Zealand. Four are negative, one neutral, and one affirmative.

1952

DEUTSCH, MONROE E. *The College from Within.* Berkeley and Los Angeles: University of California Press, 1952. 232 p.

Devotes one chapter to "Sabbaticals—A Chance to Advance Knowledge" (pp. 90–101). A strong statement of research purposes. Outlines plan of new supplementary "Sabbatical in Residence" recently introduced at University of California.

1952

HARTUNG, BRUNO. *A Study of the Economic Status of the Professor in American Colleges and Universities.* Washington: Catholic University of America, 1952. ix, 141 p. (Abstract published by Catholic University of America Press as *Studies in Economics, Abstract Series,* vol. no. 3, 1952. Chapter III, "Sabbatical Leave"—p. 74–79 of dissertation, p. 13 of abstract).

Ph.D. dissertation. Chiefly a review and summary of earlier studies of sabbatical leave.

1952

MCVEY, FRANK L., *and* RAYMOND M. HUGHES. *Problems of College and University Administration.* Ames, Iowa: Iowa State College Press, 1952. 326 p.

Brief discussion of values and problems, especially financial ones, connected with sabbatical leave (pp. 161–63).

1954

HEIGES, RALPH E. On Sabbatical Leave. *Peabody Journal of Education,* 32:6–8, July 1954.

Discusses values only. "Study, travel, and the restoration of health—these three comprise a sabbatical leave—but the greatest thing will be to return to the job."

1954

MAUL, RAY. Encouragement to Further Study. *NEA Research Bulletin,* 32: 176–79, December 1954.

A study of 679 individuals in 344 degree-granting institutions. Length of service required to become eligible for leave for advanced study: 40 percent after 6 years; 20 percent after 7 years; 9 percent after 8 years; 7 percent after 10 years.

1955

KIRSCHENBAUM, LEO. A Gloss on Regulations Governing Sabbatical Leaves of Absence (With Apologies to W. S. Gilbert). *AAUP Bulletin,* 41:603–05, Winter 1955.

Satirical verse on regulations for sabbatical leave.

1955

LAYCOCK, FRANK. . . . And One to Grow On. *AAUP Bulletin,* 41: 733–741, Winter 1955.

Personal report of value of a year of sabbatical leave spent at University of Chicago under the auspices of the Ford Foundation.

1956

BURKMAN, JOEL A. *A Report on Sabbatical Leave Provisions in Colleges and Universities in the United States.* Sacramento, Calif.: California State Employees' Association, December 19, 1956. 7 p.

Based on returns from random sample of 200 publicly supported and 28 privately supported institutions, of which 137 had systems of sabbatical leave. Results are tabulated for seven sizes of institutions by years of service required, percentage of salary furnished, academic ranks eligible, and limitations on number eligible.

1957

DEES, BOWEN C. Opportunities for Faculty Study in Engineering. *Journal of Engineering Education*, 47:558–64, March 1957.

Brief consideration. "Sabbatical leave policies in our colleges and universities leave much to be desired."

1957

MCCORDOCK, R. STANLEY. *Report on Sabbatical Leave Programs in American State Universities.* Bowling Green, Ky.: Bowling Green State University Chapter of American Association of University Professors, May 15, 1957. 11 p. (mimeograph).

Statements, in paragraph form, of sabbatical leave policy, or lack of it, for institutions in each State.

1957

OLIVER, WILLIAM W. Sabbatical Leave Travel Expense and the Federal Income Tax. *AAUP Bulletin*, 43:507–11, September 1957.

Discusses deductibility of travel expenses from income tax returns.

1958

STICKLER, W. HUGH. *A Survey of Sabbatical Leave Policies and Practices in State Universities and Land-Grant Institutions, 1957–1958.* Tallahassee, Fla.: Florida State University, January 1958. 16 p. mimeograph. (Summary in *Higher Education*, 14:118–119, March 1958.)

Based on collection of extensive data from 71 institutions, 45 of which had systems of sabbatical leave. Most common form, 1 year at half salary. Plans and conditions summarized. For summary, see pp. 22–23.

1958

COPE, HAROLD C. Fringe Benefits and Prestige Items. *College and University Business*, 25:35–37, August 1958.

Summary of questionnaire responses from 67 small colleges, 40 of which had some type of sabbatical leave; 8 had it for administrators.

1958

A Sabbatical Leave on Full Salary. *School and Society*, 86:421–22, November 22, 1958.

Adoption of plan at Dickinson College (Pa.) for leave every 10 years with full salary.

1958

BOKELMAN, W. ROBERT. *Higher Education Planning and Management Data, 1957–58: Salaries, Fringe Benefits, Tuition and Fees, Room and Board* (Circular No. 517). U.S. Department of Health, Education, and Welfare, Office of Education. Washington: U.S. Government Printing Office, 1958. vi, 102 p.

Under one of the "fringe benefits" reports frequency of sabbatical leave in 448 publicly controlled and 704 privately controlled institutions for various groups of faculty members and administrative officers (pp. 56–59).

1958

WOODBURNE, LLOYD S. *Principles of College and University Administration.* Stanford, Calif.: Stanford University Press, 1958. 198 p.

Discussion of wisdom and costs of policy of sabbatical leave (pp. 60–62). Similar to volume by same author published in 1950.

1959

MURPHY, RICHARD. Sabbaticals and Fringe Benefits. *Quarterly Journal of Speech*, 45:99–104, February 1959.

Of 175 colleges and universities having active speech programs, 115 reported some type of sabbatical leave; 41 of them are classified as "automatic" in their operation.

1960

CLOWARD, MCRAY. *The Sabbatical Leave in Utah Institutions of Higher Learning.* 1960. 473 p. (Abstract in *Dissertation Abstracts*, 21:510–11, September 1960.)

Unpublished doctoral dissertation at George Peabody College for Teachers. Based on questionnaire returns from 676 faculty members and 59 administrators in 10 institutions, and on personal interviews with 20 administrators and 127 faculty members.

1961

MARSEE, STUART E. Sabbatical—Full or Half Salary. *Junior College Journal*, 31:333–36, February 1961.

Gives text of 12 rules for sabbatical leave that "were adopted and are working effectively" at El Camino Junior College (California). Unfortunately, the introductory sentence is far from true: "Every college has some type of sabbatical leave program."

1962

EELLS, WALTER CROSBY. The Origin and Early History of Sabbatical Leave. *AAUP Bulletin*, 48:253–256, September 1962.

A summary of some of the principal features of the present monograph.

APPENDIX B

(1) CARD USED IN DATA COLLECTION

(2) LETTER TO DEPARTMENT CHAIRMEN

(3) RATING SCALES FOR RESEARCH AND TEACHING PRODUCTIVITY INCLUDING STARNESS

NAME _____ BIRTH _____ MARITAL: M__ S__ W__ D__ SS# _____

UNIV. ___ ___ ACAD ___ ___ ___ ___ HIRE ACAD ___ ___ ___ ___
UNIT Coll. Dept. DISC Hum Ss Ns Prof. DATE _____ RANK Ins. Ast. Asc. Full
(Dates)

DEGR ___ ___ ___ ADM
INST Bach. Mast. Ph.D. TITLE _____

LEAVE ___ | ___ ___ (___ ___ ___ ___) | NON ___ ___ ___ ___
DATA OCA | SAB Other I II III Other | Govt. Ind. Acad Personal

☐ AGE ___ RANK _____ DEP'TS: NO. ___ AGES ___ ___ ___ ___ ___ ___
Year SALARY $_____ & SOURCES _____
NON-SAB &
PERS LEAVE: MONTHS _____ CHANGES _____

PRODUCTIVITY DATA:

August 24, 1969

TO: _____ _____ Chairman, Department

FROM: James Boswell, Ph.D. Candidate, Center for the Study of Higher Education. (Committee Chairman: Dr. Robert T. Blackburn, Center for the Study of Higher Education)

Enclosed are the materials which will enable you to perform the faculty ratings under discussion. First, there is a list of faculty members each of whom is in the study because he or she has had some kind of leave of absence during the academic period 1960 through 1970. Next to that faculty member's name is a 4-digit code number. Secondly, there is a group of rating sheets. The rating problem has been simplified so that only two scales appear on each rating sheet, Teaching and Research. Each of these scales is subdivided into two scales, Quantity and Quality. At the top of the rating sheet is a 4-digit code number which refers back to the list and to a specific faculty member. The code number will help to maximize confidentiality. After you are finished the list may be destroyed, and I will pick up the rating sheets personally.

Individuals who have left the department because of retirement, death or voluntarily should still be rated if at all possible. Possibly you may receive help in these cases from a more senior member of the department who would retain the confidentiality of the study.

With respect to the question of "What is a departmental star?", I can offer the following guidelines. This would be someone whose disciplinary reputation is national if not international. Ordinarily one might expect that "starness" results from publications and professional efforts.

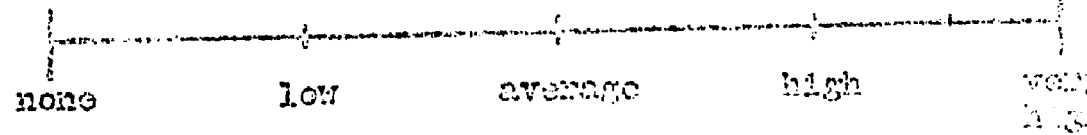
Thank you very much for your cooperation. I will contact you or your secretary in order to pick up the completed materials.

_____

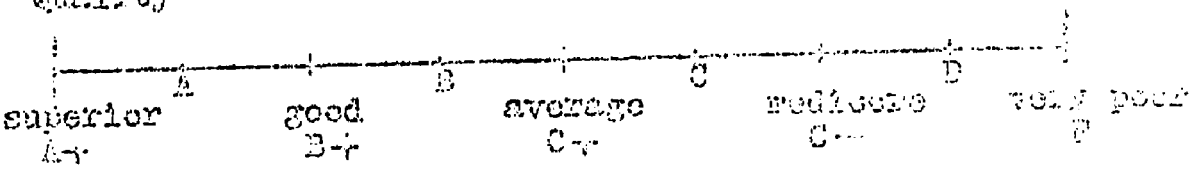
James Boswell

SCALE # 1 RESEARCH

A. Quantity

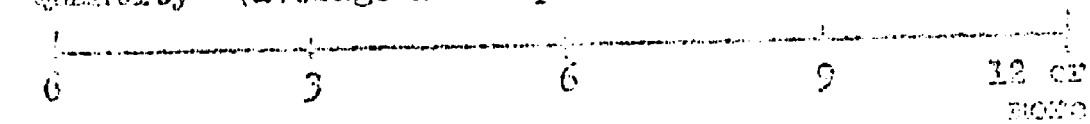


B. Quality

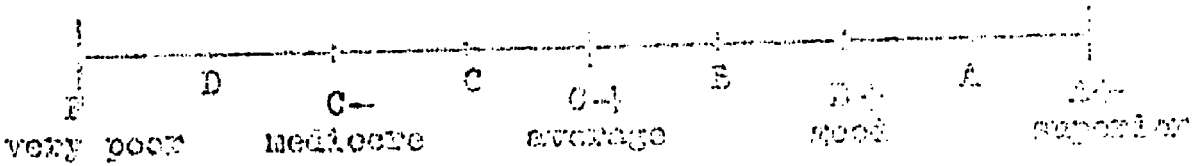


SCALE # 2 TEACHING

A. Quantity (average hours per semester)



B. Quality



QUERY: Is this individual a "departmental star"? ___Yes___

REMINDERS: Does the above Code # agree with the individual you are rating? Check this.
Three of the scales go from low to high; one goes from high to low.
All of the scales go from 0 to 9 on a continuous basis.
Place a downward pointing arrow ↓ wherever you wish to note.

APPENDIX C

(1) MONTHLY SUMMARY REPORT FORM FOR LEAVES OF ABSENCE (PAGES 1 AND 2)

(2) OFFICIAL FORM FOR REQUEST FOR SABBATICAL LEAVE (PAGES 3 AND 4)

(3) TWO ADMINISTRATIVE REQUESTS FOR LEAVES OF ABSENCE FOR PROFESSORS WITHOUT SALARY (PAGES 5 AND 6)

REGENTS' COMMUNICATION

Monthly Summary Report
Leaves of Absence
for Teaching Staff

Approved:

Assistant to the Vice-President
for Academic Affairs

Leaves of Absence Granted to Teaching Staff

By Type of Leave

Name	Rank	Type of Leave	School or College	Duration		Reason
				From	To	

(FORM J)

(Three copies of this form must be filed with the Dean. If the request is approved by the Dean, two copies will be transmitted to the Vice-President for Academic Affairs with a Regents' Communication recommending approval of the request.)

Request for Sabbatical Leave

(1) ..... 19 .....

To the Board of Regents:

I hereby request a sabbatical leave of absence for the following period: (University Year 19 .....) (2)

(Fall Term 19.....) (Winter Term 19 .....) (from ..... to .....),
specific dates when applicable

with (half) (full) salary.

My plans for the use of this sabbatical leave, if it is granted, are indicated below:

(Please indicate here the specific purpose which you have in mind, its relationship to your general scholarly interests, and to scholarly work previously accomplished. If your plan involves a specific research project, please indicate to what extent progress has already been made and to what extent the sabbatical leave will assist you in bringing it to a conclusion. Please indicate also where you propose to carry on your work during the period of the leave.)

(3)

.....

.....

.....

.....

.....

.....

I (have) (have not) (applied for) (received) 1. a fellowship 2. grant-in-aid 3. other assistance in research: (4) (5)

The source of funds is (6) Amount 7

There (is) (is not) an obligation to perform a service for the granting agency; The nature of the obligation is (8)

and the use of these funds materially aids my planned research program.

I have read the Bylaw regulations (on the reverse of this sheet) relating to the grant of sabbatical leaves and hereby affirm that my plans for the use of a sabbatical leave are in accord with these regulations and I agree to return to the University for at least an academic year following my sabbatical leave.

Approved .....
CHAIRMAN

Approved .....
DEAN

Approved .....
VICE-PRESIDENT
FOR ACADEMIC AFFAIRS

Signed (9)

Social Security Number (10)

Form 2593 Rev. 10-68

Bylaws Relating to Sabbatical Leaves of Absence

Sabbatical leaves for study and research may be granted by the Board of Regents, on recommendation by the President and the appropriate dean, director, or other administrative head, to members of the professorial staff who have completed six years of service in professorial rank at the University. Such sabbatical leaves shall be in recognition of significant service through teaching and research and for the purpose of encouraging scholarly achievement which will contribute to the professional effectiveness of the members of the staff and the value of their subsequent services to the University.

Sabbatical leave may not be granted to one individual more often than once every seven years. It will be granted only when the proposed purpose of the leave warrants it and when the teaching program of the department and the interests of the University will not be seriously impared by the professor's absence. Ordinarily arrangements for the carrying on of the work of instruction of a professor granted sabbatical leave must be made without additional expense to the University. A member of the staff who is granted sabbatical leave is expected to return to his duties in the University for at least one year.

A sabbatical leave may be granted for an entire annual contractual period (or for two halves of the annual contractual period), during which time the professor shall receive one-half of his regular salary; or it may be granted for one-half of the annual contractual period, with full salary. A member of the faculty on sabbatical leave shall not render service for compensation in another institution or enterprise, provided, however, that this does not preclude the acceptance of a fellowship or other assistance in research, but in each such case the source of additional funds and the fact that their use materially aids the planned research program of the recipient shall be fully set forth in the request for sabbatical leave.

Application for sabbatical leave shall be made in writing and addressed to the dean or director or other administrative head of the unit concerned not later than March 1 preceding the University year within which the leave is desired. The application must be accompanied by a statement of a well-considered plan for spending the leave in a manner calculated to contribute to the professional effectiveness of the applicant and the best interests of the University. Upon returning to the University after sabbatical leave the professor shall present a full report regarding the use of his sabbatical leave to the dean, director, or other administrative head of the unit concerned for transmission to the President and the Board of Regents. (Section 5.15 of the *Bylaws of the Board of Regents* as approved July 26, 1946, and amended May 1, 1947.)

July 28,

REQUEST FOR LEAVE WITHOUT SALARY

NAME:

RANK: Professor of _____
TYPE OF LEAVE: Without salary
DATES: Winter Term 1967

Professor _____ has been invited to serve as Visiting Professor of _____ at the University of _____ during their Spring semester. Leave of absence without salary during our Winter Term, therefore, is requested. He will be able to pursue his research program during this period, and, Professor _____ believes, his general morale will be improved by spending these months in _____. Also, by making a distinguished member of our faculty available to the University of _____, the cordial relations between the University of _____ and _____ should be strengthened.

Professor _____'s duties will be performed by a visiting professor during the period of his absence. Arrangements for payment of the University's share of annuity and social security premiums for this period will be made by Professor _____.

Recommended by

for the Associate Dean, College of Literature, Science, and the Arts

Recommendation endorsed by

Vice President for Academic Affairs

MEMORANDUM

TO: Vice President _____

FROM: Dean _____

Attached is a Regents' communication requesting a leave of absence for Professor _____ from the period _____-_____. A few comments to you on this are no doubt appropriate.

For a variety of personal and psychological reasons, Professor _____ has not been particularly valuable to us as a teacher in recent years. Until this present year, he held a joint appointment in the _____ and the _____. Neither of these departments were able to use him in any significant and effective capacity in the classroom. Furthermore, he did not have outside support for his research work. During the present year, we have transferred his responsibilities solely to the _____.

On several occasions over the past _____ Professor _____ has engaged in research work at _____ and has been able to work fairly effectively in that particular environment. He has the opportunity to continue to work there during the period for which he is requesting leave. If we do not extend this leave, he will return to the campus, and frankly we are able to make only very limited use of his abilities here. It seems to us in the best interest of the Department, the College, and the University as a whole to grant Professor _____ this leave for the period of this request. If there are questions that you would like to discuss with me, I would be very pleased to do so.

cc:

APPENDIX D

AAUP POSITION ON LEAVES OF ABSENCE

A STATEMENT ON LEAVES OF ABSENCE

The college or university teacher should be a scholar who is constantly increasing his knowledge and keeping abreast of the development of his field. Frequently he is an active investigator, and in many institutions research is a significant portion of his obligations. He should remain a man of vigor with a fresh mind and broad intellectual interests. Heavy teaching duties performed year after year may make this impossible. Leaves of absence and special research assignments at reasonable intervals of time are among the means of assuring that institutions of higher learning have the kind of faculty that they need. A well-developed program of leaves is of major importance in enhancing the professional development of faculty members. Moreover, the work done while the scholar is on leave, for example, through the results of his investigation or his public service, often is of immediate value to society. The health of the faculty members is a constant concern of the college, and leaves are one of the means of protecting it.

1) The protection or recovery of health;
2) the direct usefulness of the work expected to be done while on leave
3) the professional development of the teacher and thereby the increased effectiveness of higher education.

American universities consider research which expands the boundaries of knowledge as one of their primary functions. Many research assignments, frequently called research leaves, will be given to further the work in the professor's field. The timing and the conditions

of such assignments should be determined in large part by the needs of the project and, of course, the other obligations of the institution. A period of time with no interruption of teaching may be followed by periods when research is a man's chief occupation. One man may study the means of improving a departmental course in freshman English, another may participate in or even direct archeological diggings, while still a third will devote his time, with the collaboration of post-doctoral research associates, to investigation in his own laboratory. For certain institutions and in certain disciplines such "research leaves" will be of primary importance and will in general not only best serve the research function of the university but also in many cases be the best means for the professional development of the teacher.

Research and public service, though often contributing to the future usefulness of the scholar, must be judged in large part by the direct results expected of them. As a form of beauty, a great theorem "is its own excuse for being." To serve as an ambassador or to write the social security law is to be useful in the present--not just to prepare for future usefulness.

In the majority of colleges and in many universities, by far the chief purpose of leaves is to insure that the individual becomes and remains as good a teacher as his capacities permit. This means that the young scholar should have as early an opportunity as possible to complete his formal education, and to develop his special field of scholarship on his own after attaining a Ph.D. degree. The opportunity to keep abreast of rapidly developing fields frequently is needed. Nor is old knowledge to be scorned; often it is well to dwell in cultivated fields, not always struggle amid the smoking stumps of the frontier. A

change of pace, even a change from one set of frustrations to another, is often needed. Even in the research-oriented institutions there are individuals who are better served by a period of sustained general study than by research assignments, and there are times in the development of a research scholar who is also a teacher when it is better to examine the known than to discover the new. Nor should we forget that a wide range of cultural and scholarly interests beyond the field of one's specialty, when enriched by a well-informed mind, is a precious asset to any teacher. Far more frequently than at present, leaves should be planned to nurture such interests. Although a leave should have a purpose, it need not always be tightly structured. Travel, reading, and seeking perspective for his work are primary sources of enrichment for the teacher and hence his students.

It is our belief that leaves, though serving both the personal needs of individuals and the interests of institutions, are primarily an investment of society for strengthening higher education as well as in the accomplishments of the individuals while on leave. A sound policy in regard to leaves, adopted by many institutions, will facilitate such investment because institutions can more generously grant leaves when they can expect to gain in the effectiveness of professors who receive these leaves and to attract stronger men into their faculties.

We do not consider leaves as deferred compensation to be furnished to a man by his institution no matter what other opportunities he may have had for professional development, or to be given him in cash if he resigns to go elsewhere to teach or do some other kind of work, or paid to his estate if he dies. However, faculty members do

have a right to conditions of work that afford opportunities for their development as teachers and scholars. An institution has an obligation to provide these opportunities; an increase in a teacher's bank account is no substitute for an increase in his experience and his knowledge.

A college should furnish opportunities for growth to all the scholars on its staff. We do not believe that an institution should provide leaves only to those who are expected to remain on its faculty or, for that matter, even in teaching. An educational institution whose chief purpose is to develop the abilities of those who serve the nation, usually in capacities other than formal education, should not resent improving the minds of those few of its staff who may leave the academic profession.

The length of time since an individual has had an opportunity for intensive professional development, whether furnished by the institution or not, is a major criterion in determining who should be granted leaves. If a man moves from one institution to another, the length of time since his last leave should be considered in determining when he will receive his first leave from his new institution--a move may readily be more exhausting than refreshing, and the values in it are other than those derived from a leave.

Leaves for scholarly or cultural development can be put much more nearly on a periodic basis than research leaves or, of course, than leaves for public service and health. The timing of a research leave is usually related to the state of the project. Neither illness during the working year nor the call of public service comes to all scholars. However, for every teacher the need to learn is constant. Although time may not generate the right to a leave as compensation, it

will generate the need for one as opportunity, a need which should be met by an opportunity the faculty member has an obligation to use. The ticking of a clock should be a reminder both to the conscience of the institution and to the conscience of the individual.

In considering whether or not to grant a leave, especially for general development, the institution would be wise not to confuse the clarity of the teacher's plans with the possible value of the leave itself. A leave spent gaining perspective and intellectual breadth, through travel, reading, and a variety of new experiences, may be of greater value than one devoted to a definite and clearly organized, but limited, project. The individual eligible for such a leave has an obligation to plan for the best possible use of the opportunity. It is appropriate for the selection committee to discuss his leave plans with an eligible faculty member and to suggest modifications in them. The committee should strive to make a wise use of funds available rather than to place an undue burden of proof upon the individual.

It is a good investment to give these leaves more frequently to the young than to the old. Yet both the dire results of fossilization and the outraged sense of fair play preclude a great difference between the two. We believe that leaves should be given right up to retirement so that the skills and knowledge of the teacher-scholar may be further developed. A man may make great contributions in the years just prior to retirement. Moreover, he should retire with the expectation of continued usefulness.

Of course a leave of absence is not a guarantee that a man will increase his effectiveness and, fortunately, many scholars are able to continue their professional growth without leaves. Nevertheless, we

consider a well thought-out and adequately supported plan of leaves to be a major component of a sound educational policy for a college or university. We recognize that it may well be an expensive component. Leaves must compete for funds with salaries, retirement benefits, insurance, additional staff, and occasionally with buildings and the beauty of the campus. Leaves may not be first on the list but they do deserve high priority. Moreover, although some funds may be used for any of a large number of purposes, this is not true of all potential sources of support. If the need is properly presented, money for the professional development of the faculty might be acquired from sources that will not provide money for either buildings or increased salaries. The support of leaves of absence for the faculty members of our institutions, especially of colleges with less adequate means, could well increase the educational and research potential of the nation.

Work leading to an advanced degree is not always the best educational experience for older teachers without such a degree. Universities should plan certain advanced work for these persons which would give them broader insights into their fields than are afforded by the scattered glimpses of narrow segments they now receive. Once it is decided to keep permanently a person without a Ph.D., the judgments relative to his promotion and salary should be made in terms of his proven worth--not in light of the degree he does not have.

Equalization of opportunities

The funds that an institution may have for leaves with pay should be used in such a manner as to equalize opportunities for professional development among various fields and even among different individuals in the same field. However, it should be recognized that

leaves without pay, from the home institution to work elsewhere, differ greatly in the contributions they may be expected to make to this development. In some cases they may be so supported by additional funds for travel and research facilities as to afford greater opportunity to the teacher than does an ordinary leave. Frequently, however, they are by no means the equivalent of a leave with pay and should not be so considered in selecting those who may receive support while on leave.

Length of leave

Leaves should seldom be for more than one academic year plus contiguous summers or come more often than once in three years. However, this should not be a fixed rule. For example, exceptions can well be made for longer periods of service in public offices, either elective or not. Health leaves longer than a year or more frequently than once in three years are indicated.

Selection of persons to receive leave

The general criteria upon which choices are made should be developed in large part by the faculty of an institution. The effective development of manpower in their profession is an important function of a faculty. Although in many institutions the final responsibility of recommending to the governing board those who are to be granted leaves will rest with the administration, faculty participation in this decision is desirable. Faculty committees on research or on appointments and personnel may well be given advisory or, under some circumstances, primary responsibility for selecting the individuals who will receive leaves. No fixed rule to fit all institutions or even all types of leaves within a single institution can be established.

Caring for work of absent faculty members

The work of a faculty member while he is on leave can be cared for in many ways. Some large departments can be staffed with the expectation that a certain number of their members will always be on leave. Visitors, as substitutes, often bring fresh ideas to the institution and themselves gain rewarding experiences. At times such visits provide an opportunity for mutual inspection by college and visitor to determine the desirability of a more permanent connection. A new appointment may be made when the department expects to expand within the next year. Overloading one's colleagues and impoverishing course offerings are detrimental to the institution, but perhaps less so than an inadequate program of leaves. The plan sometimes used of paying a man the difference between his salary and the cost of a substitute is pernicious and may lead to watered-down instruction and over-burdened colleagues.

Relation of leaves to promotion, salary increases, and tenure

Leaves for as long as one year should not interfere with salary increases or promotions. When a faculty member is on leave for more than a year, an institution may lose touch with him to the extent that it can make no reasonable judgment of his development. This argument cannot with realism be advanced for leaves of one year or less, for our judgments are seldom that precise or that up-to-date. Moreover, leaves are so important to the development of a scholar that a young man should not be discouraged from taking them by fear of the effect upon his career.

For faculty members not on tenure, a period on leave should normally count as a part of the probationary period. However, when the

leave is of such a nature that the individual's development as a faculty member while on leave cannot be judged, or when the leave is for purposes other than scholarly, the individual should be allowed, on his request, to have the tenure decision postponed for a period equal to the length of the leave. This should only be done by an agreement, preferably in writing, made prior to the leave and clearly understood by the individual, by his department, and by the administration of the institution.

Obligation to return from leave

Leaves are often granted under circumstances that place an ethical obligation on their recipient to return to his institution. Special consideration on the part of the institution or his colleagues may lead to such an obligation. It is scarcely fair to expect the college of lesser means, which cannot afford to recruit at the Ph.D. level, to give financial aid toward the graduate work of young men who will not return to the institution. We should not demand greater generosity from the poor than from the wealthy even if we have learned to expect it.

If the leave was accepted under agreement to return, this agreement of course should be honored.

Even when there is no obligation to return, the faculty member on leave should observe the same rules of adequate notice of resignation that he would if he were not on leave.

An institution should not knowingly invite a man who is on leave to join its staff when it would not be proper for the man to accept. At times it would seem only equitable, if an institution makes an offer to a man on leave and expected to return, for it to take over

a part or all of the expenses of his leave since it will be the most direct recipient of any institutional benefits derived therefrom.

However, there are many moral obligations that should not be enforced by legal means. Institutions are not wise to retain the less conscientious and the discontented by rules that are not needed to retain the fair-minded and the happy. We believe that when a leave is granted for graduate study or under other conditions that place an unusual obligation on the individual, a statement that it is granted with the expectation that the individual will return would work better than the more stringent rules, even contracts, now in frequent use. Moreover the normal leave should usually be given without even an implied obligation to return, although such return may be expected.

Continuation of insurance and annuity provisions

Institutional participation in faculty retirement and group insurance plans should be continued for staff members on leaves of absence with pay. This is a part of their regular compensation.

An institution's retirement plan should be so organized as to accept voluntary annuity contributions from employees on leaves of absence without pay. Those institutions that continue their contributions towards retirement annuities for faculty members on leaves without pay are generous--wisely generous.

During leaves of absence without pay, an institution should continue its group life, health, and total disability insurance for faculty members unless equally adequate protection is otherwise provided for the individual.

If, however, a member on leave without pay becomes a full-time employee of another institution or organization, it is reasonable to

expect the employing institution to assume the cost of institutional contributions to the individual's retirement annuity and group insurance coverage. Foundations supporting leaves for scholarship should include an amount sufficient to maintain institutional annuity and group insurance contributions along with salary in establishing the total grant.

If during a man's absence there has been any discontinuation of insurance or provisions for annuities, there should be no waiting periods before coverage is resumed upon his return.

Amount paid to faculty members on leave

We recognize that for many institutions the present goal should be to reach the norm of allowing faculty members, at least once in each seven years, if they have no other equivalent opportunity for professional growth, a leave of a year on half pay or a half year on full pay. It is also clear that for many faculty members it is not feasible to take a year on half pay unless supplementary funds are available from other sources and that even a semester away on full pay may represent a severe financial strain upon the individual. Institutions which have already attained the normal arrangement should look forward to improving it by helping their members in seeking outside grants to supplement the salary provided or by acquiring special institutional funds for the purpose, as well as by paying a higher percentage of salary on leaves of longer than a semester, ultimately perhaps 100 percent. Grants for support during the summer months to assure freedom for scholarship before or after a period of leave have been found to be especially productive.

Summary

Leaves of absence are among the most important means by which a teacher's effectiveness is maintained and enhanced and a scholar's usefulness enlarged. A sound program of leaves is therefore of vital importance to a college or university. Hence adequate budgetary provisions should be made for it and sound principles of procedure established.

It is recognized, however, that the resources of an institution may be so limited that a satisfactory program of leaves may not be immediately feasible.

As elsewhere in the educational enterprise, accepted policies and procedural principles should afford flexibility to meet the needs of the individual and of the institution.

A program of leaves is an investment in a great national asset --the teacher-scholar. It should promote the professional development both of those members of the faculty who are most likely to stay at the institution for a long period and, although not necessarily to an equal degree, of those for whom there is no such assurance. Leaves are not deferred compensation, but the continued effectiveness of the faculty member demands that leaves or equivalent opportunities for professional development be afforded at regular intervals. Not all such opportunities will be paid for by the institution, and it should use its funds to equalize the means of professional development among the various fields and even within each field.

It is an obligation of the individual to make use of all available means, including leaves, of heightening his present usefulness and his future effectiveness. Leaves are a means to this end.

Leaves without pay for public service, research, or teaching elsewhere should be granted when it is possible to do so without serious harm to the educational program of the institution.

In granting leaves, evidence that they will produce presently useful results or increased future effectiveness should be considered. The individual eligible for a leave should plan ahead for the best use of his opportunity. Administrators and faculty members of the committee determining leaves should encourage individuals to make such advance plans and may even suggest changes in them, but would be unwise to treat the plans as the only basis for granting leaves. We must not forget that a plan which is designed to provide broad perspective and cultural experience, and which is tentative in detail, may often be better than one that, even if definite, is more rigid in nature and more limited in scope.

Colleges that grant leaves for graduate work should be willing on occasion to do so when the work is not directed towards an advanced degree. Universities with extensive graduate programs should develop offerings especially planned to increase the effectiveness of mature college teachers.

Previous service at another institution since a faculty member's last leave is one of the factors that should be taken into consideration in determining eligibility for leave.

The institution has a right to deny a request for a leave, either for financial or educational reasons, even if the faculty member is eligible and the purpose of the leave as infrequently as possible and, when forced to, with as much equity as is attainable, considering both the purpose for which the leave is requested and the time since

the individual has had equivalent opportunity for scholarly growth. Policies in this regard should be developed with full faculty participation. The faculty should have a role in making specific decisions.

Leaves usually should not be more than a year in length nor come more frequently than once in three years. Exceptions to this rule should be possible, especially for leaves in the public service.

The amount that a man is paid while on leave should not depend on the cost of caring for his work while he is absent.

Leaves of a year or less should not interfere with faculty members' promotions or increases in salary. If a faculty member has not secured tenure when he takes a leave, the period on leave should count as part of the "probationary period," unless there is a clear understanding prior to taking leave that this will not be the case.

The faculty member should consider it an obligation to:

1. Make the request for leave at a reasonable time in advance and through established procedures, except under unusual circumstances.

2. Not accept an appointment elsewhere at a time later than would be considered ethical if he were not on leave.

3. Return from leave of absence when the circumstances of granting the leave indicate that this is the only equitable action--frequently the case when leaves on pay are granted to pursue graduate study. He should of course honor any agreement to return which he has made.

The institution is wise to trust the faculty in these matters rather than to create formal rules or contractual relations to enforce obligations. Moreover, the granting of a leave under normal circumstances should not create an obligation to return.

A college or university should not knowingly invite a man to join its staff at a time when he cannot honorably accept the invita-

tion. An institution may well pay for all or part of a man's leave when it invites him to move while on leave.

Coverage under various types of insurance programs should be continued while a faculty member is on leave. Contributions toward retirement annuities should be continued by both the institution and the individuals for those on leave without pay. It is also desirable to continue these contributions when the leave is without pay. Although an institution cannot be asked to carry this expense, it is praiseworthy when an institution is willing to do so.

As funds become available, an increasing percentage of a man's salary should be paid when he has a year-long leave for scholarship, and supplements for travel or other purposes of the leave would be desirable.

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