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THE RELATIONSHIP OF TEACHER ALIENATION TO SCHOOL WORKPLACE CHARACTERISTICS AND CAREER STAGES OF TEACHERS

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ABSTRACT

THE RELATIONSHIP OF TEACHER ALIENATION TO SCHOOL WORKPLACE CHARACTERISTICS AND CAREER STAGES OF TEACHERS

By

Michael Joseph Vavrus

The purpose of this study was to examine teacher alienation as it relates to public school workplace variables. The difference among career stages of teachers from preservice to field in levels of alienation was also investigated.

Problem Situation

Public schools as workplaces purchase the labor power of teachers for employment. Having sold their labor power to the schools, teachers are faced with an employer who places constraints upon the nature of their work. Managers of schools make numerous decisions which determine the processes and product of the labor of teachers. With their labor serving more as a commodity than as a personally fulfilling activity, teachers may experience alienation from their work. The notion of alienation provides a theoretical framework from which to examine the teacher as laborer. Research upon job satisfaction and morale of teachers has been hindered by a poor conceptual base and lack of consensus on terminology.

Results

The factor analysis resulted in a three factor solution:

- self-actualization need satisfaction
- participation need satisfaction
- job involvement

For each of the three alienation factors a significant difference existed among the four groups. In no cases did the teacher education students differ significantly between each other nor did the teacher groups. Differences were consistently found between teacher education students and teachers:

- teacher education students were significantly less alienated than the teacher samples regarding the opportunity to experience self-actualization as a teacher
- preservice teachers who had not student taught were less alienated than teachers from the opportunity for participation in the school decision making process
- experienced teachers were more alienated from involvement in their jobs as teachers than teacher education students anticipated in a teaching career.

An F-test indicated that regression analysis by pooling rather than individual career stage was permissible. For the pooled sample a significant proportion of the variance for the self-actualization need satisfaction, participation need satisfaction, and job involvement factors was accounted for by the workplace characteristics teacher influence and control, relevant tests of teacher abilities, and social value of labor. Self-actualization appears to be a more universal concept than the other two factors. Participation need satisfaction

Methodology

Four groups of subjects (N = 275) at various stages in their teaching career received questionnaires:

- preservice elementary education majors who have not student taught
- preservice elementary education majors who have completed student teaching
- first-year teachers at the elementary level
- experienced teachers at the elementary level

The questionnaire was designed to measure two distinct categories of information, alienation of labor and workplace characteristics. Using the total sample, a factor analysis was initially conducted on the twenty-three individual scores comprising alienation.

An analysis of variance with post hoc complex comparisons (Scheffé procedure) among the teacher career stage means on the factors and individual scores comprising alienation was conducted. Next, for each career stage the three factors and twenty-three individual scores for alienation were regressed on nine workplace characteristic scores. Following this, the sample was pooled into one regression equation which was compared to the individual career stage regressions. Findings are based on the self-reported perceptions of subjects on the present instrument and refer only to relative levels of alienation among the four groups of subjects.

was most associated with the influence and control items, whereas relevant test of teacher abilities items were significant variables for job involvement.

Implications

- Information on organizational milieu of schools and occupational role of teachers needed in preservice curriculum
- Marx's theory of alienation appropriate for examining educational work settings
- Taxonomy needed for categorizing school management systems along democratic-despotic continuum

To my Mother and Father

who throughout their lives

have given generously of themselves

to their family, friends, and community.

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CHAPTER I

THE PROBLEM

Introduction and Purpose

Public schools as workplaces purchase the labor power[1] of teachers for employment. Having sold their labor power to the schools, teachers are faced with an employer who places constraints upon the nature of their work. Managers of schools make numerous decisions which determine the processes and product of the labor of teachers. Lack of participation in such administrative decisions by teachers may have a negative effect upon their mental state. With their labor serving more as a commodity than as a personally fulfilling activity, teachers may experience alienation from their work.

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[1] Marx conceived of "labor power" as a commodity which workers exchange for money or a price. The selling of labor power is a precursor of alienated labor. Marx states that "the exercise of labour power, labour, is the worker's own life-activity, the manifestation of his own life. And this life-activity he sells to another person in order to secure the necessary means of subsistence. Thus his life-activity is for him only a means to enable him to exist. He works in order to live. He does not even reckon labour as part of his life, it is rather a sacrifice of his life. It is a commodity which he has made over to another. Hence, also the product of his activity is not the object of his activity. . . . What he produces for himself is wages . . ." Karl Marx, "Wage Labour and Capital," in The Marx-Engels Reader, ed. Robert C. Tucker (New York: W. W. Norton & Co., 1973), pp. 169-71.

Recent research on teaching has considered the way in which teachers operate as decision makers within their own classrooms.[2] The options of teachers as decision makers in classrooms may, however, be severely limited by institutional constraints placed upon their work. Furthermore, the message to teachers from teacher educators, school administrators, and the public regarding the actual purpose and social value of the product of the labor of teachers is often ambiguous and/or contradictory. Under working conditions which may diminish the social value of their labor and inhibit their control, teachers may find their work alienating. Teachers may, therefore, experience their labor as not belonging to them.

This study focuses upon teacher alienation of labor as it relates to such public school workplace characteristics as: (1) work being a relevant test of teacher abilities, (2) the social value of teacher labor, and (3) teacher influence and control. Alienation of labor is inversely related to high degrees of need satisfaction attainment and job involvement by teachers. The difference among career stages of teachers from pre-service to field in levels of alienation is also investigated.

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[2]Richard J. Shavelson, "Teachers' Decision Making," in The Psychology of Teaching Methods: The Seventy-fifth Yearbook of the National Society for the Study of Education, ed. N. L. Gage (Chicago: University of Chicago Press, 1976), pp. 372-414; Lee S. Shulman, "Teaching as Clinical Information Processing," in National Conference on Studies in Teaching, ed. N. L. Gage (Washington, D.C.: United States Department of Health, Education, and Welfare, 1975).

The Problem Situation

John Dewey characterized a despotically governed society as having people "engaged in activity which is socially serviceable, but whose service they do not understand and have no personal interest in."[3] In contrast, a democratic polity emphasizes egalitarianism manifested in participatory decision making. Dewey explained,

> a society which makes provision for participation in its good of all its members on equal terms and which secures flexible readjustment of its institutions through interaction of the different forms of associated life is in so far democratic. Such a society must have a type of education which gives individuals a personal interest in social relationship and control . . .[4]

Furthermore, Morgart, Mihalik, and Martin contend that "there can be no political democracy without genuine democratization of the workplace as well."[5]

The governing of schools as workplaces raises the issue of the democratic involvement of teachers in the school decision making process. During their pre-service training teachers may be anticipating careers as professionals with a substantial degree of control over their labor. Hoy explains that students in teacher education

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[3]John Dewey, Democracy and Education (New York: Macmillan Co., 1920), p. 98.

[4]Ibid., p. 115.

[5]Robert A. Morgart, Gregory Mihalik, and Dan T. Martin, "Alienation in and Educational Content: The American Teacher in the Seventies," paper presented at the Annual Meeting of American Educational Research Association, Chicago, April 1974, p. 3.

programs are socialized into "ideal images and practices."[6] But upon beginning work as a teacher, the teacher new to the occupation "may suddenly be confronted with a set of organizational norms and values at variance with those acquired in formal preparation."[7] Fuller and Brown add in their essay, "Becoming a Teacher," that "society's formal goals for teachers are high but somewhat vague. Standards are, in fact, so variable that an important skill for the teacher new to a community is that of sensing its values and modifying one's teaching accordingly."[8] It may well be that for beginning teachers there arises a dissonance between their anticipated ideal of some form of participatory democracy and the operating reality of schools despotically organized.

Glattorn observes that "most conventional public schools are operated on principles of benign despotism."[9] To attain the ideal of democracy, teachers who exhibit the positive abilities selected by Cogan such as "creative, democratic, integrative, learner-centered"[10]

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[6]Wayne K. Hoy, "The Influence of Experience on the Beginning Teacher," The School Review 76 (September 1968):315.

[7]Ibid.

[8]Frances F. Fuller and Oliver Brown, "Becoming a Teacher," in Teacher Education: The Seventy-fourth Yearbook of the National Society for the Study of Education, ed. Kevin Ryan (Chicago: The National Society for the Study of Education, 1975), p. 31.

[9]Allan Glatthorn, "Decision Making in Alternative Schools," NASSP Bulletin 57 (September 1973):110.

[10]Morris L. Cogan, "Current Issues in the Education of Teacher," in Teacher Education: The Seventy-fourth Yearbook of the National Society for the Study of Education, ed. Kevin Ryan (Chicago: The National Society for the Study of Education, 1975), p. 229.

would need to be sought out for public schools in the United States. But, if the workplace is organized despotically, it may be unreasonable to expect teachers to manifest democratic behavior in the classroom.

Having control over the decisions affecting one's occupation is generally the domain of those who claim professional status. In his analysis of teachers Lortie observes that teaching is not a profession in the usual sense since teachers "are officially employees without powers of governance. Public schools . . . have no legally-based 'senates' or similar arrangements for collective participation by faculty members in the overall operation of the organization."[11] In research on "Teacher Planning for Instruction," J. Smith supports this notion by noting that generally "teachers do not control long-range planning decisions."[12] As a result, "for the individual teacher, the formal curriculum is more a constraint than an area of decision-making."[13]

The existence of this constraint may have serious implications for the implementation of improved instructional programs and techniques in public school classrooms. Wolcott notes,

> New procedures introduced in the educator subculture are invariably imposed on teachers rather than by teachers. . . . In the technocrats' view, teachers are noted for their conservatism and resistance to change. In the teachers' view,

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[11]Dan C. Lortie, "The Balance of Control and Autonomy in Elementary School Teaching," in The Semi-Professions and Their Organizations: Teachers, Nurses, Social Workers, ed. Amitai Etzioni (New York: The Free Press, 1969), pp. 4, 19.

[12]Jeffrey K. Smith, "Teacher Planning for Instruction," Rutgers University, Studies of Educative Processes, Report No. 12, October 1977, p. 7.

[13]Ibid., p. 11.

> the constant turmoil of innovation more often benefits the technocrats than the teachers, although it is the teachers who usually bear the burden of innovation.[14]

Furthermore, Lortie states that "the fragile nature of the teacher's autonomy is an autonomy which . . . possesses not legitimation in the official statement of authority distribution in American public schools."[15] Such working conditions are the same ones which Dewey assailed for failing to account for "human factors and relationships" by means of "a corresponding distortion of emotional life."[16]

Such a "distortion of emotional life" within the public school workplace may be expected to have detrimental psychological effects upon teachers. Morgart, Mihalik, and Martin explain that

> . . . if teachers' needs remain essentially peripheral in the decision-making process determining the nature of their work roles, then it becomes easier to understand why teachers like other workers might experience their work activities as alienating rather than as a means of developing their mental and emotional growth.[17]

The institutional arrangements of schools which may negatively affect both the autonomy and mental state of teachers appears also to be a major factor in teachers' concerns about their jobs. Corwin states, "There is reason to believe that a desire for more influence over policy and disagreement with central level decision making and

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[14]Harry F. Wolcott, Teacher versus Technocrat: An Educational Innovation in Anthropological Perspective (Eugene, Oregon: University of Oregon Press, 1977), pp. 195, 212.

[15]Lortie, "Autonomy in Elementary School Teaching," p. 41.

[16]Dewey, Democracy and Education, p. 99.

[17]Morgart et al., "The American Teacher in the Seventies," p. 2.

district goals account for much of the teacher militancy and dissatisfaction."[18]

The negative consequences of minimal participation in the school policy determination process may have a spillover effect to not only the mental state of teachers but to their pupils as well. Stopsky observes,

> The failure of school administrators to engage in joint management of schools has created an historically determined mentality of subservience among teachers. The demand for obedience on high has transferred into attitudes of subservience and domination between teachers and students.[19]

Some teacher educators express concern over teachers who are unclear about the social and moral role they are to fulfill as teachers. Teachers may be technically proficient in teaching students cognitive skills, yet use classroom management procedures which are inclined toward despotism. Travers and Dillion state, "The kind of training provided by procedures in which all major decisions lie outside the learner hardly seem appropriate for developing young people to live, work, and contribute to a democratic society."[20] Hoy's research indicates that beginning teachers reshape their "ideology" of pupil

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[18]Ronald G. Corwin, "The New Teaching Profession," in Teacher Education: The Seventy-fourth Yearbook of the National Society for the Study of Education, ed. Kevin Ryan (Chicago: The National Society for the Study of Education, 1975), p. 238.

[19]Fred Stopsky, "The School as a Workplace: Extending Democracy to Schools," International Review of Education 21 (1975):502.

[20]Robert M. W. Travers and Jacqueline Dillion, The Making of a Teacher: A Plan for Professional Self-Development (New York: Macmillan Publishing Co., Inc., 1975), p. 112.

control from a relatively humanistic philosophy to a more custodial one.[21]

In the process of becoming a teacher, teachers may move from an idealized conception of the schools as a workplace to eventually adjusting to their situation. But, Lortie observes, "Few beginning teachers project long futures in the classroom . . ."[22] To comprehend more fully the effect upon the mental state of teachers as laborers in public schools, it may be constructive, as Lortie suggests, to pursue research "on the issue of power and teachers" and, more specifically, on the "recurrent patterns" of teacher job attitudes or "psychic rewards."[23] Lortie defines psychic rewards as consisting "entirely of subjective valuations made in the course of work engagement . . . and constrained by the nature of the occupation and its tasks . . ."[24] If, as Lortie contends, it is psychic rewards that the structure of teaching tends to emphasize, it will be constructive to analyze the way in which the school workplace affects the distribution of these rewards and the subsequent effect this has upon the psychological condition of teachers as laborers.

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[21]Hoy, "Influence of Experience on Beginning Teacher," p. 319.

[22]Dan C. Lortie, Schoolteacher: A Sociological Study (Chicago: The University of Chicago Press, 1975), pp. 98-99.

[23]Ibid., pp. 101-2.

[24]Ibid.

Theoretical Framework

A starting point for understanding this problem is to examine the perspective of teachers regarding their involvement and control of the schooling production process and the subsequent effect upon their mental state. In Teacher as Stranger Greene states,

> The teacher is frequently addressed as if he had no life of his own, no body, and no inwardness. Lecturers seem to presuppose a "man within man" when they describe a good teacher as infinitely controlled and accommodating, technically efficient, impervious to moods. They are likely to define him by the role he is expected to play in a classroom, with all his loose ends gathered up and all his doubts resolved. The numerous realities in which he exists as a living person are overlooked; so are the many ways in which he expresses his private self in language, the horizons he perceives, the perspectives through which he looks on the world . . .
>
> Moreover, the teacher's feeling of responsibility may well be eroded by an implicit demand that he be the agent of an externally defined purpose, which he can only understand as a slogan or still another expression of prevailing piety.[25]

A conceptual framework for analyzing the potentially adverse psychological effect of a career in teaching is through an examination of teachers as workers in the schooling production process. Popkewitz and Wehlage explain that using the concept of work allows there to be

> . . . focus not only upon behavior in institutional life but also on the meanings and interpretations actors give to their educational activity. . . . Therefore, to examine schooling through the concept of work is to penetrate the relationship between school behaviors and the assumptions, values, purposes, and sense of competency teachers and students hold.[26]

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[25]Maxine Greene, Teacher as Stranger: Educational Philosophy for the Modern Age (Belmont, California: Wadsworth Publishing Co., Inc., 1973), pp. 269-70.

[26]Thomas S. Popkewitz and Gary Wehlage, "Schooling as Work: An Approach to Research and Evaluation," Teachers College Record 79 (September 1977):70-71.

Furthermore, according to Dreeban, conceptualizing the school as a workplace helps "to show that there are concepts and perspectives derived from other areas of the world of work that, when applied to the schools, make them more understandable."[27]

The notion of alienation, however, is concerned with the intrinsic nature of work and provides a theoretical framework from which to examine the teacher as laborer. In a review of the development of the concept of alienation since the mid-nineteenth century, Pacheco observed

> . . . the gradual move away from using the concept as a tool for a critical theory of society. . . . What began with Marx as an explicitly normative and value-laden notion of alienation as a tool with which to critically examine objective social conditions and social structure gradually evolves into a concept implicitly used to defend a given social structure--through an implicit assumption of what is normal and the development of the notion of alienated individuals as deviant.[28]

The concept of alienation as used in this present study will need to conform to the one intended by Marx.

Alienation represents a person's separation from oneself and one's work. There are four aspects which constitute the whole of alienating labor:

1. The relation of the worker to the <u>product of labour</u> as an alien object exercising power over him . . .

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[27]Robert Dreeban, "The School as a Workplace," in <u>Second Handbook of Research on Teaching</u>, ed. Robert M. W. Travers (Chicago: Rand McNally and Co., 1973), p. 450.

[28]Arthur Joseph Pacheco, "The Concept of Alienation: From Critical Theory to Social Deviance," Ph.D. dissertation, Stanford University, 1976, <u>Dissertation Abstracts International</u> 36 (June 1976):7925-A.

2. The relation of labour to the act of production within the labour process. The relation is the relations of the worker to his own activity as an alien activity not belonging to him. . . . Estranged labour turns thus:

3. Man's species being, both nature and his spiritual species property, into a being alien to him, into a means to his individual existence . . .

4. The estrangement of man from man.[29]

In contemporary observations Maslow concedes that "the relationship between self-esteem and work is closer than I had thought. Especially healthy and stable self-esteem (the feeling of worth, pride, influence, importance, etc.) rests on good, worthy work to be introjected, thereby becoming part of the self."[30] Fromm reports that "experience has shown . . . that if the workers can be truly active, responsible, and knowledgeable in their work role, the formerly uninterested ones change considerably and show a remarkable degree of inventiveness, activity, and satisfaction."[31]

The measure of dealienation for Marx is the degree to which individuals approach or attain "humanism."[32] He defined this state as

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[29]Karl Marx, "Economic and Philosophic Manuscripts of 1844," in The Marx-Engels Reader, ed. Robert C. Tucker (New York: W. W. Norton & Co., Inc., 1972), pp. 60-63.

[30]Abraham H. Maslow, Eupsychian Management (Homewood, Illinois: Richard D. Irwin, Inc., 1965), pp. 12-13.

[31]Erich Fromm, To Have or To Be (New York: Harper & Row, 1976), p. 101.

[32]"Humanism" was used by Marx synonymously with "communism." Given the misuse of the term "communism" world-wide by various political systems and movements, the term "humanism" is preferred in this context.

the "positive transcendence of . . . human self-estrangement . . .; the complete return of man to himself as a social (i.e., human) being . . ."[33] There is, then, a fundamental condition of humanism to be realized. Meadows explains that from this perspective dealienation

> . . . lies in the recovery of control and unity of man with the objectifications of his own action: Redemptive historically consist in the recovery of the humanity of man--first in his seeing what has been done to him--and then in the dealienating action of establishing the new institutions of human restoration.[34]

In this same humanistic tradition Maslow states, "Salvation Is a By-Product of Self-Actualizing Work and Self-Actualizing Duty."[35]

Attempts to operationalize alienation to research purposes have raised some empirical problems. Bryce-Laporte and Thomas state,

> Despite its conceptual problems, alienation persists as a phenomenon; but looking at it from a phenomenological rather than conceptual perspective, alienation again raises a set of troublesome questions. . . . Does the nature, essence or even form of alienation differ for specific periods, societies, or persons?[36]

The response to the question posed by Bryce-Laporte and Thomas has two dimensions. On the one hand, until a total condition of "humanism"

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[33]Marx, "Economic and Philosophic Manuscripts of 1884," p. 70.

[34]Paul Meadows, "Thematic Strategies and Alienation Theory," in Alienation in Contemporary Society: A Multidisciplinary Examination, eds. Roy S. Bryce-Laporte and Claudewell Thomas (New York: Praeger Publishers, 1976), p. 12.

[35]Maslow, Eupsychian Management, p. 6.

[36]Roy S. Bryce-Laporte and Claudewell S. Thomas, eds., "Introduction," Alienation in Contemporary Society: A Multidisciplinary Examination (New York: Praeger Publishers, 1976), pp. xix-xx.

is arrived at, alienation will affect an entire society. Assuming, however, that different segments will vary in degree of alienation, it is reasonable to examine specific institutions and groups of people and their respective degrees of alienation. Ollman clarifies this point by explaining that all individuals "are considered alienated in the way and to the degree that their members fall short of the [humanistic] ideal. . . . The forms of alienation differ for each class because their position and style of life differ . . ."[37]

To determine the degree of alienation of workers, job satisfaction is generally an inappropriate measure for alienation of labor. Researchers approaching the topic from that perspective often

> . . . are thus concerned less with the nature of the work performed than with considerations pertaining to professional status. "Alienation from work" here is concerned in terms of dissatisfaction with the limitations associated with the occupation of one's position in the hierarchy of employment.[38]

Faunce, therefore, prefers to focus upon the "quality of work experience" rather than job satisfaction:

> Quality of work experience, as it is used here, means something more than simple level of job satisfaction. It is difficult to make sense of the extensive literature on job satisfaction without adding information regarding variation in the perceived importance of work since the antecedents and consequences of satisfaction with an important activity are clearly different from the antecedents and consequences of satisfaction with an unimportant activity.[39]

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[37]Bertell Ollman, Alienation: Marx's Conception of Man in Capitalist Society, 2nd ed. (Cambridge: Cambridge University Press, 1976), p. 132.

[38]Richard Schacht, Alienation (Garden City, New York: Doubleday & Co., Inc., 1970), p. 169.

[39]William A. Faunce, "Self Investment in the Occupational Role," paper presented at meetings of the Southern Sociological Society, New Orleans, April 6, 1972, p. 2.

Along these lines Maslow adds,

> The only happy people I know are the ones who are working well at something they consider important. . . . This was the universal truth for all my self-actualizing subjects. They were metamotivated by metaneeds expressed in their devotion to, dedication to, and identification with some great and important job.[40]

More specifically, for Faunce alienation of labor can be seen through "a withdrawal of self investment" from an occupational role.[41] He states,

> "Quality of work" is clearly a normative concept and is usually defined in terms of extent of autonomy, opportunity for creativity, and recognition for achievement on the job. There is at least inferential evidence, however, that people do not place high value upon these attributes of a job in the absence of self investment in it.[42]

Lawler and Hall found a positive relationship existed between the need satisfaction and job involvement levels of workers and the job design characteristics of worker influence and control, a relevant test of worker abilities, and feedback to workers upon the social value of their work.[43] If teachers are alienated and have divested themselves from their work, the explanation may be that from the perspective of teachers there may be an inadequate opportunity within their workplace to experience such need satisfaction elements as autonomy, creativity,

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[40]Maslow, Eupsychian Management, p. 6.

[41]Faunce, "Self Investment in the Occupational Role," p. 18.

[42]Ibid., pp. 18-19.

[43]Edward E. Lawler III and Douglas T. Hall, "Relationship of Job Characteristics to Job Involvement, Satisfaction, and Intrinsic Motivation," Journal of Applied Psychology 54:305-12.

and recognition for achievement. Maslow in this regard sees "real" achievement as a basis for self-esteem. He explains, "Real achievement means inevitably a worthy and virtuous task. To do some idiotic job very well is certainly not real achievement."[44] A sense of withdrawal of self investment from an occupation relates directly back to the Marxian notion of being estranged from both the product and act of the labor process. Both Marxian humanism and a high self investment in one's work imply a positive, self actualizing unity between the mental state and the labor of an individual.

Research leading to a comprehensive understanding of teachers in the work world is limited. As of 1973 Dreeban reports that "for the most part, the work of teachers has remained unconceptualized as have those aspects of the environment that may in fact be related to the character of the work."[45] On this point Morgart, Mihalik, and Martin add, "It is clear that work alienation, especially as it may be a growing phenomenon for the modern public school teacher, is a complex and as yet relatively unanalyzed motif in social/administrative science of education."[46]

Research Questions and General Hypotheses

The problem situation of potentially alienated teachers and a theory of alienation of labor suggests the following research questions and general hypotheses:

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[44]Maslow, Eupsychian Management, p. 13.

[45]Dreeban, "School as a Workplace," p. 454.

[46]Morgart et al., "The American Teacher in the Seventies," p. 41.

1. Is there a significant difference in levels of alienation (need satisfaction and job involvement) for (1) students in teacher education who have not student taught, (2) students in teacher education who have completed student teaching, (3) first-year teachers, and (4) experienced teachers?

H_1: The rank order of the group means for the alienation of labor variables (as measured by need satisfaction and job involvement) from least to greatest amount of alienation will be as follows: (1) students in teacher education who have not student taught, (2) students in teacher education who have completed student teaching, (3) first-year teachers, and (4) experienced teachers.

The following research question and additional hypothesis are also generated:

2. What is the relationship between teacher alienation (need satisfaction and job involvement) and workplace characteristics (influence and control, relevant test of abilities, and social value of labor) of public schools as perceived by teachers?

H_2: For each of four career stages of a teacher (students in teacher education who have not student taught, students in teacher education who have completed student teaching, first-year teachers, and experienced teachers), a significant proportion of the variance of alienation of labor (as measured by need satisfaction and job involvement) will be explained

by workplace characteristics (as measured by teacher influence and control, a relevant test of teacher abilities, and the social value of teacher labor).

Delimitations of this Research

The focus of this study is upon the perspective of people planning or actively engaged in teaching careers. This study does not attempt to be a comprehensive statement upon all variables which could be included in research upon teacher alienation of labor. For example, the management systems of schools as an independent variable affecting teacher alienation will not be examined. This research effort hopes to shed some light upon the dynamic of teacher alienation and to serve as a foundation for future research in this field. Alienation of labor in education is a complex subject which involves all affected publics, i.e., students, parents, administrators, board members, state and federal agencies, and teachers. This study, however, does not attempt to examine thoroughly the interactions of those groups and their subsequent relationship to teacher alienation of labor.

CHAPTER II

REVIEW OF RELATED RESEARCH

Introduction

The review of related research to alienation of labor in general and teacher alienation specifically uses as its criterion alienation theory. Alienation represents a person's separation from oneself and one's work. There are four aspects which for Marx constituted the whole of alienating labor:

1. The relation of the worker to the product of labour as an alien object exercising power over him . . .

2. The relation of labour to the act of production within the labour process. The relation is the relations of the worker to his own activity as an alien activity not belonging to him. . . . Estranged labour turns thus:

3. Man's species being, both nature and his spiritual species property, into a being alien to him, into a means to his individual existence . . .

4. The estrangement of man from man.[1]

Research potentially relevant to understanding the relationship between teacher alienation and workplace characteristics of the public schools is investigated. Besides studies attempting explicitly to analyze alienation, research upon job satisfaction and teacher morale are also included. The purpose for examining the job satisfaction and

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[1]Marx, "Economic and Philosophic Manuscripts of 1844," pp. 60-63.

teacher morale literature is to determine the degree of appropriateness of such research for grasping the nature of teacher alienation.

Alienation and Work: Overview

Empirical research on the topic of alienation and work has generally acknowledged Marx's theory. Studies of alienation in the sociological literature have not, however, applied the concept of alienation in a uniform manner.[2] As is discussed in the following section, research specifically upon the alienation of teachers from their work has been sparse.

Closely aligned with Marx's theory of alienation is the conceptualization of work as being the degree to which it is intrinsically satisfying or rewarding. Miller differentiates between job satisfaction and involvement with the work actually done. He defines alienation through statements about "the intrinsic pride or meaning of work."[3] This operationalism is congruent with the "self-estrangement" notion of Seeman's conceptualization of alienation.[4]

Seeman's 1959 essay, "On the Meaning of Alienation," has served as a theoretical framework for many researchers examining alienation of labor. Powerlessness (an individual's "behavior cannot determine the occurrence of the outcomes, or reinforcements, he

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[2]Schact, Alienation, pp. 168-73.

[3]George A. Miller, "Professionals in Bureaucracy: Alienation Among Industrial Scientists and Engineers," American Sociological Review 32 (October 1967):759.

[4]Melvin Seeman, "On the Meaning of Alienation," American Sociological Review 24 (December 1959):790.

seeks"), meaningless ("individual is unclear as to what he ought to believe"), normlessness ("high expectancy that socially unapproved behavior are required to achieve given goals"), and isolation (individual assigns "low reward value to goals or beliefs that are typically highly valued in the given society") in addition to self-estrangement ("the inability of the individual to find 'self-rewarding' or 'intrinsically meaningful activity' . . . that engage him")[5] are the components of Seeman's definition of alienation. With the exception of self-estrangement, these factors part from the Marxian notion of alienation. The focus is not upon the social nature of the production process. This departure is acknowledged by Seeman in his discussion of powerlessness.[6] To clarify this point, Schacht explains, "It is true that Marx terms the economic forces which dominate the individual 'alien' to him; but he has in mind less the powerlessness of the individual in relation to him than the fact that they are completely indifferent to his interests and detrimental to his well-being."[7]

Lawler and Hall offer a broad conceptual framework which is an appropriate means for investigating the relationship between job attitudes and job design/workplace characteristics factors. The following is a definition of their terms:

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[5]Ibid., pp. 784, 786, 788-90.

[6]Ibid., p. 784.

[7]Schacht, Alienation, p. 180.

1. "Job Attitudes" include
   a. "need satisfaction": the degree to which the higher order needs of self-actualization, autonomy, and responsibility are fulfilled.
   b. "job involvement": "The degree to which a person is identified psychologically with his work, or the importance of work, or the importance of working in his self-image."
   c. "intrinsic motivation": "the degree to which a job holder is motivated to perform well because of some subjective rewards or feelings that he expects to receive or experience as a result of performing well . . .; statements about the consequences of performance for feelings of esteem, growth, and competence . . ."
2. "Job Design"/Workplace characteristics include
   a. the degree of influence and control felt by the job holder over his/her work.
   b. the degree to which the job is perceived as a relevant test of the job holder's abilities.
   c. the probability that the job holder would receive socially meaningful feedback about his/her work.[8]

Through factor analysis Lawler and Hall's research indicates that need satisfaction, job involvement, and intrinsic motivation are distinct job attitude categories. All three are positively correlated

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[8]Edward E. Lawler III and Douglas T. Hall, "Relationship of Job Characteristics to Job Involvement, Satisfaction, and Intrinsic Motivation," Journal of Applied Psychology 54 (1970):306, 308; T. M. Lodhahl and M. Kejner, "The Definition and Measurement of Job Involvement," Journal of Applied Psychology 46 (1963):26, as cited in Lawler and Hall, p. 306.

with job design when a high degree of the job attitude factors is exhibited. Need satisfaction shows the strongest relationship, followed by job involvement, and with intrinsic motivation demonstrating the weakest association.[9] As defined, need satisfaction and job involvement can be used as indices of alienation of labor. The nature of intrinsic motivation is such that it is more a comment about the value of performing well on some task rather than a statement about the nature of the labor itself.

Lawler and Hall use a discrepancy index to determine their measure of need satisfaction. That is, both a preferred and actual state of affairs is reported by subjects. As March and Simon explain, "Dissatisfaction arises from a disparity between reality and the ego-ideal held by the individual."[10] In addition to Lawler and Hall's job involvement factor, their discrepancy or dissatisfaction index for need satisfaction can serve as an appropriate measure of alienation. In researching teacher alienation and job satisfaction there are precedents for using a discrepancy measure approach. In 1955 Bidwell used the ideal-actual dichotomy for testing the concept of satisfaction in teaching.[11] Barakat states, "The greater the discrepancy between

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[9]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," pp. 310-12.

[10]James G. March and Herbert A. Simon, Organizations (New York: John Wiley and Sons, Inc., 1958), p. 94.

[11]Charles E. Bidwell, "The Administrative Role and Satisfaction in Teaching," The Journal of Educational Sociology 29 (September 1955): 42.

what is actual and what is ideal, the greater the alienation."[12] Belasco and Alutto define "decisional participation" of teachers as "the discrepancy between current and preferred levels of participation."[13] Most recently, Mohr in a research design prepared for the National Institute of Education advocates a similar approach.[14]

Teacher Alienation

In reviewing the literature related to teacher alienation, attention is given to those studies that have attempted to capture the concept of alienation of labor. Specifically sought is research which contributes to an understanding of the role of teacher labor within the schooling production process. Furthermore, it is necessary to have data on the relationship between the schooling mode of production and the level of need satisfaction and job involvement of teachers. As Bidwell stated twenty-three years ago in his discussion of teacher satisfaction, "One of the chief motivations of individuals in an organization is the satisfaction of individual needs."[15]

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[12]Halim Isber Barakat, "Alienation from the School System: Its Dynamics and Structure" (Bethesda, Maryland: ERIC Document Reproduction Service, ED 014 815, 1966), p. 16.

[13]James A. Belasco and Joseph A. Alutto, "Decisional Participation and Teacher Satisfaction," Educational Administrative Quarterly 8 (Winter 1972):44.

[14]Laurence B. Mohr, "Administrative Structure, Effectiveness, and Efficiency: A Prospectus for Research in Organizational Aspects of Education," paper prepared for the National Institute of Education, n.d., p. 18.

[15]Bidwell, "Administrative Role and Satisfaction in Teaching," p. 41.

In analyzing the variable of control over one's work, it is helpful to conceptualize it in terms of participatory decision as defined by Dewey. For Dewey,

> . . . a society which makes provision for participation in its good of all its members on equal terms and which secures flexible readjustment of its institutions through interaction of the different forms of associated life is in so far democratic. Such a society must have a type of education which gives individuals a personal interest in social relationship and control . . .[16]

Corwin suggests that it may be "useful to distinguish between a degree of power which permits complete control and relatively minor influence."[17] Participation in decision making, then, would indicate some degree of control. Aiken and Hage suggest as a definition of participation, "the degree to which staff members participate in setting the goals and policies of the entire organization."[18] Combined with his meaning of participation is the interpretation by Chung[19] and Ambrosie and Heller[20] that the definition should also reflect the

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[16]Dewey, Democracy and Education, p. 115.

[17]Ronald G. Corwin, "The School as an Organization," in The School in Society: Studies in the Sociology of Education, eds. Sam D. Sieber and David E. Wilder (New York: The Free Press, 1973), p. 185.

[18]Michael Aiken and Jerald Hage, "Organizational Alienation: A Comparative Analysis," American Sociological Review 31 (August 1966):498.

[19]Ki-Suck Chung, "Teacher-Centered Management Style of Public School Principals and Job Satisfaction of Teachers," paper presented at the Annual Meeting of the American Educational Research Association, Minneapolis, March 6, 1970, p. 6.

[20]Frank Ambrosie and Robert W. Heller, "The Secondary School Administrator and Perceived Teacher Participation in the Decision-Making," The Journal of Experimental Education 40 (Summer 1972):8.

extent to which individuals subjectively feel that they are involved in the decision making process of their workplace, the school.

In a recent study of education and alienation Blumenkratz and Tapp state, "The model used to operationalize alienation is at the crux of the difficulties in research on the concept."[21] Blumenkratz and Tapp's solution, however, is to acknowledge Marx and then depart from him by adopting Seeman's framework. Research on teacher alienation has consistently used the Seeman model, both explicitly and implicitly. For the most part, the measures of alienation used in these studies fail to tie the subjective feelings of teachers to concrete events pertaining to their labor within the school system. This is the shortcoming of the research by Bush, Hearn, Parker, and, to a lesser extent, Moeller and Charters.[22] Bush used an instrument which Seeman helped develop, Rotter's Internal versus External Control of Reinforcement (I-E) Scale.[23] Seeman considers Rotter's I-E model to

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[21]David Blumenkratz and Jack T. Tapp, "Alienation and Education: A Model for Education," The Journal of Educational Research 71 (November/December 1977):104.

[22]Endilee P. Bush, "Alienation and Self Ideal Discrepancy: Desegregation Effects in High School Teachers on High School Teacher," paper presented at the Annual Meeting of American Educational Research Association, Chicago, April 1974; James J. Hearn, "Teachers' Sense of Alienation with Respect to School System Structure," Phi Delta Kappan 52 (January 1971):312; James Hill Parker, "The Alienation of Public School Teachers: A Reference Group Theory Approach," Contemporary Education 41 (May 1970):276-79; Gerald H. Moeller and W. W. Charters, "Relation of Bureaucratization to Sense of Power Among Teachers," Administrative Science Quarterly 10 (March 1966):444-65.

[23]Julian B. Rotter, "Generalized Expectancies for Internal versus External Control of Reinforcement," Psychological Monographs 80 (1966):9-10.

be closely aligned to his idea of powerlessness and sees this as an important link between learning theory and sociology.[24] In testing this aspect of Seeman's model, Bush was unable to comment in any definitive manner about the relationship between teacher sense of powerlessness and the organizational structure of the school.[25] The diffuse nature of Seeman's model for analyzing the school as a work-place as it relates to teacher alienation poses similar problems for Hearn, Parker, and Moeller and Charters.[26] Besides implicitly using Seeman's factors, Parker also tries to define and explain alienation along the social status lines of the Aiken and Hage (see following section).[27]

In his doctoral dissertation Barakat used Seeman's model while adding the caveat that alienation must relate "to the social and normative structure of the social system."[28] Through his questionnaire to 234 teachers he took into account both the desired level of participation by teachers in determining overall educational policy

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[24]Seeman, "On the Meaning of Alienation," p. 785.

[25]Bush, "Alienation and Self Ideal Discrepancy," p. 3.

[26]Hearn, "Teachers' Sense of Alienation," p. 312; Parker, "Alienation of Public School Teachers," pp. 26-27; Moeller and Charters, "Relation of Bureaucratization to Sense of Power Among Teachers," pp. 456-65.

[27]Parker, "Alienation of Public School Teachers," pp. 27-29; Aiken and Hage, "Organizational Alienation," p. 497.

[28]Barakat, "Alienation from the School System," p. 14.

and their reported actual participation. His research found an inverse relationship between (a) a high degree of ideal and current participation in decision making and (b) teacher alienation from the school system. Barakat also reports that non-adopters of curricular innovations are the most highly alienated group of teachers.[29] On a theoretical level, however, Barakat's study was centered upon teacher alienation from the social system as opposed to the Marxian notion of alienation from one's labor. The Marxian theory of alienation of labor is primarily concerned with the social nature of the workplace production process as it relates to the personal development of the individual.

Job Satisfaction: Overview

The phrase "job satisfaction" has been used to describe alienation of labor. Aiken and Hage describe alienation from work as "a feeling of disappointment with career and professional development . . ."[30] They measure alienation by directly asking subjects the degree to which they feel "satisfied" with their work within the organizational hierarchy.[31] McCrae and Carss' research on teacher satisfaction used the instrument developed by Aiken and Hage--with the outcome resulting in a study of teacher status rather than

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[29]Ibid., pp. 16, 51, 105.

[30]Aiken and Hage, "Organizational Alienation," p. 497.

[31]Ibid., p. 501.

alienation.[32] Although Aiken and Hage compare their definition of alienation positively to Marx, they are making an incorrect assumption in doing so. As Schacht explains,

> The crucial consideration for Marx is that of whether or not one's productive activity is spontaneous and self-directed, and has no end other than the expression and development of one's personality. But it is quite possible for this not to be the case, and yet for one to be quite content with one's job.[33]

Therefore, it is conceptually inappropriate to conceive of alienation of labor as necessarily synonymous with job dissatisfaction. Nevertheless, certain aspects of definitions and measurement items of job satisfaction partially fulfill Marx's criteria for alienation of labor and will be reviewed.

What is called for, then, is data which are informative about satisfaction in relationship to power over one's work. There are extensive reviews of the literature on job satisfaction which find a positive correlation between worker satisfaction and control (or the desire for control) over his/her labor. In 1958 March and Simon cite research studies which give as the most frequent reason for job dissatisfaction "an adverse conception of the independence and control provided by the work situation."[34] Vroom observed in his 1964 literature review that people reporting job satisfaction tend to "have

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[32]McCrae C. Grassie and Brian W. Carss, "School Structure, Leadership Quality and Teacher Satisfaction," Educational Administration Quarterly 9 (Winter 1973):18.

[33]Schacht, Alienation, p. 169.

[34]March and Simon, Organizations, p. 95.

greater opportunity to influence decisions which have effects on them."[35] Both in a review of previous research and in their own work, Bachman and Tannenbaum note in 1968 a positive relationship between worker control and job satisfaction. On their research of clerical workers they conclude, "Individuals tend to be more satisfied with those aspects of life or of their jobs over which they have some control than with those over which they have none."[36]

Teacher Job Satisfaction

As with alienation, job satisfaction is construed in many ways. In a cross-cultural study of teachers Fraser found defining job satisfaction a frustrating task since it is used as a "global and multifaceted concept."[37] This is similar to the overly broad interpretations given to alienation. In the literature on the work attitudes of teachers, satisfaction and morale have been operationally defined in so many diverse ways to render the terms nearly meaningless for research purposes. In his discussion of the attempts to portray alienation as a multidimensional concept, Schacht makes some observations which also apply to the way in which job satisfaction and morale are used all-inclusively:

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[35]Victor H. Vroom, Work and Motivation (New York: John Wiley & Sons, Inc., 1964), p. 118.

[36]Jerald G. Bachman and Arnold S. Tannebaum, "The Control-Satisfaction Relationship Across Varied Areas of Experience," in Control in Organizations, ed. Arnold S. Tannebaum (New York: McGraw-Hill, Inc., 1968), p. 247.

[37]Graeme S. Fraser, "Organizational Properties and Teacher Reactions," Comparative Education Review 14 (February 1970):22.

> . . . the term [alienation] would subsume phenomena which differ too considerably to be considered members of a single syndrome. . . . Used in this way, it would function neither as a theoretical term, but rather as a general, nontheoretical classificatory term . . .[38]

In examining research on job satisfaction and morale (see following section) of teachers, the various meanings and operational applications of the terms will be discussed.

The independent categorization of job satisfiers and dissatisfiers by Herzberg, Mausner, and Synderman is often referred to in the job satisfaction literature. Herzberg and his colleagues conducted interviews in which they asked subjects to tell about work related incidents which were satisfying and events which were dissatisfying. Following this, a content analysis on both categories determined that the factors in each grouping were independent of one another.[39] In interviews with first year teachers on their "satisfaction from their teaching and/or school life," Applegate received data which were not congruent with the factors Herzberg achieved. Most of the responses were in terms of positive feelings towards their students rather than comments upon the nature of their jobs.[40] Vroom[41] and

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[38]Schacht, Alienation, p. 183.

[39]Frederick Herzberg, Bernard Mausner, and Barbara Bloch Snyderman, The Motivation to Work (New York: John Wiley & Sons, Inc.).

[40]Jane H. Applegate et al., "The First Year Teacher Study," paper presented at the Annual Meeting of the American Educational Research Association, April 1977, p. 13.

[41]Vroom, Work and Motivation, pp. 128-29.

Morrow and Thayer[42] cite research which does not support Herzberg's findings. Using salary increase as an example, Morrow and Thayer note that workers "cannot know whether they work to minimize dissatisfactions . . . or to maximize satisfactions. . . . Faced with questionnaires exploring their motivation they cannot produce coherent responses."[43]

Sergiovanni conducted research on teachers and concluded that he had replicated Herzberg's findings. In coding the responses, Sergiovanni used a priori as parameters Herzberg's factors for satisfying and dissatisfying events of teachers. Thus, the elements abstracted by Herzberg through content analysis had taken on for Sergiovanni the character of being the essence of satisfaction/dissatisfaction for teachers. Only eight of the sixteen factors within the satisfier and dissatisfier categories provided statistically significant differences at the .05 level between experiences eliciting high and low job feelings. Herzberg's satisfier factor "work itself" appeared frequently for teachers as a source of both satisfaction and dissatisfaction.[44]

Miskel, Glasnapp, and Hatley observed that as of 1975 studies upon work attitudes of public school educators were lacking in a

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[42]Allyn A. Morrow and Frederick C. Thayer, "Collaborative Work Settings: New Titles, Old Contradictions," The Journal of Applied Behavioral Science 13 (November 3, 1977):522-23.

[43]Ibid., p. 523.

[44]Thomas Sergiovanni, "Factors Which Affect Satisfaction and Dissatisfaction of Teachers," The Journal of Educational Administration 5 (May 1967):71, 74, 77-78.

theoretical base. In an attempt to overcome this deficiency, they developed a model which incorporated Herzberg's categorization. Their decision to do so was based on their interpretation that Sergiovanni had replicated with teachers Herzberg's study. The evidence from reviews of research which do not support Herzberg's approach[45] make Miskel, Glasnapp, and Hartley's inclusion of Herzberg's methodology questionable. Miskel, Glasnapp, and Hartley judged the findings of their extensive studies as unclear. Of their fifty-six measurement items, factors inherent to alienation of labor were not included. Based on this experience, they called for "more sophisticated studies which would offer additional development of descriptive, explanative, and predictive theory."[46]

In a 1977 report supported by the Finance and Productivity Group of the National Institute of Education, Murnane and Phillips conclude that characteristics of the workplace they measured were "not very important in explaining intrinsic satisfaction with teaching."[47] Such results are somewhat predictable since Murnane and Phillips' research focuses primarily on the physical dimensions of the workplace rather than those which may be indicators of the impact of the social

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[45]Vroom, Work and Motivation, pp. 128-29; Morrow and Thayer, "Collaborative Work Settings," pp. 522-23.

[46]Cecil Miskel, Douglas Glasnapp, and Richard Hatley, "A Test of the Inequity Theory for Job Satisfaction Using Educators' Attitudes Toward Work Motivation and Work Incentives," Educational Administration Quarterly 11 (Winter 1975):38-54.

[47]Richard J. Murnane and Barbara R. Phillips, "The School as a Workplace: What Matters to Teachers?" Mathematical Policy Research and the University of Pennsylvania, March 1977, p. 20.

organization of the schooling production process upon teacher need satisfaction and job involvement levels. For example, omitted from the instrument were variables pertaining to participation in decisions affecting the labor of teachers.

Lortie reports in his recent book, Schoolteacher: A Sociological Study, the results of his 1963 study of a group of Boston area teachers. One of his findings is that "effort-involvement" of teachers is not related to a high degree of "satisfaction." That conclusion, however, contributes little to an understanding of teachers in their workplace given the manner in which involvement and satisfaction were defined. Satisfaction is determined by a question about level of total satisfaction with teaching, one about willingness to teach again, and an open-ended inquiry on the costs of being in the teaching occupation. Effort-involvement was based on a combination of the number of hours given to teaching and time spent in professional organizations. Involvement in this sense is nearly unrelated to the personal investment of teachers in their labor at their workplace. For Lortie, then, involvement is not associated conceptually with the intrinsic nature of the labor of teachers. Of the structured questions asked teachers, none provide adequate choices for teachers to state their preferences regarding participation in administrative decisions affecting the processes and outcomes of their work.[48]

Some research upon job satisfaction of teachers, however, is of assistance in contributing to an understanding of teacher alienation. In his 1955 doctoral dissertation Sharma asked teachers a

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[48]Lortie, Schoolteacher: A Sociological Study, pp. 89-95, 245-46, 248-56.

variety of questions pertaining to their involvement in determining school policy. His results indicated that the satisfaction of teachers was directly associated "to the extent that they participated in decision making as individuals or in groups."[49] With a sample of 257 secondary school teachers Ambrosie and Heller found a positive correlation between schools managed by democratic principals and a high level of involvement perceived by teachers in decision making and goal setting for the school.[50] In a paper based upon his doctoral dissertation McClure reports that he sampled teachers working in groups developing curricular programs. Those teachers developing a "superior" product felt that they had the "power to influence the shape of the institution."[51] There appeared to be a "high relationship between institutional planning and [quality of] instructional activities . . ."[52]

Belasco and Alutto have conducted what appears to be one of the most thorough research programs to date on teacher participation in the school decision making process. Their method was as follows:

> Decisional participation was computed from teacher responses to a series of questions which posed 12 decisional situations which occur in school systems. Teachers indicated whether they currently participated and whether they desire to participate

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[49]"Who Should Make What Decisions?" Administrators Notebook 3 (April 1955).

[50]Ambrosie and Heller, "The Secondary School Administrator," pp. 9-11.

[51]Robert M. McClure, "Decision Making at the Institutional Level," paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, March 1973, pp. 6-7, 9.

[52]Ibid., p. 9.

> in each decision. An index was derived by summing over the number of decisions in which each teacher currently participated and those in which he wished to participate, and the computing the absolute difference between these two figures. These absolute differences became the index of decisional discrepancy. Teachers were then placed in groups characterized by: 1) decisional deprivation (current participation less than preferred); 2) decisional equilibrium (current participation equal to desired participation); 3) decisional saturation (current participation greater than desired).[53]

For purposes of analysis one shortcoming of the presentation of their data is that it has not been broken down by the twelve decisional categories. Nevertheless, with aggregated data along the dimension of decision making, they conclude that "decisional saturation may be the most satisfying decisional state."[54] Using as the unit of analysis nine different types of British schools, Conway used an adaptation of Belasco and Alutto's questionnaire. Contrary to most studies of teachers, Conway found that the teaching staffs within these schools were generally involved in school decision making at levels they preferred. Given differentiated teaching staffs, however, those higher in the school hierarchy perceived themselves as participating more in decision making than those at lower levels.[55] Knoop and O'Rielly report in their 1975 study of 192 Ontario secondary teachers that

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[53]Belasco and Alutto, "Decisional Participation and Teacher Satisfaction," p. 48.

[54]Ibid., p. 52.

[55]James A. Conway, "Power and Participation Decision Making in Selected English Schools," paper presented at the Annual Meeting of the American Educational Research Association, New York, April 1977.

teachers prefer participatory decision making in the areas of planning and evaluating the curriculum and selecting textbooks.[56]

The data on the degree of job satisfaction, allowing a broad interpretation of the concept, as correlated with age and/or amount of teaching experience is sparce. Overall, though, it appears that there is a tendency for dissatisfaction to increase the longer one remains a teacher. Lortie notes, "Few beginning teachers project long futures in the classroom . . ."[57] In a sample of teachers in New Zealand, Australia, and the United States, there was found to be an inverse relationship between age and job satisfaction. Commenting upon this phenomena, Fraser speculates that "the 'commitment' of older teachers to teaching was a function of resignation rather than the intrinsic worth of the task."[58] Barakat found that teachers between the ages of thirty and fifty were the most alienated age group in his sample.[59] In another study which in part dealt with the "potential for personal challenge and development" within a career in education, younger teachers scored the highest in that category.[60] Belasco and Alutto

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[56]Robert Knoop and Robert O'Reilly, "Participative Decision Making in Curriculum"(Bethesda, Maryland: ERIC Document Reproduction Service, ED 102 684, 1975), pp. 3-6.

[57]Lortie, Schoolteacher: A Sociological Study, p. 99.

[58]Fraser, "Organizational Properties and Teacher Reactions," pp. 26-27, 34.

[59]Barakat, "Alienation from the School System," p. 109.

[60]Cecil Miskel, "The Motivation of Educators to Work," Educational Administration Quarterly 9 (Winter 1973):44, 48.

report that the least satisfied group in teaching are younger males in secondary schools while older females at the elementary level were the most content with their jobs.[61]

Teacher Morale

Besides definitional problems with some job satisfaction studies of teachers, the use of the term morale adds to the complexity of attempting to describe the dynamic of alienation of labor of teachers. In his research on teacher morale Coverdale presents a circular definitional problem in his hypothesis. He anticipates that by improving working conditions, job satisfaction will increase which in turn will improve morale.[62] The way in which the term morale is used by Coverdale seems to be the same as stating that job satisfaction is equal to morale. His definition is unclear as to whether or not he intended morale to be a term which encompasses satisfaction. Coughlan uses a similar definition of teacher morale but which, as advocated by Guion, also focuses upon individual need satisfaction from the workplace.[63] Coughlan contends that the definition of morale "assumes that individuals have inherent and acquired needs and that some of these needs can be satisfied, within the perception of the individual,

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[61]Belasco and Alutto, "Decisional Participation and Teacher Satisfaction," p. 52.

[62]G. M. Coverdale, "Some Determinants of Teacher Morale in Australia," Educational Research 16 (November 1973):35.

[63]Robert J. Coughlan, "Dimensions of Teacher Morale," American Educational Research Journal 7 (March 1970):221-22; Robert M. Guion, "Industrial Morale (A Symposium): 1. The Problem of Terminology," Personnel Psychology 11 (Spring 1958):62.

by specific dimensions in his work environment."[64] This conceptualization of morale does attend to the possible adverse psychological effects of alienating labor upon an individual. Yet, it is difficult to discern in Coughlan's extensive questionnaire as to where need satisfaction is addressed. Only one item slightly alludes to participation by teachers in school policy making.[65]

Educational studies, however, which in part operationally define job satisfaction (see previous section) or morale through measurement items in terms of degree of control over or participation in workplace decision making report generally consistent results. That is to say, a high level of actual and/or desired level of involvement by teachers in decisions affecting the nature of their labor is positively related to a high degree of job satisfaction or morale among teachers.

Defining group satisfaction or morale as "a members' general positive evaluation of a group situation," Ingle and Munsterman in a recent paper found that "teachers in high group satisfaction schools perceived their principal as more democratic . . ."[66] In a review of research upon teacher morale which included fifteen unpublished doctoral dissertations, Ellenburg concludes, "When teachers feel they have had some say in the making of policies by which they work, they

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[64]Coughlan, " Dimensions of Teacher Morale," p. 222.

[65]Ibid., pp. 224-30.

[66]Earl B. Ingle, Jr. and Richard E. Munsterman, "Relationship of Values to Group Satisfaction," paper presented at the Annual Meeting of the American Educational Research Association, New York, April 7, 1977, pp. 2, 8.

will feel more commonality with the goals of the staff as a whole."[67] Chung reports that the fulfillment of the social psychological needs of 360 Michigan teachers was positively related to schools which demonstrated a "high teacher-centered management style."[68]

Using a five-item instrument which concentrates in part upon the psychological needs of teachers, Koplyay and Mathis found with a sample of 299 elementary school teachers that morale was more a function of the organizational climate of the school than their salary level.[69] Australian teachers who Coverdale interviewed stated that work conditions were their main concern whereas salary ranked twentieth on their list. Coverdale observed, "Teachers are relegated to a utilitarian role with little or no say in policy making and expected to concern themselves with classroom matters only."[70] Teachers in that same study also showed concern over what they saw as a lack of parent and public participation in education.[71] A plausible interpretation of this concern is that teachers in that sample feel a lack of feedback

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[67]F. C. Ellenburg, "Factors Affecting Teacher Morale," NASSP Bulletin 56 (November 1972):43-44.

[68]Chung, "Teacher-Centered Management Style of Public School Principals," pp. 1, 10, 16.

[69]Claude Mathis, "The Relationship Between Salary Policies and Teacher Morale," Journal of Educational Psychology 50 (December 1959): 275-79; Janos Koplyay and Claude B. Mathis, "The Relationship Between Teacher Morale and Organizational Climate," paper presented at the Annual Meeting of New York, February 16, 1967, pp. 2-6.

[70]Coverdale, "Teacher Morale in Australia," pp. 36-37.

[71]Ibid., p. 38.

upon their labor and social contact from the consumers of their product. In other words, teachers may be alienated from the social product of their labor. With similar reasoning Lortie adds that "the modesty of the occasions which produce prideful feelings underscores the difficulty teachers see in attaining worthwhile results."[72]

Summary

Most research upon teacher alienation has to date derived its theoretical base from Seeman. However, only one aspect of Seeman's five factor model, self-estrangement, coincides with Marx's theory of alienation of labor. Research upon job satisfaction and morale of teachers is hindered by a poor conceptual base and from a lack of consensus on terminology. Studies which attend to participation of teachers in decisions which affect the processes and product of their labor begin to lend insight into teacher alienation. Most studies in this realm consistently report that high job satisfaction and morale of teachers is positively related to their involvement in school policy determination. None of these studies, however, comment in a precise and thorough manner upon the crucial elements of alienation theory, i.e., the relationship of teachers to the mode and outcome of their labor and the corresponding association of this relationship upon their mental state.

Regarding the process of alienation, little empirical research is available on the effect of the labor of teaching upon teachers from pre-service training, to the first year of work, and eventally into

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[72]Lortie, Schoolteacher: A Sociological Study, p. 133.

being an "experienced" teacher. Schacht states that for the term alienation to be appropriately applied, it needs to suggest an evolving state of affairs. He explains that

> . . . the ending "-ation" suggests not merely that some sort of "alienness" exists, but also that a process of "becoming alien" has occurred. . . . Those who refer to feelings of "powerlessness" or "meaninglessness" or to "apathy" as types of alienation do so regardless of whether these findings or states were preceeded by feelings of influence or understanding or by a tendency to activism.[73]

Therefore, a contribution to empirical research upon teacher alienation would be look at the various stages of career development through which teachers proceed.

Lawler and Hall offer a methodology appropriate for analyzing alienation of labor and workplace characteristics of public schools.[74] As is discussed in Chapter III, expanding Lawler and Hall's instrument to include a variety of school decision making varibles[75] makes the instrument more applicable to a study of teacher alienation. Also, an adaptation of the feedback variables from Brookover's "School Social Climate Study"[76] would provide an indication of the degree of social contact teachers have with a consumer, regarding the product of their (teacher's) labor.

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[73]Schacht, Alienation, pp. 179-80.

[74]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," pp. 307-8.

[75]Belasco and Alutto, "Decisional Participation and Teacher Satisfaction," p. 49.

[76]Wilbur B. Brookover, "Teacher Questionnaire, School Social Climate Study," East Lansing, Michigan State University, October 1974.

CHAPTER III

METHODOLOGY

This chapter is divided into four sections which provide information on the sample, the questionnaire, the questionnaire pilot, and the analysis procedure.

Sample

Four groups of subjects received the questionnaire. The common characteristic among all subjects was that (1) they received or are receiving their preservice training through the teacher education curriculum at Michigan State University and (2) they were teaching at or being certified at the elementary school level in Michigan. Teachers in the field were limited to those currently teaching in Michigan public schools, excluding Lansing and East Lansing due to the frequent use of those schools for research purposes. The four groups are:

- preservice elementary education majors who have not student taught.
- preservice elementary education majors who have completed student teaching.
- first-year teachers at the elementary level.
- experienced teachers (four years or more) at the elementary level.

The preservice subjects were identified with the cooperation of the College of Education at Michigan State University. The instructional staffs from ED 200, "The Individual and the School," ED 321A, "Curriculum Methods in Elementary Education," and ED 450, "School and Society," assisted in the study during April and May, 1978. The staff from those three teacher education courses helped in the distribution and collection of the questionnaire to students who had previously been identified as elementary education majors. The questionnaire was distributed to 176 students. If an address was available, a follow-up mailing of the instrument was sent to students who had not returned it to their instructor. One hundred thirty-eight questionnaires were returned for a return rate of 78 percent. There were 74 instruments returned from subjects who had not student taught and 64 from students who had completed student teaching.

From the records of the Placement Services at Michigan State University a total of 89 first-year elementary level teachers were identified.[1] The questionnaire was mailed during April 1978, either to the school the alumnus had reported to the Placement Services or to a home address if available from the Michigan State University Alumni Records Office. The initial mailing revealed that 18 subjects were not first-year elementary level teachers, leaving a total pool of 71 to sample. Out of the 71, 54 subjects returned the questionnaire for a return rate of 76 percent.

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[1]No other record of first-year teachers from Michigan State University was available to the knowledge of the author.

Subjects for the experienced teacher group were drawn from lists provided by the Alumni Records Office. Subjects were chosen from the lists of elementary graduates who reported their employment as a teacher at sometime since their graduation. Fifty subjects each were randomly selected from the classes of 1967, 1970, and 1973 for a total of 150 subjects. After the first mailing during April 1978, 34 subjects were found not to fall into the category of experienced elementary level teacher who were employed in Michigan. From the remaining pool of 116, 83 questionnaires were returned. The return rate from the 116 was 72 percent.

Follow-up mailings for all teacher subjects plus telephone calls in the case of first-year teachers were used to increase the return rate. The return for the four groups in the study was 275 questionnaires with a 76 percent return rate. Table 3.1 displays the demographic data on the sample.

Questionnaire Description

The questionnaire was designed to measure two distinct attributes--alienation of labor and workplace characteristics. Alienation of labor was measured by the indicants of need satisfaction and job involvement. Workplace characteristics include items on teacher influence and control, relevant test of teacher abilities, and the social value of teacher labor. There were two parallel forms of the questionnaires, one for students in teacher education and another for teachers in the field. The questionnaire for students reflected the fact that they were not presently employed as teachers and asked them to project upon their prospective experiences as

Table 3.1.--Demographic Data on Sample.*

	Sex (%)		Year in School (%)				Years Teaching (Mean)	Type of Community School Located (%)					Sample Size
	Female	Male	Fr.	Soph.	Jr.	Sr.		Rural	Suburban	Urban	Rural/ Suburban	No Response	
G_1	87.8	12.2	1.4	25.7	51.4	21.6	0	23.0[a]	58.1	13.5	0	4.1	74
G_2	75.0	25.0	0	0	3.1	96.9	0	20.3[a]	64.1	10.9	1.6	3.1	64
G_3	83.3	16.7	0	0	0	0	1.3[b]	55.6	27.8	16.7	0	0	54
G_4	88.0	12.0	0	0	0	0	8.5[c]	26.5	42.2	26.5	2.4	0	83
Total	84.0	16.0	.7[d]	13.8	29.0	56.5	5.7[e]	29.8[f]	48.7	17.5	1.1	1.1	275

*All subjects were elementary education majors at Michigan State University. The teacher subjects were all teaching at the elementary public school level in Michigan. For the above demographic data display let

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

[a]Teacher education students were asked to indicate in which type of community they would prefer to teach.

Table 3.1.--Continued.

[b]The graduation dates from the teacher education program of the "first-year teachers" sample precludes them from having taught more than one year. A possible explanation of a mean greater than one is that some respondents may have included supervised student teaching as part of their years of teaching experience.

[c]The range of years teaching was 4 to 15 years. The most frequent years were 5 (19.3%), 11 (15.7%), 9 (14.5%), and 8 (13.3%).

[d]Year in school total includes teacher education students only.

[e]Years teaching total includes the teacher sample only.

[f]The total breakdown for the type of community is based on the combination of the type of community in which the teacher education students sample would prefer to teach plus the actual community types in which the teacher sample is working.

teachers. The other questionnaire is based on the actual experiences of teachers (See Appendices A and B).

Measures of Alienation of Labor

Lawler and Hall offer a conceptual and methodological framework for examining the topic of teacher alienation. Their factors of need satisfaction and job involvement offer a means for capturing the concept of alienation of labor. Those factors are defined by Lawler and Hall in the following manner:

- need satisfaction: the degree to which the higher order needs of self-actualization, autonomy, and responsibility are fulfilled.
- job involvement: "the degree to which a person is identified with his work, or the importance of work, or the importance of working in his self-image."[2]

Lawler and Hall conducted a factor analysis on need satisfaction and job involvement and concluded that for their sample of 291 scientists working in research and development laboratories that the factors of need satisfaction and job involvement were distinct and separate.[3] When using a single "is now" measure of need satisfaction rather than Lawler and Hall's discrepancy measure (i.e., "is now" compared to "should be"--see below), Cummings and Bigelow were able to replicate

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[2]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," p. 306; Lodhahl and Kejner, "Definition and Measurement of Job Involvement," p. 26, as cited in Lawler and Hall, p. 306.

[3]Ibid., p. 309.

Lawler and Hall's factor analysis with a sample of 96 male, blue-collar workers.[4]

Lawler and Hall's need satisfaction factor included two general items on workplace participation. Belasco and Alutto in their study of teacher participation in the school decision making process posed twelve decision situations.[5] Influenced by the Belasco and Alutto approach, need satisfaction items developed by Lawler and Hall regarding opportunity for participation in decision making were altered in this study for the following reasons: (a) to reflect decisions relevant to public school teachers and (b) to expand the number of items (from two items to eight) to include a variety of school decisions.

For each need satisfaction item (1-5, 8-14) on the present instrument, subjects were asked to rate on a 1 (minimum) to 7 (maximum) scale how much of the factor mentioned in the item <u>is</u> associated with their present or prospective teaching job. This was part A of the question. Next, subjects were asked to rate on a similar scale, B, for items 1-5 how much of the factor they feel <u>should be</u> associated with their job. Need satisfaction was measured by comparing the subject's answer to the first part, A, with his or her response to the

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[4]Thomas G. Cummings and John Bigelow, "Satisfaction, Job Involvement, and Intrinsic Motivation: An Extension of Lawler and Hall's Factor Analysis," <u>Journal of Applied Psychology</u> 61 (1976): 523-25.

[5]Belasco and Alutto, "Decisional Participation and Teacher Satisfaction," p. 49.

second part, B. Dissatisfaction is considered to exist when B exceeds A.[6] Table 3.2 provides an example of this procedure for items 1-5.

Seven of the need satisfaction participation items (8-14) were altered to reflect a time trade-off an individual must make to participate in the school decision making process. Part A remained a scale of the subject's perception of current conditions. Part B was the amount of the factor that would be associated with the subject's job if he or she had to commit one hour once a week after school. A third similar dimension, C, is included for those seven items to reflect the amount of the factor that would be associated with the subject's job if he or she were given "release time" during the school day once a week. Table 3.2 presents an example of the three dimensions, A, B, and C, used for items 8-14.

Subjects provided twenty-nine responses to need satisfaction items. From the comparisons among dimensions A, B, and C, nineteen discrepancy scores were computed. Table 3.3 displays the coding scheme for each of the need satisfaction items.

The job involvement aspect of alienation included four items used by Lawler and Hall (see items 6-7 and 15-16). Subjects were asked to respond on a 7-point scale, from 1 (strongly agree) to 7 (strongly disagree).[7] A job involvement example is provided in Table 3.2. The total number of responses to the alienation component of the questionnaire including all possible responses to the need

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[6]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," p. 308.

[7]Ibid.

Table 3.2.--Description of Questionnaire Items.

I. The dependent variable alienation of labor (items 1-16) is represented by need satisfaction (items 1-5, 8-14) and job involvement (items 6-7, 15-16).

Example of Items 1-5

Items	A	B
For teachers:	Degree to which the item is presently associated with your job as a teacher.	Degree to which the item should be associated with your job as a teacher.
For preservice teachers:	Degree to which you anticipate the item to be associated with your prospective teaching job.	Degree to which the item should be associated with your prospective teaching job.
1. Feelings of self-fulfillment	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly

Table 3.2.--Continued.

Examples of Items 8-14

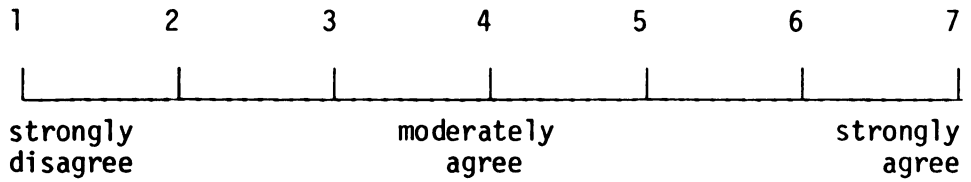
Item	A	B	C
For teachers:	Degree to which the item is presently associated with your job as a teacher.	Degree to which you would want the item to be associated with your job as a teacher if you had to commit up to one hour once a week after school.	Degree to which you would want the item to be associated with your job as a teacher if you were given "release time" during the school day once a week.
For preservice teachers:	Degree to which you anticipate the item to be associated with your prospective teaching job.	Degree to which you would want the item to be associated with your prospective teaching job if you had to commit up to one hour once a week after school.	Degree to which you would want the item to be associated with your prospective teaching job if you were given paid "release time" from your classroom during the school day.
13. Opportunity for participating in the hiring of new administrators for my school district	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly

Table 3.2.--Continued.

Example of Items 6-7, 15-16 (Job Involvement)

6. I am very much involved personally in my work as a teacher. [For teachers]

   I anticipate that I will be very much involved personally in my work as a teacher. [For preservice teachers]



II. The independent workplace characteristic variables (items 17-25) include:

- teacher influence and control (items 17 and 21)
- relevant test of teacher abilities (items 18-20)
- social value of labor (items 22-25)

Table 3.2.--Continued.

Example of Workplace Characteristics Items

23. The parents of my students are deeply concerned that their children receive a top quality education. [for teachers]

    I anticipate that the parents of my students will be deeply concerned that their children receive a top quality education. [for preservice teachers]

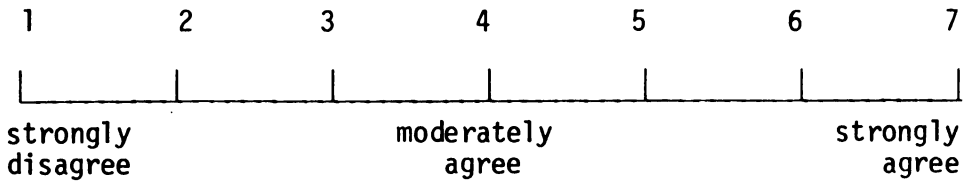


Table 3.3.--Questionnaire Item Coding for Dependent Variables.

Items	Notation	Labels
Need Satisfaction (Items 1-5, 8-14)		
1B - 1A =	X_1 =	Self-fulfillment (B-A)
2B - 2A =	X_2 =	Independence (B-A)
3B - 3A =	X_3 =	Accomplishment (B-A)
4B - 4A =	X_4 =	Growth (B-A)
5B - 5A =	X_5 =	Participation in Determining Teaching Assignment (B-A)
8C - 8A =	X_6 =	Participation in Evaluating Own Work (C-A)
8B - 8A =	X_7 =	Participation in Evaluating Own Work (B-A)
9C - 9A =	X_8 =	Participation in Disciplinary Policies (C-A)
9B - 9A =	X_9 =	Participation in Disciplinary Policies (B-A)
10C - 10A =	X_{10} =	Participation in Text Book Selection (C-A)
10B - 10A =	X_{11} =	Participation in Text Book Selection (B-A)
11C - 11A =	X_{12} =	Participation in Standardized Test Selection (C-A)
11B - 11A =	X_{13} =	Participation in Standardized Test Selection (B-A)
12C - 12A =	X_{14} =	Participation in Budget Determination (C-A)
12B - 12A =	X_{15} =	Participation in Budget Determination (B-A)
13C - 13A =	X_{16} =	Participation in Hiring of New Administrators (C-A)

Table 3.3.--Continued.

Items	Notation	Labels
13B - 13A =	X_{17} =	Participation in Hiring of New Administrators (B-A)
14C - 14A =	X_{18} =	Participation in Curriculum Determination (C-A)
14B - 14A =	X_{19} =	Participation in Curriculum Determination (B-A)
Job Involvement (Items 6-7, 15-16)		
6 =	X_{20} =	Personality Involved in Job
7 =	X_{21} =	Important Involvement in Job
15 =	X_{22} =	Satisfaction from Job
16 =	X_{23} =	Live, Eat, and Breathe Job

For items 1-5:

A = presently associated (teachers) or anticipate association (students) with teaching job

B = should be associated with teaching job

For items 8-14, a time trade-off is added with:

A = presently associated (teacher) or anticipate association (students) with teaching job

B = would want to be associated with teaching job if had to commit up to one hour once a week after school

C = would want to be associated with teaching job if paid "release time" during school day

satisfaction and job involvement items is thirty-three. The nineteen need satisfaction difference scores plus the four job involvement observations serve as the basis for the data analysis on alienation. An entire list of the twenty-three alienation variables is in Table 3.3.

Measures of Workplace Characteristics

The workplace characteristics which Lawler and Hall included as appropriate in analyzing the relationship between job design variables and alienation (need satisfaction and job involvement) were:

- the degree of influence and control felt by the job holder over his/her work.
- the degree to which the job is perceived as a relevant test of the job holder's abilities.
- the probability that the job holder would receive socially meaningful feedback about his/her work.

Five items from Lawler and Hall's questionnaire were used in this present study to measure (1) teacher influence and control in the workplace (see items 17 and 21) and (2) if the job of teaching is a relevant test of teacher abilities (see items 18-20).[8] To reflect Lawler and Hall's third job design component of feedback, four questions used by Brookover (see items 22-25)[9] were included to assess the social value of the labor of teachers. That is to say, those four

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[8]Ibid., p. 310.

[9]Brookover, "Teacher Questionnaire."

items are situations which measure the degree to which teachers receive socially meaningful feedback upon their work.

All workplace characteristics items are on a 7-point scale, from 1 strongly agree to 7 strongly disagree. An example of a workplace characteristic item is provided in Table 3.2. Item 24 is also on a 7-point scale, but asks for slightly different information. This item asks subjects to make a response along a continuum, from 1 (all of the parents) to 7 (none of the parents). Thus, there are nine items on workplace characteristics that reflect the perceptions of teachers or prospective teachers (see Table 3.4). The total questionnaire required forty-two responses in addition to demographic information.

Questionnaire Pilot

The questionnaire was initially critiqued by a teacher with twelve years of experience in the public schools. Based on her comments, the "opportunity for participation" questions (see items 5, 8-14) and time trade-offs options for items 8-14 were altered. Following this, four public school teachers and four students in the teacher education program at Michigan State University completed the questionnaire and provided comments regarding the questionnaire completion time, instructions, and cover letter. The amount of time that these subjects took to finish the questionnaire (approximately 15 minutes) was the basis of the time estimate included in the cover letter.

Table 3.4.--Questionnaire Item Coding for Independent Variables.

Items	Notation	Labels
Teacher Influence and Control (Items 17 and 21)		
17 =	X_{24} =	Control and Final Say Over Job
21 =	X_{25} =	Influence Within School Building
Relevant Test of Teacher Abilities (Items 18-20)		
18 =	X_{26} =	Job Appropriate for Abilities
19 =	X_{27} =	Creativity in Job
20 =	X_{28} =	Job Gives Chance to Do Things Teacher Does Best
Social Value of Labor (Items 22-25)		
22 =	X_{29} =	Parents Regard School as "Babysitting" Agency
23 =	X_{30} =	Parents Deeply Concerned about a Top Quality Education
24 =	X_{31} =	Parents Who Want Feedback on Their Children
25 =	X_{32} =	Principal Provides Adequate Information on Teacher's Performance

Analysis Procedures

Introduction

Using the total sample, a factor analysis was initially conducted on the twenty-three individual scores comprising alienation (see Table 3.3 for a list of variables). The factor analysis resulted in a three factor solution. For subsequent analyses both the twenty-three individual scores and the three factors were used as dependent variables. The factors provide a broad conceptualization of the phenomenon of alienation. Analysis with the individual scores allows observations on the relative strength of the components comprising the three factors. For ease of interpretation the hypotheses being tested are stated in terms of the factors.

An analysis of variance with post hoc comparisons among the teacher career stage means on the factors and individual scores comprising alienation was conducted. This required the initial computation of twenty-six equations (three factors and twenty-three individual scores).

Next, for each career stage the three factors and twenty-three individual scores of alienation were regressed on the nine workplace characteristic scores. Following this, the sample was pooled into one regression equation. This pooled multiple regression was then compared to the individual career stage regressions. An F-test was performed to determine if the four sets of regressions for the career stages came from the same population. For both the analysis of variance and multiple regressions a significance level of .95 was set.

Factor Analysis

A factor analysis of the individual scores comprising the alienation section of the questionnaire was carried out to: (a) determine if the factors of need satisfaction and job involvement are maintained in the same manner for people preparing for or involved in a teaching career as they were for the samples used by Lawler and Hall[10] and Cummings and Bigelow[11] and (b) assess the effects, if any, of the alterations made in this study in the items comprising the need satisfaction component of alienation (see Questionnaire Description and Table 3.3).

Factor analysis is designed to maximally reproduce the correlations among variables. Harmon explains, "The common factors account for the correlation among the variables, while each unique factor accounts for the remaining variance (including error) of that variable."[12] Factor analysis attempts "to reduce the complexity of the variables" by arriving at a simple structure.[13] According to Harmon, the varimax method is preferred over other orthogonal procedures since it "not only does a better job of approximating the classical simple-structure principles, but it also tends to lead to factorially

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[10]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," p. 309.

[11]Cummings and Bigelow, "Satisfaction, Job Involvement, and Intrinsic Motivation," pp. 523-25.

[12]Harry H. Harman, Modern Factor Analysis, 2nd ed. (Chicago: The University of Chicago Press, 1967), p. 15.

[13]Ibid., p. 99.

invariant solutions."[14] After principal factoring with iteration,[15] the varimax orthogonal rotation was applied to the twenty-three scores designed to measure need satisfaction and job involvement (see Table 3.3 for a list of variables).

Only factors with eigenvalue[16] greater than or equal to one were considered.[17] Six potential factors were identified. Two, three, four, five, and six factor solutions were subsequently computed. In this study unique factors with variable "loadings" or coefficients at the criteria .30 or greater[18] were sought. If a variable loaded on more than one factor, it was not included in any factor.

The three factor solution accounted for 53.6 percent of the variance and most closely approximated simple structure. Variable X_5, participation in determining teaching assignment, displayed a complexity of two and was not included in the final factor solution. Table 3.5 lists the variables and their loadings for inclusion in the three factors. The three factors are

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[14]Ibid., p. 294.

[15]Jae-On Kim, "Factor Analysis," in Statistical Package for the Social Sciences, 2nd ed., eds. Norman H. Nie, C. Hadlar Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent (New York: McGraw-Hill, 1975), p. 480.

[16]The squared correlations aggregated for each variable on the factor.

[17]Kim, "Factor Analysis," p. 485.

[18]Although .30 is a common criterion, there exists no uniform standard for loading; see Fred N. Kerliner, Foundations of Behavioral Research, 2nd ed. (New York: Holt, Rinehart and Winston, Inc., 1973), p. 662.

Table 3.5.--Varimax Orthogonal Three Factor Matrix.

Factors	Alienation Variables	Factor Loadings		
		1	2	3
	X_1, Self-fulfillment (B-A)[a]	.097	.722	-.152
X_{33}, Self-actualization Need Satisfaction (X_1 to X_4)	X_2, Independence (B-A)	.241	.526	.047
	X_3, Accomplishment (B-A)	.155	.711	-.114
	X_4, Growth (B-A)	.197	.690	-.214
	X_5, Participating in Determining Teaching Assignment (B-A)	.391	.432	-.134
	X_6, Participation in Evaluating Own Work (C-A)[b]	.676	.187	-.032
	X_7, Participation in Evaluating Own Work (B-A)[c]	.546	.170	.108
	X_8, Participation in Disciplinary Policies (C-A)	.567	.227	.015
	X_9, Participation in Disciplinary Policies (B-A)	.464	.161	.162
	X_{10}, Participation in Text Book Selection (C-A)	.607	.195	-.019
X_{34}, Participation Need Satisfaction (X_6 to X_{19})	X_{11}, Participation in Text Book Selection (B-A)	.455	.131	.117
	X_{12}, Participation in Standardized Test Selection (C-A)	.694	.190	-.130

Table 3.5.--Continued.

Factors	Alienation Variables	Factor Loadings		
		1	2	3
	X_{13}, Participation in Standardized Test Selection (B-A)	.633	.155	-.004
	X_{14}, Participation in Budget Determination (C-A)	.809	.124	-.046
	X_{15}, Participation in Budget Determination (B-A)	.720	.094	.054
	X_{16}, Participation in Hiring of New Administrators (C-A)	.729	.020	-.208
	X_{17}, Participation in Hiring of New Administrators (B-A)	.671	-.024	-.146
	X_{18}, Participation in Curriculum Determination (C-A)	.731	.132	-.044
	X_{19}, Participation in Curriculum Determination (B-A)	.646	.108	.112
	X_{20}, Personally Involved in Job	.040	-.269	.526
X_{35}, Job Involvement (X_{20} to X_{23})	X_{21}, Important Involvement in Job	-.017	-.143	.782
	X_{22}, Satisfaction from Job	.001	-.183	.841
	X_{23}, Live, Eat, and Breathe Job	-.004	.073	.692

Notes for Table 3.5

[a]B-A for $X_1,\ldots,X_5$ is a measure of dissatisfaction with A how much of the factor mentioned in the item is associated with the subject's present or prospective teaching job and B how much of the factor they feel should be associated with their job.

[b]C-A for X_6, X_8, X_{10}, X_{12}, X_{14}, X_{16}, and X_{18} is a measure of dissatisfaction with C the amount of the factor that would be associated with the subject's job if he or she were given "release time" during the school day once a week.

[c]B-A for X_7, X_9, X_{11}, X_{13}, X_{15}, X_{17}, and X_{19} is a measure of dissatisfaction with B the amount of the factor that would be associated with the subject's job if he or she had to commit one hour once a week after school.

X_{33}, self-actualization need satisfaction,

X_{34}, participation need satisfaction, and

X_{35}, job involvement.

A more detailed account of the factor analysis results is presented in Chapter IV.

Analysis of Variance with Post Hoc Comparisons among Career Stage Means of Alienation

Through analysis of variance the following hypothesis was tested:

H_1: The rank order of the group means for the alienation of labor variables (as measured by need satisfaction and job involvement) from least to greatest amount of alienation will be significantly different as follows: (1) students in teacher education who have not student taught, (2) students in teacher education who have completed student teaching, (3) first-year teachers, and (4) experienced teachers.

Using the notation based on the factor analysis (see Table 3.5), let X_{33} = self-actualization need satisfaction, X_{34} = participation need satisfaction, and X_{35} = job involvement. The four groups are denoted by the subscripts $_{G1}$ = preservice and no student teaching, $_{G2}$ = preservice and completed student teaching, $_{G3}$ = first-year teachers, and $_{G4}$ = experienced teachers. The statistical representations of the hypothesis are:

$$H_o: \bar{X}_{33_{G1}} = \bar{X}_{33_{G2}} = \bar{X}_{33_{G3}} = \bar{X}_{33_{G4}}$$

$$H_1: \bar{X}_{33_{G1}} \neq \bar{X}_{33_{G2}} \neq \bar{X}_{33_{G3}} \neq \bar{X}_{33_{G4}}$$

$$H_o: \bar{X}_{34_{G1}} = \bar{X}_{34_{G2}} = \bar{X}_{34_{G3}} = \bar{X}_{34_{G4}}$$

$$H_1: \bar{X}_{34_{G1}} \neq \bar{X}_{34_{G2}} \neq \bar{X}_{34_{G3}} \neq \bar{X}_{34_{G4}}$$

$$H_o: \bar{X}_{35_{G1}} = \bar{X}_{35_{G2}} = \bar{X}_{35_{G3}} = \bar{X}_{35_{G4}}$$

$$H_1: \bar{X}_{35_{G1}} \neq \bar{X}_{35_{G2}} \neq \bar{X}_{35_{G3}} \neq \bar{X}_{35_{G4}}$$

An overall F-test was conducted to determine if any significant difference among the means existed. When a significant difference was found, a series of complex comparisons among the means was carried out using the Scheffé method. Being the most conservative of the multiple comparison tests, "it is less likely than other tests to show differences as significant."[19] The complex comparisons allowed the generation of alternative hypotheses to the "not equal" hypotheses above. The new alternative hypotheses are:

$$H_1: \bar{X}_{33_{G1}} < \bar{X}_{33_{G2}} < \bar{X}_{33_{G3}} < \bar{X}_{33_{G4}}$$

$$H_1: \bar{X}_{34_{G1}} < \bar{X}_{34_{G2}} < \bar{X}_{34_{G3}} < \bar{X}_{34_{G4}}$$

$$H_1: \bar{X}_{35_{G1}} > \bar{X}_{35_{G2}} > \bar{X}_{35_{G3}} > \bar{X}_{35_{G4}}$$

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[19] F. Kerlinger and E. Pedhazur, Multiple Regression in Behavioral Sciences (New York: Holt, Rinehart and Winston, Inc., 1973), p. 129.

Note that when the variable measures for need satisfaction, X_{33} and X_{34}, are lowest, need satisfaction is at its highest and alienation is minimal.

Analysis of variance with post hoc comparisons were also conducted on the twenty-three individual scores comprising alienation (see Table 3.3). This series of post hoc comparisons allows observation on the behavior of the career stage means towards each individual score.

Multiple Regression Analysis of Factors Comprising Alienation on Workplace Characteristics

Multiple regression was used to test the following hypothesis:

H_2: For each of four career stages of a teacher (students in teacher education who have not student taught, students in teacher education who have completed student teaching, first-year teachers, and experienced teachers), a significant proportion of the variance of alienation of labor (as measured by need satisfaction and job involvement) will be explained by workplace characteristics (as measured by teacher influence and control, a relevant test of teacher abilities, and the social value of teacher labor).

Using the same notation as in the analysis of variance for the alienation factor, X_{33}, X_{34}, X_{35}; let the nine individual items which comprise the workplace characteristics be represented by $X_{24},\ldots,X_{32}$ (see Table 3.4). The statistical representations of the hypothesis for each career stage are:

$$H_o: R^2_{X_{33}.\ X_{24},\ldots,X_{32}} = 0$$

$$H_1: R^2_{X_{33}.\ X_{24},\ldots,X_{32}} > 0$$

$$H_o: R^2_{X_{34}.\ X_{24},\ldots,X_{32}} = 0$$

$$H_1: R^2_{X_{34}.\ X_{24},\ldots,X_{32}} > 0$$

$$H_o: R^2_{X_{35}.\ X_{24},\ldots,X_{32}} = 0$$

$$H_1: R^2_{X_{35}.\ X_{24},\ldots,X_{32}} > 0$$

The general multiple regression equation for the three alienation factors, Y_i, regressed on the nine workplace items is

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} + b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + e$$

where e represents error, a is a constant where the regression line crosses the Y-axis, and the b_i are the regression coefficients. The regression coefficients equal the slope of the regression surface (the change in the dependent variable compared to the change in the independent variable, minimizing the sum of the squared errors of prediction).

Multiple Regression Analysis of Individual Scores Comprising Alienation on Workplace Characteristics as Independent Variables

Multiple regression analysis of the individual scores comprising alienation was conducted in addition to using the three alienation factors. This series of multiple regressions allows an assessment of the effect of the workplace characteristics on the individual scores for each career stage. The equation was the same as the multiple regressions of three factors except that the dependent variable consisted of $X_1,\ldots,X_{23}$ (see Table 3.3).

Pooled Multiple Regression Compared to Individual Career Stage Regressions

Dummy variables[20] for the teacher career stages were included in the multiple regression along with the workplace characteristic scores. The number of dummy variables is (K groups - 1) = 3. Each dummy variable is assigned a value of 0 or 1. The regression equation for each of the three factors and twenty-three individual scores on alienation as dependent variables, Y_i, is

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} :$$

$$b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + C_1D_1 + C_2D_2 + C_3D_3 + e$$

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[20] J. Johnston, Econometric Methods, 2nd ed. (New York: McGraw Hill, 1972), pp. 176-86; Jae-On Kim and Frank J. Kohout, "Special Topics in General Linear Models," in Statistical Package for the Social Sciences, 2nd ed., eds. Norman H. Nie, C. Hadlar Hull, Jean G. Jenkins, Karin Steinbrenner, and Dale H. Bent (New York: McGraw-Hill, 1975), pp. 373-77.

where: D_1 = 1 for students who have completed student teaching, 0 otherwise; D_2 = 1 for first-year teachers, 0 otherwise; and D_3 = 1 for experienced teachers, 0 otherwise. In the instance of dummy variables the regression coefficients C_i are the changes in the conditional mean of the dependent variable taking into account the independent variables. This is so because dummy variables represent categories for the different groups into which the sample is subdivided. For cases belonging to the excluded category, students who have not student taught, $Y = a + \sum_{24}^{32} b_i X_i$.

The pooled multiple regression was then compared to the individual career stage regressions. An F-test was performed to determine if the four sets of regressions for the career stages came from the same population.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter is divided into four sections which provide: (1) a brief overview of the sample and questionnaire, (2) the factor analysis results, (3) the findings of the analysis of variance with post hoc comparisons among the teacher career stage means on alienation, and (4) the results of the multiple regression analysis of alienation on workplace characteristics. In conjunction with each set of results a discussion section evaluates the findings as they relate to existing theory and knowledge of alienation.

Overview of Sample and Questionnaire

In this study of teacher alienation four groups of subjects received questionnaires. The four groups are:

- preservice elementary education majors who have not student taught
- preservice elementary education majors who have completed student teaching
- first-year teachers at the elementary level
- experienced teachers (four years or more) at the elementary level

The questionnaire was designed to measure two distinct categories of information, alienation of labor and workplace characteristics. Alienation of labor was measured by the factors of need satisfaction and job involvement. Workplace characteristics include items on teacher influence and control, relevant test of teacher abilities, and the social value of teacher labor. There are two parallel forms of the questionnaires, one for students in teacher education and another for teachers in the field. The questionnaire for students reflects the fact that they are not presently employed as teachers and asks them to project upon their prospective experiences as teachers. The other questionnaire is based on the actual experiences of teachers (see Appendices A and B).

Factor Analysis

Using the total sample, a factor analysis was conducted on the twenty-three individual scores comprising alienation (see Table 4.1 for a list of variables). Principal factoring with iteration[1] identified six potential factors (see Table 4.2). Only factors with an eigenvalue[2] greater than or equal to one were considered.[3] Using the varimax orthogonal rotation,[4] two, three, four, five, and six factor solutions were subsequently computed. In this study unique factors with variable "loadings" of coefficients at the criterion of .30 or

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[1]Kim, "Factor Analysis," p. 480.

[2]The squared correlation for each variable on the factor.

[3]Kim, "Factor Analysis," p. 485.

[4]Harmon, Modern Factor Analysis, p. 294.

Table 4.1.--Questionnaire Item Coding for Dependent Variables.

Items	Notation	Labels
Need Satisfaction (Items 1-5, 8-14)		
1B - 1A =	X_1 =	Self-fulfillment (B-A)
2B - 2A =	X_2 =	Independence (B-A)
3B - 3A =	X_3 =	Accomplishment (B-A)
4B - 4A =	X_4 =	Growth (B-A)
5B - 5A =	X_5 =	Participation in Determining Teaching Assignment (B-A)
8C - 8A =	X_6 =	Participation in Evaluating Own Work (C-A)
8B - 8A =	X_7 =	Participation in Evaluating Own Work (B-A)
9C - 9A =	X_8 =	Participation in Disciplinary Policies (C-A)
9B - 9A =	X_9 =	Participation in Disciplinary Policies (B-A)
10C - 10A =	X_{10} =	Participation in Text Book Selection (C-A)
10B - 10A =	X_{11} =	Participation in Text Book Selection (B-A)
11C - 11A =	X_{12} =	Participation in Standardized Test Selection (C-A)
11B - 11A =	X_{13} =	Participation in Standardized Test Selection (B-A)
12C - 12A =	X_{14} =	Participation in Budget Determination (C-A)
12B - 12A =	X_{15} =	Participation in Budget Determination (B-A)
13C - 13A =	X_{16} =	Participation in Hiring of New Administrators (C-A)

Table 4.1.--Continued.

Items	Notation	Labels
13B - 13A =	X_{17} =	Participation in Hiring of New Administrators (B-A)
14C - 14A =	X_{18} =	Participation in Curriculum Determination (C-A)
14B - 14A =	X_{19} =	Participation in Curriculum Determination (B-A)
Job Involvement (Items 6-7, 15-16)		
6 =	X_{20} =	Personality Involved in Job
7 =	X_{21} =	Important Involvement in Job
15 =	X_{22} =	Satisfaction from Job
16 =	X_{23} =	Live, Eat, and Breathe Job

For items 1-5:

A = presently associated (teachers) or anticipate association (students) with teaching job

B = should be associated with teaching job

For items 8-14, a time trade-off is added with:

A = presently associated (teacher) or anticipate association (students) with teaching job

B = would want to be associated with teaching job if had to commit up to one hour once a week after school

C = would want to be associated with teaching job if paid "release time" during school day

Table 4.2.--Factor Analysis Eigenvalues and Percent of Variance Explained on Twenty-three Alienation Scores.

Factor	Eigenvalue	Percent of Variance Explained	Cum. Percent of Variance Explained
1	7.432	32.3	32.3
2	3.061	13.3	45.6
3	1.850	8.0	53.7
4	1.313	5.7	59.4
5	1.275	5.5	64.9
6	1.195	5.2	70.1
7	.959	4.2	74.3
8	.931	4.1	78.3
9	.760	3.3	81.6
10	.721	3.1	84.8
11	.604	2.6	87.4
12	.528	2.3	89.7
13	.476	2.1	91.8
14	.442	1.9	93.7
15	.380	1.7	95.4
16	.346	1.5	96.9
17	.254	1.1	98.0
18	.138	.6	98.6
19	.100	.4	99.0
20	.074	.3	99.3
21	.058	.3	99.6
22	.052	.2	99.8
23	.041	.2	100.0

greater[5] were sought. If a variable loaded on more than one factor, it was not included in any factor.

Results

The three factor solution accounted for 52.6 percent of the variance and most closely approximated simple structure. Variable X_5, participation in determining teaching assignment, displayed a complexity of two and was not included in the final factor solution. Table 4.3 lists the variables and their loadings for inclusion in the three factors.

The findings of Lawler and Hall with scientists[6] and Cummings and Bigelow with blue-collar workers[7] was replicated for the job involvement factor. With the addition in this present study of a time trade-off[8] regarding opportunity for participation on the need

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[5]Although .30 is a common criteria, there exists no uniform standard for loading; see Kerliner, Foundations of Behavioral Research, p. 662.

[6]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," pp. 305-12.

[7]Cummings and Bigelow, "Satisfaction, Job Involvement, and Intrinsic Motivation," pp. 523-25.

[8]For each need satisfaction variable (X_1 to X_{19}) subjects were asked to rate how much of the factor mentioned in the is associated with their present or prospective job. This was part A of the question. Next, subjects were asked to rate for X_1 to X_5 how much of the factor they feel should be associated with their job, part B. X_6 to X_{19} were altered to reflect a time allocation an individual must make to participate in the school decision making process. Part B became the amount of the factor that would be associated with the subject's job if he or she had to commit one hour once a week after school, and part C, if he or she were given "release time" during the school day once a week.

satisfaction items (for comparision see X_1 to X_5 vs. X_6 to X_{19} in Table 4.1), the factor analysis produced two factors for need satisfaction. Previous research[9] had not included personal time allocation possibilities, resulting in one separate need satisfaction factor.

The factor labels are based on the work of Lawler and Hall. Their definition of need satisfaction focused on self-actualizing opportunities in a job.[10] This present study expanded Lawler and Hall's need satisfaction items to include opportunities for participation in school decision making. Given the manner in which the items loaded into two independent need satisfaction factors, the name (need satisfaction) was altered to specify the type of need satisfaction: self-actualization or participation. The three factors are:

X_{33}, self-actualization need satisfaction;

X_{34}, participation need satisfaction; and

X_{35}, job involvement.

Discussion

The results of the factor analysis indicate that when the need satisfaction variables regarding opportunity for participation were altered to include a personal time allocation, the pre- and inservice teachers sampled interpret their need for participation in the school decision making process as different from their self-actualization need for self-fulfillment, growth, accomplishment, and independence.

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[9]Cummings and Bigelow, "Satisfaction, Job Involvement, and Intrinsic Motivation," pp. 523-25; Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," pp. 305-12.

[10]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," p. 306.

When item X_5, participation in determining own teaching assignment, was presented without a personal time allocation consideration, the item did not load on just one unique factor (see Table 4.3). In line with previous research[11] job involvement was maintained as a factor unique from need satisfaction.

Analysis of Variance with Post Hoc Comparisons among Career Stage Means on Alienation Factors

Through analysis of variance the following hypothesis was tested:

H_1: The rank order of the group means for the alienation of labor variables (as measured by need satisfaction and job involvement) from least to greatest amount of alienation will be significantly different as follows: (1) students in teacher education who have not student taught, (2) students in teacher education who have completed student teaching, (3) first-year teachers, and (4) experienced teachers.

Using the notation based on the factor analysis (see Table 4.3), let X_{33} = self-actualization need satisfaction, X_{34} = participation need satisfaction, X_{35} = job involvement. The four groups are denoted by the subscripts $_{G1}$ = preservice and no student teaching, $_{G2}$ = preservice and completed student teaching, $_{G3}$ = first-year teachers, and $_{G4}$ = experienced teachers. The statistical representations of the hypothesis are:

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[11] Cummings and Bigelow, "Satisfaction, Job Involvement, and Intrinsic Motivation," pp. 523-25; Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," pp. 305-12.

Table 4.3.--Varimax Orthogonal Three Factor Matrix.

Factors	Alienation Variables	Factor Loadings		
		1	2	3
	X_1, Self-fulfillment (B-A)[a]	.097	.722	-.152
X_{33}, Self-actualization Need Satisfaction (X_1 to X_4)	X_2, Independence (B-A)	.241	.526	.047
	X_3, Accomplishment (B-A)	.155	.711	-.114
	X_4, Growth (B-A)	.197	.690	-.214
	X_5, Participating in Determining Teaching Assignment (B-A)	.391	.432	-.134
	X_6, Participation in Evaluating Own Work (C-A)[b]	.676	.187	-.032
	X_7, Participation in Evaluating Own Work (B-A)[c]	.546	.170	.108
	X_8, Participation in Disciplinary Policies (C-A)	.567	.227	.015
	X_9, Participation in Disciplinary Policies (B-A)	.464	.161	.162
	X_{10}, Participation in Text Book Selection (C-A)	.607	.195	-.019
X_{34}, Participation Need Satisfaction (X_6 to X_{19})	X_{11}, Participation in Text Book Selection (B-A)	.455	.131	.117
	X_{12}, Participation in Standardized Test Selection (C-A)	.694	.190	-.130

Table 4.3.--Continued.

Factors	Alienation Variables	Factor Loadings		
		1	2	3
	X_{13}, Participation in Standardized Test Selection (B-A)	.633	.155	-.004
	X_{14}, Participation in Budget Determination (C-A)	.809	.124	-.046
	X_{15}, Participation in Budget Determination (B-A)	.720	.094	.054
	X_{16}, Participation in Hiring of New Administrators (C-A)	.729	.020	-.208
	X_{17}, Participation in Hiring of New Administrators (B-A)	.671	-.024	-.146
	X_{18}, Participation in Curriculum Determination (C-A)	.731	.132	-.044
	X_{19}, Participation in Curriculum Determination (B-A)	.646	.108	.112
	X_{20}, Personally Involved in Job	.040	-.269	.526
X_{35}, Job Involvement (X_{20} to X_{23})	X_{21}, Important Involvement in Job	-.017	-.143	.782
	X_{22}, Satisfaction from Job	.001	-.183	.841
	X_{23}, Live, Eat, and Breathe Job	-.004	.073	.692

Notes for Table 4.3

[a]B-A for $X_1,\ldots,X_5$ is a measure of dissatisfaction with A how much of the factor mentioned in the item is associated with the subject's present or prospective teaching job and B how much of the factor they feel should be associated with their job.

[b]C-A for X_6, X_8, X_{10}, X_{12}, X_{14}, X_{16}, and X_{18} is a measure of dissatisfaction with C the amount of the factor that would be associated with the subject's job if he or she were given "release time" during the school day once a week.

[c]B-A for X_7, X_9, X_{11}, X_{13}, X_{15}, X_{17}, and X_{19} is a measure of dissatisfaction with B the amount of the factor that would be associated with the subject's job if he or she had to commit one hour once a week after school.

$$H_0: \bar{X}_{33_{G1}} = \bar{X}_{33_{G2}} = \bar{X}_{33_{G3}} = \bar{X}_{33_{G4}}$$

$$H_1: \bar{X}_{33_{G1}} \neq \bar{X}_{33_{G2}} \neq \bar{X}_{33_{G3}} \neq \bar{X}_{33_{G4}}$$

$$H_0: \bar{X}_{34_{G1}} = \bar{X}_{34_{G2}} = \bar{X}_{34_{G3}} = \bar{X}_{34_{G4}}$$

$$H_1: \bar{X}_{34_{G1}} \neq \bar{X}_{34_{G2}} \neq \bar{X}_{34_{G3}} \neq \bar{X}_{34_{G4}}$$

$$H_0: \bar{X}_{35_{G1}} = \bar{X}_{35_{G2}} = \bar{X}_{35_{G3}} = \bar{X}_{35_{G4}}$$

$$H_1: \bar{X}_{35_{G1}} \neq \bar{X}_{35_{G2}} \neq \bar{X}_{35_{G3}} \neq \bar{X}_{35_{G4}}$$

An overall F-test was conducted at the .95 level to determine if any significant difference existed among means. When a significant difference was found, a series of complex comparisons among the means was carried out using the Scheffé method. Being the most conservative of the multiple comparisons tests, "it is less likely than other tests to show differences as significant."[12] The complex comparisons allowed the generation of alternative hypotheses to the "not equal" hypotheses above. The new alternative hypotheses were:

$$H_1: \bar{X}_{33_{G1}} < \bar{X}_{33_{G2}} < \bar{X}_{33_{G3}} < X_{33_{G4}}$$

$$H_1: \bar{X}_{34_{G1}} < \bar{X}_{34_{G2}} < \bar{X}_{34_{G3}} < \bar{X}_{34_{G4}}$$

$$H_1: \bar{X}_{35_{G1}} > \bar{X}_{35_{G2}} > \bar{X}_{35_{G3}} > \bar{X}_{35_{G4}}$$

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[12] Kerlinger and Pedhazur, Multiple Regression in Behavioral Sciences, p. 129.

Note that when the variable measures for need satisfaction (X_{33} and X_{34}) are lowest, need satisfaction is at its highest and alienation is minimal.

Results

A detailed account of the results are displayed in Appendix C in Tables C-1 to C-3. Table 4.4 is a summary of the results of the post hoc comparisons among teacher career stage means on the alienation factors. For each of the three alienation factors a significant difference existed among the four groups. In no cases, however, did the teacher education students (G_1 and G_2) differ significantly as hypothesized between each other nor did the teacher group (G_3 and G_4). Differences in the direction alternatively hypothesized were consistently found between teacher education students and teachers. Although possessing mean scores in the direction hypothesized, students who had completed student teaching (G_2) were not significantly different than first-year teachers (G_3) in their levels of alienation.

Both groups of teacher education students were less alienated than the teacher samples regarding the opportunity to experience self-actualization as a teacher (X_{33}, Table 4.4). Preservice teachers who had not student taught were also less alienated than both teacher groups from the opportunity for participation in the school decision making process (X_{34}, Table 4.4). Experienced teachers were more alienated from involvement in their jobs as teachers than either of the teacher education samples (X_{35}, Table 4.4).

Table 4.4.--Subsets in Which Teacher Career Stage Means for Alienation Factors Differ Significantly under Scheffé post hoc Procedure.

X_{33}, Self-Actualization Need Satisfaction[a]:

subset 1: $\bar{G}_1$ (1.15) < $\bar{G}_3$ (3.33)[b]

subset 2: $\bar{G}_1$ (1.15) < $\bar{G}_4$ (4.28)

subset 3: $\bar{G}_2$ (2.42) < $\bar{G}_4$ (4.28)

X_{34}, Participation Need Satisfaction[c]:

subset 1: $\bar{G}_1$ (12.65) < $\bar{G}_3$ (26.81)[b]

subset 2: $\bar{G}_1$ (12.65) < $\bar{G}_4$ (28.35)

X_{35}, Job Involvement:

subset 1: $\bar{G}_1$ (19.97) > $\bar{G}_4$ (16.82)[d]

subset 2: $\bar{G}_2$ (18.98) > $\bar{G}_4$ (16.82)

Note:

G_1 = teacher education students who have not student taught;

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

[a]Based on B-A: A = presently associated (teachers) or anticipate association (students with teaching job and B = should be associated with teaching job.

[b]Dissatisfaction increases with rise in mean score.

[c]Determined by time trade-off discrepancy scores between actual (teachers) or anticipated (students) participation state and projected participation state given time commitment after school and/or "release time" during day.

[d]Job involvement decreases with a decline in the mean score.

Discussion

Contrary to the hypothesis, students who had not student taught and those who had completed student teaching did not differ significantly among themselves nor did first-year teachers and experienced teachers. This finding suggests that despite the student teaching experience, the teacher education student groups sampled do not significantly differ in their perception of what employment as a teacher holds for them. Apparently becoming a first-year teacher has the general effect of bringing that group's perception of the work of teaching closer to those held by experienced teachers. The majority of significant contrasts were between teacher education students who had not student taught and both teacher samples. It may be that people enter a teaching career with an idealized image of teaching, but only upon actual full-time involvement in their work become significantly more alienated with teaching than when they initially began their career as teacher education students.

On the three factors comprising alienation teacher education students anticipated a lower degree of alienation from their prospective teaching jobs than teachers, especially experienced ones, were presently perceiving. This may be explained by the fact that unlike teacher education students, teachers have sold their labor power[13]

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[13]Marx conceived of "labor power" as a commodity which workers exchange for money or a price. The selling of labor power is a precursor of alienated labor. Marx states that "the exercise of labour power, labour, is the worker's own life-activity, the manifestation of his own life. And this life-activity he sells to another person in order to secure the necessary means of subsistence. Thus his life-activity is for him only a means to enable him to exist. He works in order to live. He does not even reckon labour as part of his life, it is rather a sacrifice of his life. It is a commodity which he has

to the public schools for employment. Marx's theory of alienation states that a worker experiences alienation when the product and processes of his or her labor is determined and reified by external forces.[14] With their labor serving more as a commodity than as a personally fulfilling activity, teachers may experience alienation from their work. Fuller and Brown have noted in their essay, "Becoming a Teacher," that "society's formal goals for teachers are high but somewhat vague. Standards are, in fact, so variable that an important skill for the teacher new to a community is that of sensing its values and modifying one's teaching accordingly."[15]

For teachers the significantly higher levels of alienation from the opportunity to be self-actualized may be because they encounter their labor as not belonging to them. In contemporary observations Maslow concedes that "the relationship between self-esteem and work is closer than I had thought. Especially healthy and stable self-esteen (the feeling of worth, pride, influence, importance, etc.) rests on good, worthy work to be introjected, thereby becoming part of the self."[16]

Using Aiken and Hage's guidelines for participation, "the degree to which staff members participate in setting the goals and

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made over to another. Hence, also the product of his activity is not the object of his activity. . . . What he produces for himself is wages . . ." Marx, "Wage Labour and Capital," pp. 169-71.

[14]Marx, "Economic and Philosophic Manuscripts of 1844," pp. 60-63.

[15]Fuller and Brown, "Becoming a Teacher," p. 31.

[16]Maslow, Eupsychian Management, pp. 12-13.

policies of the entire organization,"[17] teachers sampled in this study felt a relatively high degree of alienation from the school decision making process. Research on work in schools[18] and out[19] reports a positive relationship between worker satisfaction and control (or desire for control) over his or her labor. Corwin observes, "There is reason to believe that a desire for more influence over policy and disagreement with central level decision making and district goals account for much of the teacher militancy and dissatisfaction."[20] Furthermore, as Morgart, Mihalik, and Martin explain,

> . . . if teachers' needs remain essentially peripheral in the decision making progress determining the nature of their work roles, then it becomes easier to understand why teachers like other workers might experience their work activities as alienating rather than as a means of developing their mental and emotional growth.[21]

Teachers were significantly less involved in their jobs than teacher education students anticipate they will be. Possibly due to the vagueness of the product of schooling and the external control over

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[17]Aiken and Hage, "Organizational Alienation," p. 498.

[18]See Barakat, "Alienation from School System;" "Who Should Make What Decisions?"; Ambrosie and Heller, "Secondary School Administrator;" McClure, "Decision Making at Institutional Level;" Belasco and Alutto, "Decisional Participation and Teacher Satisfaction;" Ingle and Munsterman, "Relationship of Value to Group Satisfaction;" Ellenberg, "Factors Affecting Teacher Morale;" and Chung, "Teacher-Centered Management Style of Public School Principals."

[19]See Fromm, To Have or To Be; Lawler and Hall, "Relationship of Job Characteristics to Job Involvement;" March and Simon, Organizations; Vroom, Work and Motivation; and Bachman and Tannebaum, "Control-Satisfaction Relationship."

[20]Corwin, "The New Teaching Profession," p. 238.

[21]Morgart, Mihalik, and Martin, "Alienation in an Educational Context," p. 2.

the process of teacher labor, teachers may come to question the value and importance of the work they are performing. For Faunce alienation of labor can be seen through "a withdrawal of self investment" or personal involvement from an occupational role.[22] Along these lines Maslow adds,

> The only happy people I know are the ones who are working well at something they consider important. . . . This was the universal truth for all my self-actualizing subjects. They were metamotivated by metaneeds expressed in their devotion to, dedication to, and identification with some great and important job.[23]

Analysis of Variance with Post Hoc Comparisons among Career Stage Means on Individual Alienation Scores

Results

Analysis of variance with post hoc comparisons were also conducted on the twenty-three individual scores comprising alienation (see Table 4.1). This series of post hoc comparisons assessed the differences among the teacher career stage means towards each individual alienation score. Seventeen of the twenty-three individual score analyses of variance exhibited a significant difference among the group means. Table 4.5 is a summary of the results of the post hoc comparisons among teacher career stage means on the seventeen significant individual alienation scores. A total display of the analysis of variance and post hoc comparison results is in Appendix D in Tables D-1 to D-23.

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[22]Faunce, "Self Investment in the Occupational Role," p. 18.

[23]Maslow, Eupsychian Management, p. 6.

Table 4.5.--Subsets in Which Teacher Career Stage Means for Individual Alienation Scores Differ Significantly under Scheffé *post hoc* Procedure.

X_1, Opportunity for Self-fulfillment[a]:

subset 1: $\bar{G}_1$ (.22) < $\bar{G}_3$ (.94)[b]

subset 2: $\bar{G}_2$ (.22) < $\bar{G}_4$ (1.09)

X_3, Opportunity for Accomplishment[a]:

subset 1: $\bar{G}_1$ (.28) < $\bar{G}_3$ (.94)[b]

subset 2: $\bar{G}_1$ (.28) < $\bar{G}_4$ (1.07)

X_4, Opportunity for Growth[a]:

subset 1: $\bar{G}_1$ (.14) < $\bar{G}_3$ (.90)[b]

subset 2: $\bar{G}_1$ (.14) < $\bar{G}_4$ (1.35)

subset 3: $\bar{G}_2$ (.46) < $\bar{G}_4$ (1.35)

X_6, Participation in Evaluating Own Work (C-A)[c]:

subset 1: $\bar{G}_1$ (.57) < $\bar{G}_3$ (2.35)[b]

subset 2: $\bar{G}_1$ (.57) < $\bar{G}_4$ (2.10)

subset 3: $\bar{G}_2$ (1.23) < $\bar{G}_3$ (2.35)

X_8, Participation in Disciplinary Policies (C-A)[c]:

subset 1: $\bar{G}_1$ (.26) < $\bar{G}_3$ (.92)[b]

subset 2: $\bar{G}_1$ (.26) < $\bar{G}_4$ (1.30)

subset 3: $\bar{G}_2$ (.34) < $\bar{G}_4$ (1.30)

X_{10}, Participation in Text Book Selection (C-A)[c]:

subset 1: $\bar{G}_1$ (.74) < $\bar{G}_3$ (1.70)[b]

subset 2: $\bar{G}_1$ (.74) < $\bar{G}_4$ (1.92)

Table 4.5.--Continued.

X_{11}, Participation in Text Book Selection (B-A)[d]:

subset: $\bar{G}_1$ (.54) < $\bar{G}_3$ (1.46)[b]

X_{12}, Participation in Standardized Test Selection (C-A)[c]:

subset 1: $\bar{G}_1$ (1.04) < $\bar{G}_3$ (2.68)[b]

subset 2: $\bar{G}_1$ (1.05) < $\bar{G}_4$ (3.07)

subset 3: $\bar{G}_2$ (1.50) < $\bar{G}_3$ (2.68)

subset 4: $\bar{G}_2$ (1.50) < $\bar{G}_4$ (3.07)

X_{13}, Participation in Standardized Test Selection (B-A)[d]:

subset 1: $\bar{G}_1$ (1.00) < $\bar{G}_3$ (2.05)[b]

subset 2: $\bar{G}_1$ (1.00) < $\bar{G}_4$ (1.95)

X_{14}, Participation in Budget Determination (C-A)[c]:

subset 1: $\bar{G}_1$ (1.27) < $\bar{G}_4$ (3.34)[b]

subset 2: $\bar{G}_2$ (1.76) < $\bar{G}_4$ (3.34)

X_{15}, Participation in Budget Determination (B-A)[d]:

subset: $\bar{G}_1$ (1.15) < $\bar{G}_4$ (2.13)[b]

X_{16}, Participation in Hiring New Administrators (C-A)[c]:

subset 1: $\bar{G}_1$ (1.36) < $\bar{G}_3$ (3.41)[b]

subset 2: $\bar{G}_1$ (1.36) < $\bar{G}_4$ (3.82)

subset 3: $\bar{G}_2$ (2.14) < $\bar{G}_3$ (3.41)

subset 4: $\bar{G}_2$ (2.14) < $\bar{G}_4$ (3.82)

Table 4.5.--Continued.

X_{17}, Participation in Hiring New Administrators (B-A)[d]:

subset 1: $\bar{G}_1$ (1.44) < $\bar{G}_3$ (2.83)[b]

subset 2: $\bar{G}_1$ (1.44) < $\bar{G}_4$ (3.10)

subset 3: $\bar{G}_2$ (1.98) < $\bar{G}_4$ (3.10)

X_{18}, Participation in Curriculum Determination (C-A)[c]:

subset: $\bar{G}_1$ (.77) < $\bar{G}_4$ (2.45)[b]

X_{20}, Personally Involved in Job:

subset 1: $\bar{G}_1$ (6.42) < $\bar{G}_4$ (5.87)[e]

subset 2: $\bar{G}_2$ (6.37) < $\bar{G}_4$ (5.87)

X_{21}, Important Involvement in Job:

subset 1: $\bar{G}_1$ (5.09) < $\bar{G}_3$ (4.33)[e]

subset 2: $\bar{G}_1$ (5.09) < $\bar{G}_4$ (3.96)

subset 3: $\bar{G}_2$ (4.64) < $\bar{G}_4$ (3.96)

X_{22}, Satisfaction from Job:

subset 1: $\bar{G}_1$ (4.99) < $\bar{G}_3$ (4.13)[e]

subset 2: $\bar{G}_1$ (4.99) < $\bar{G}_4$ (3.94)

subset 3: $\bar{G}_2$ (4.67) < $\bar{G}_4$ (3.94)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

Notes for Table 4.5.--Continued.

[a]Based on B-A: A = presently associated (teachers) or anticipate association (students) with teaching job and B = should be associated with teaching job.

[b]Dissatisfaction increases with rise in mean score.

[c]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of using school day "release time" once a week for participation (C-A).

[d]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of allocating an hour after school once a week for participation (B-A).

[e]Job involvement decreases with a decline in the mean score.

As in the case of the three alienation factors, teacher education students (G_1 and G_2) did not differ significantly between each other. This was also true for the teacher groups (G_3 and G_4) except in one case, variable X_{11}. In the instance of X_{11} experienced teachers (G_4) were less alienated than first-year teachers (G_3) from the opportunity for participation in text book selection when allocating an hour of their time once a week after school. With this one exception, differences in the direction alternatively hypothesized for the three factors were consistently found between teacher education students and teachers on the seventeen significant analyses of variance.

From a total of forty-one significant subset comparisons, only three were between teacher education students who had completed student teaching (G_2) and first-year teachers (G_3). The three differences were on opportunity for participation items. First-year teachers were more alienated than preservice teachers who had student taught regarding participation in

X_6, evaluating one's own work;

X_{12}, standardized test selection; and

X_{16}, hiring new administrators.

Three of the four items which comprise the self-actualization need satisfaction factor, X_{33}, displayed significant differences among the groups. Preservice teachers who had not student taught were less alienated than both groups of teachers from the opportunity in the teaching job for self-fulfillment (X_1), accomplishment (X_3), and growth (X_4). Teacher education students who had completed student

teaching were also less alienated than experienced teachers regarding the opportunity for growth.

Seven different school decision making possibilities with two different personal time allocation considerations were presented to the sample (see X_6 to X_{19} in Table 4.1). All seven participation categories produced significant differences among the means when the potential for "release time" during the school day once a week was available. Allocating an hour once a week after school for participation in school decision making resulted for four (X_{11}, X_{13}, X_{15}, X_{17}) of the seven opportunity for participation variables in significant group mean differences.

Opportunity for participation after school produced alienation scores generally lower than the "release time" option. As was the general trend, teacher education students were less alienated from the possibility of eventually participating in policy formation than were full-time teachers. The highest mean levels of alienation from participation in decision making opportunities for all groups sampled in descending order were in:

1. the hiring of new administrators for the school district (X_{16} and X_{17}),
2. budget determination for their own school (X_{14} and X_{15}), and
3. standardized test selection (X_{12} and X_{13}).

Three additional participation options, also in descending rank, producing relatively moderate alienation scores were in:

4. evaluating one's own work (X_6),
5. curriculum determination (X_{18}), and
6. text book selection (X_{10} and X_{11}).

The opportunity for participation variable

7. disciplinary policies for students (X_8)

provided the least amount of alienation among the four groups of subjects.

Three items representing job involvement resulted in significant mean differences between teacher education students and teachers. Both groups of preservice teachers anticipate being more personally involved in their work (X_{20}), having more important involvement in their job (X_{21}), and receiving more satisfaction from a teaching career (X_{22}) than experienced teachers. Students who had not student taught projected more important involvement in and satisfaction from the work of teaching than first-year teachers perceived they presently had in their jobs.

Discussion

Teachers sampled displayed a higher level of alienation from the opportunity in the teaching job for self-fulfillment, accomplishment, and growth than teacher education students anticipated in their prospective careers. Given the external control exercised over teachers in the production process of teaching, teachers may not be presently experiencing these self-actualizing needs and are withdrawing their intrinsic involvement from their labor. Faunce states,

> Quality of work is clearly a normative concept and is usually defined in terms of extent of autonomy, opportunity for creativity, and recognition for achievement on the job. There is at least inferential evidence, however, that people do not place high value upon these attributes of a job in the absence of self investment in it.[24]

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[24]Faunce, "Self-Investment in the Occupational Role," pp. 18-19.

Teacher education students, however, in contrast to teachers anticipate that they will be able to attain self-fulfillment, accomplishment, and growth through the work of teaching.

First-year teachers were more alienated than preservice teachers who had completed student teaching only with respect to participation in evaluating one's own work, standardized test selection, and hiring new administrators. A possible explanation for this difference is that these particular participation opportunities may be examples of ones which become most immediately meaningful to novice teachers in contrast to what they may have anticipated when they were teacher education students who had completed student teaching. As Hoy explains, the beginning teacher "may suddenly be confronted with a set of organization norms and values at variance with those acquired in formal preparation."[25]

Opportunity for participation after school produced alienation scores lower than the "release time" option on the same item. This difference may reflect that the sample is more willing to allocate their time during the school day than after regular work hours in order to participate in decision making. Despite this perceived willingness, the higher scores on the "release time" option also suggest, especially for the teacher samples, the possibility that dissatisfaction prevails in part since teachers are denied participation in a large number of school decisions which affect their work.[26]

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[25]Hoy, "Influence of Experience on Beginning Teacher," p. 315.

[26]Smith, "Teacher Planning for Instruction," pp. 7, 11; Lortie, "Balance of Control and Autonomy in Elementary School Teaching," pp. 4, 19.

The highest levels of alienation from participation in decision making opportunities were in the hiring of new administrators for the school district, budget determination for the teachers' own school, and standardized test selection. Alienation from the hiring process of administrators may be because administrators control numerous decisions which affect the labor of teachers.[27] Furthermore, teachers generally have little voice in employment decisions regarding administrators. The concern over school budget may be a function of teachers desiring increased decisional input or instructional materials which they feel are needed for them to perform their work as teachers.[28] Alienation from participation in standardized test selection may be explained by the existence of a large number of teachers who consider standardized tests an unnecessary intrusion into their workplaces.[29]

A comparatively moderate degree of alienation from participation options was produced for evaluating one's own work, curriculum determination, and text book selection. Alienation from the opportunity to participate in evaluating one's own work may stem from schooling production goals which are never explicitly stated for the teacher. Greene in Teacher as Stranger suggests that "the teacher's feeling of responsibility may well be eroded by an implicit demand

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[27] Ibid.

[28] This interpretation is based in part on discussions with teachers who participated in the questionnaire pilot.

[29] Francis Quinto and Berhard McKenna, Alternatives to Standardized Testing (Washington, D.C.: National Education Association, 1977).

that he be the agent of an externally defined purpose, which he can only understand as a slogan or still another expression of prevailing peity."[30]

The relatively moderate lack of participation in curriculum and text determination may be a function of teachers generally not controlling "long-range planning decision."[31] In the case of text book selection experienced teachers were less alienated than first-year teachers when allocating an hour of their time once a week after school. As new full-time members to the employment of teaching, first-year teachers may be concerned over the lack of input they have in determining the text books for use in their own classrooms.

The least amount of alienation among the four groups of subjects for an opportunity for participation variable was in disciplinary policies for students. Disciplinary policies for this sample may be a realm in which a large degree of participation by teachers presently exists. Bowles and Gintis contend that a central role of schooling is to reproduce the unequal hierarchical relationships found in work settings by creating students submissive to authority.[32] Teacher involvement in creating and carrying out disciplinary policies may be a way in which the function of submission is attained.

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[30]Greene, Teacher as Stranger, pp. 269-70.

[31]Smith, "Teacher Planning for Instruction," p. 7.

[32]Samuel Bowles and Herbert Gintis, Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life (New York: Basic Books, Inc., 1976), pp. 125-48.

Three job involvement items resulted in significant mean differences between teacher education students and teachers. Subjects who had been in a teaching career longest were the least involved group in their labor. As noted previously for the job involvement factor, alienation may increase as teachers experience "a withdrawal of self investment" from their occupational role.[33]

Multiple Regression Analysis of Alienation Factors on Workplace Characteristics

Multiple regression was used to test the following hypothesis:

H_2: For each of four career stages of a teacher (students in teacher education who have not student taught, students in teacher education who have completed student teaching, first-year teachers, and experienced teachers), a significant proportion of the variance of alienation of labor (as measured by need satisfaction and job involvement) will be explained by workplace characteristics (as measured by teacher influence and control, a relevant test of teacher abilities, and the social value of teacher labor).

Using the same notation as in the analysis of variance for the alienation factor, X_{33}, X_{34}, X_{35}; let the nine individual items which comprise the workplace characteristics be represented by $X_{24},\ldots,X_{32}$ (see Table 4.6). The statistical representations of the hypothesis for each career stage are:

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[33]Faunce, "Self Investment in the Occupational Role," p. 18.

Table 4.6.--Questionnaire Item Coding for Independent Variables.

Items	Notation	Labels
Teacher Influence and Control (Items 17 and 21)		
17 =	X_{24} =	Control and Final Say Over Job
21 =	X_{25} =	Influence Within School Building
Relevant Test of Teacher Abilities (Items 18-20)		
18 =	X_{26} =	Job Appropriate for Abilities
19 =	X_{27} =	Creativity in Job
20 =	X_{28} =	Job Gives Chance to Do Things Teacher Does Best
Social Value of Labor (Items 22-25)		
22 =	X_{29} =	Parents Regard School as "Babysitting" Agency
23 =	X_{30} =	Parents Deeply Concerned about a Top Quality Education
24 =	X_{31} =	Parents Who Want Feedback on Their Children
25 =	X_{32} =	Principal Provides Adequate Information on Teacher's Performance

$$H_0: R^2_{X_{33} \cdot X_{24},\ldots,X_{32}} = 0$$

$$H_1: R^2_{X_{33} \cdot X_{24},\ldots,X_{32}} > 0$$

$$H_0: R^2_{X_{34} \cdot X_{24},\ldots,X_{32}} = 0$$

$$H_1: R^2_{X_{34} \cdot X_{24},\ldots,X_{32}} > 0$$

$$H_0: R^2_{X_{35} \cdot X_{24},\ldots,X_{32}} = 0$$

$$H_1: R^2_{X_{35} \cdot X_{24},\ldots,X_{32}} > 0$$

The general multiple regression equation for the three alienation factors, Y_i, regressed on the nine workplace items is

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} + b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + e$$

where e represents error, a is a constant where the regression line crosses the Y-axis, and the b_i are the regression coefficients. The regression coefficients equal the slopes of the regression surface (the change in the dependent variable per unit change in the independent variable, minimizing the sum of the squared errors of prediction).

Results

For the four teacher career stages Table 4.7 is a summary of the alienation factors having a significant proportion of the variance accounted for by the workplace variables. Tables E-1 to E-4 and E-6

Table 4.7.--Significant Multiple Regressions of Alienation Factors (X_{33}, X_{34}, X_{35}) on Workplace Characteristic Scores (X_{24},...,X_{32}) by Teacher Career Stages.

Factor	R^2	α	Most Significant Workplace Variables b_i (with α)
1. Teacher Education Students Who Have Not Student Taught:			
X_{33} (Self-actualization Need Satisfaction)	.26[a]	.017[b]	X_{24} (Control and Final Say Over Job), .59[c] (.009)[b]
X_{35} (Job Involvement)	.31	.003	X_{25} (Influence Within School Building), 1.18 (.009); X_{27} (Creativity in Job), 1.66 (.016)
2. Teacher Education Students Who Have Completed Student Teaching:			
X_{35} (Job Involvement)	.48	<.0005	X_{24} (Control and Final Say Over Job), 1.08 (.007); X_{28} (Job Gives Chance to Do Things Teacher Does Best), 2.30 (<.0005)
3. First-Year Teachers:			
X_{33} (Self-actualization Need Satisfaction)	.51	<.0005	X_{24} (Control and Final Say Over Job), .52 (.053); X_{27} (Creativity in Job), -.86 (.016); X_{30} (Parents Deeply Concerned about a Top Quality Education), -.66 (.010)
4. Experienced Teachers:			
X_{33} (Self-actualization Need Satisfaction)	.47	<.0005	X_{26} (Job Appropriate for Abilities), -1.06 (.001); X_{28} (Job Gives Chance to Do Things Teacher Does Best), -.80 (.053); X_{29} (Parents Regard School as "Babysitting" Agency), .77 (.025)

Table 4.7.--Continued.

Factor	R^2	α	Most Significant Workplace Variables b_i (with α)
4. Experienced Teachers (continued):			
X_{34} (Participation Need Satisfaction)	.41	<.0005	X_{24} (Control and Final Say Over Job), 2.99 (.052); X_{25} (Influence Within School Building), -5.30 (.002)
X_{35} (Job Involvement)	.21	.037	X_{28} (Job Gives Chance to Do Things Teacher Does Best), .87 (.065)[d]

[a]Coefficient of multiple determination; proportion of variance in factor explained by $X_{24},\ldots,X_{32}$.

[b]1-significance level.

[c]Regression coefficient.

[d]No independent variable was significantly different from zero to the 95 percent level.

to E-7 in Appendix E provide a detailed display of the multiple regression results (see dependent variables X_{33}, X_{34}, X_{35}).

A significant proportion of the variance was explained for the self-actualization need satisfaction factor, X_{33}, by the nine workplace variables for teacher education students who had not student taught (R^2 = .26), first-year teachers (R^2 = .51), and experienced teachers (R^2 = .47). The workplace items significantly predicted the variance for the participation need satisfaction factor, X_{34}, for experienced teachers (R^2 = .41). The job involvement factor, X_{35}, had a significant proportion of its variance accounted for by the workplace characteristics for perservice teachers who have not student taught (R^2 = .31), preservice teachers who have completed student teaching (R^2 = .48), and experienced teachers (R^2 = .21). A discussion of the interpretation of these results is conducted in the section below in conjunction with the findings of the regressions for the pooled sample.

Pooled Multiple Regression Compared to Individual Career Stage Regressions

Dummy variables[34] for the teacher career stages were included in the multiple regression along with the workplace characteristic scores. The number of dummy variables is (K groups - 1) = 3. Each dummy variable is assigned a value of 0 or 1. The regression equation for each of the three alienation factors as dependent variables, Y_i, is

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[34]Johnston, Econometric Methods, pp. 176-86.

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} + b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + C_1D_1 + C_2D_2 + C_3D_3 + e$$

where: D_1 = 1 for students who have completed student teaching, 0 otherwise; D_2 = 1 for first-year teachers, 0 otherwise; and D_3 = 1 for experienced teachers, 0 otherwise. In the instance of dummy variables the regression coefficients C_i are the changes in the conditional mean of the dependent variable taking into account the independent variables. This is so because dummy variables represent categories for the different groups into which the sample is subdivided. For cases belonging to the excluded category, students who have not student taught, $Y = a + \sum_{24}^{32} b_i X_i$.

The pooled multiple regression was then compared to the individual career stage regressions. An F-test was performed to determine if the four sets of regressions for the career stages came from the same population. If the computed F was greater than the critical F, then pooling the sample for analysis is not legitimate.

Results

A significant proportion of the variance in the three alienation factors was explained by the workplace variables: self-actualization need satisfaction, X_{33} (R^2 = .34); participation need satisfaction, X_{34} (R^2 = .23); and job involvement, X_{35} (R^2 = .28). The summary of the findings for the pooled sample is in Table 4.8. Tables E-5 to E-7 in Appendix E present the entire results of the multiple regression analysis for the pooled sample.

Table 4.8.--Significant Multiple Correlations of Individual Alienation Scores ($X_1,\ldots,X_{23}$) and Alienation Factors (X_{33}, X_{34}, X_{35}) on Workplace Characteristics ($X_{24},\ldots,X_{32}$) for Pooled Sample[a]

Dependent Variable	R^2	α	Most Significant Workplace Variables b_i (with α)
X_{33} (Self-actualization Need Satisfaction)	.34[a]	<.0005[b]	a (constant),[c] 6.34[d] (<.0005)[b]; X_{24} (Control and Final Say Over Job), .49 (.001); X_{26} (Job Appropriate for Abilities), -.63 (<.0005); X_{29} (Parents Regard School as "Baby-sitting" Agency), .30 (.051); X_{30} (Parents Deeply Concerned about a Top Quality Education), -.36 (.056)
X_{34} (Participation Need Satisfaction)	.23	<.0005	a (constant), 29.40 (.003); X_{24} (Control and Final Say Over Job), 1.97 (.020); X_{25} (Influence Within School Building), -2.30 (.019); D_2 (First-Year Teachers), 9.89 (.005); D_3 (Experienced Teachers), 9.10 (.007)
X_{35} (Job Involvement)	.28	<.0005	a (constant), 6.46 (.003); X_{24} (Control and Final Say Over Job), .50 (.007); X_{26} (Job Appropriate for Abilities), .53 (.007); X_{28} (Job Gives Chance to Do Things Teacher Does Best), .80 (.002); D_3 (Experienced Teachers), -1.69 (.022)
X_1 (Self-fulfillment [B-A])[e]	.30	<.0005	a (constant), 1.77 (.007)
X_2 (Independence)	.19	<.0005	X_{24} (Control and Final Say Over Job), .25 (<.0005)
X_3 (Accomplishment [B-A])	.24	<.0005	X_{24} (Control and Final Say Over Job), .12 (.008); X_{28} (Job Gives Chance to Do Things Teacher Does Best), -.13 (.045); X_{29} (Parents Regard School as "Baby-sitting" Agency), .09 (.056); D_2 (First-Year Teachers), .44 (.020); D_3 (Experienced Teachers), .42 (.022)
X_4 (Growth [B-A])	.35	<.0005	a (constant), 3.22 (<.0005); X_{26} (Job Appropriate for Abilities), -.18 (.003); X_{28} (Job Gives Chance to Do Things Teacher Does Best), -.15 (.040)
X_5 (Participation in Determining Teaching Assignment [B-A])	.16	<.0005	a (constant), 2.87 (.001); X_{24} (Control and Final Say Over Job), .29 (.009); X_{30} (Parents Deeply Concerned about a Top Quality Education), -.18 (.007); D_3 (Experienced Teachers), .58 (.007)
X_6 (Participation in Evaluating Own Work [C-A])[f]	.17	<.0005	X_{24} (Control and Final Say Over Job), .30 (.003); D_2 (First-Year Teachers), 1.54 (<.0005); D_3 (Experienced Teachers), 1.16 (.003)
X_7 (Participation in Evaluating Own Work [B-A])[g]	.11	.003	a (constant), 2.85 (.006); X_{24} (Control and Final Say Over Job), .20 (.024); X_{30} (Parents Deeply Concerned about a Top Quality Education), -.22 (.036)
X_8 (Participation in Disciplinary Policies [C-A])	.18	<.0005	X_{24} (Control and Final Say Over Job), .31 (.001); X_{25} (Influence Within School Building), -.26 (.016); D_2 (First-Year Teachers), .83 (.028); D_3 (Experienced Teachers), 1.06 (.004)
X_9 (Participation in Disciplinary Policies [B-A])	.10	.006	X_{24} (Control and Final Say Over Job), .21 (.011)
X_{10} (Participation in Text Book Selection [C-A])	.11	.003	X_{24} (Control and Final Say Over Job), .23 (.020); D_2 (First-Year Teachers), 1.06 (.008)
X_{11} (Participation in Text Book Selection [B-A])	.07	.058	D_3 (Experienced Teachers), -.90 (.011)
X_{12} (Participation in Standardized Test Selection [C-A])	.19	<.0005	a (constant), 2.64 (.035); X_{25} (Influence Within School Building), -.25 (.045); D_2 (First-Year Teachers), 1.40 (.001); D_3 (Experienced Teachers), 1.74 (<.0005)
X_{13} (Participation in Standardized Test Selection [B-A])	.11	.004	a (constant), 3.31 (.004); D_2 (First-Year Teachers), .74 (.061)
X_{14} (Participation in Budget Determination)	.19	<.0005	X_{24} (Control and Final Say Over Job), .19 (.066); D_2 (First-Year Teachers), .79 (.065); D_3 (Experienced Teachers), 1.44 (.001)

Table 4.8.--Continued.

Dependent Variable	R^2	α	Most Significant Workplace Variables b_i (with α)
X_{15} (Participation in Budget Determination [B-A])	.15	<.0005	a (constant), 3.00 (.008); X_{28} (Job Gives Change to Do Things Teacher Does Best), .30 (.022)
X_{16} (Participation in Hiring of New Administrators [C-A])	.20	<.0005	a (constant), 2.73 (.033); D_2 (First-Year Teachers), 1.68 (<.0005); D_3 (Experienced Teachers), 1.95 (<.0005)
X_{17} (Participation in Hiring of New Administrators [B-A])	.14	<.0005	X_{32} (Principal Provides Adequate Information on Teacher's Performance), -.35 (.009); D_2 (First-Year Teachers), 1.10 (.008); D_3 (Experienced Teachers), 1.21 (.003)
X_{18} (Participation in Curriculum Determination [C-A])	.10	<.0005	X_{24} (Control and Final Say Over Job), .30 (.001); X_{25} (Influence Within School Building), -.22 (.038); D_1 (Teacher Education Students Who Have Completed Student Teaching), .74 (.030); D_3 (Experienced Teachers), 1.16 (.001)
X_{19} (Participation in Curriculum Determination [B-A])	.15	<.0005	a (constant), 2.54 (.008); X_{24} (Control and Final Say Over Job), .24 (.003)
X_{20} (Personally Involved in Job)	.28	<.0005	a (constant), 3.69 (<.0005); X_{26} (Job Appropriate for Abilities), .12 (.009); X_{27} (Creativity in Job), .17 (.007)
X_{21} (Important Involvement in Job)	.25	<.0005	a (constant), 2.38 (.001); X_{24} (Control and Final Say Over Job), .16 (.009); X_{26} (Job Appropriate for Abilities), .12 (.060); X_{30} (Parents Deeply Concerned about a Top Quality Education), .34 (<.0005); D_2 (First-Year Teachers), -.50 (.045); D_3 (Experienced Teachers), -.94 (<.0005)
X_{22} (Satisfaction from Job)	.25	<.0005	X_{24} (Control and Final Say Over Job), .18 (.005); X_{26} (Job Appropriate for Abilities), .24 (.001); X_{28} (Job Gives Chance to Do Things Teacher Does Best), .17 (.059); D_3 (Experienced Teachers), .68 (.007)
X_{23} (Live, Eat, and Breathe Job)	.15	<.0005	X_{24} (Control and Final Say Over Job), .25 (.001)

[a]Coefficient of multiple determination; proportion of variance in individual score or factor explained by $X_{24},\ldots,X_{32}$.

[b]1-significance level.

[c]For cases belonging to the excluded category of dummy variables (K groups - 1) = 3 dummy variables, Students Who Have Not Student Taught:

$$y = a + \sum_{24}^{32} b_i X_i$$

[d]Regression coefficient.

[e]B-A for $X_1,\ldots,X_5$ is a measure of dissatisfaction with A how much of the factor mentioned in the item is associated with the subject's present or prospective teaching job and B how much of the factor they feel should be associated with their job.

[f]C-A for X_6, X_8, X_{10}, X_{12}, X_{14}, X_{16}, and X_{18} is a measure of dissatisfaction with C the amount of the factor that would be associated with the subject's job if he or she were given "release time" during the school day once a week.

[g]B-A for X_7, X_9, X_{11}, X_{13}, X_{15}, X_{17}, and X_{19} is a measure of dissatisfaction with B the amount of the factor that would be associated with the subject's job if he or she had to commit one hour once a week after school.

The statistical comparison of the four career stage regressions with the pooled sample indicated that pooling was permissible. Therefore, regardless of the statistical significance of the explained variance for the individual regressions, the difference among the separate career stage regressions were not significant when compared to the pooled sample (see Table E-8 in Appendix E).

The most significant workplace characteristics in predicting changes in the self-actualization need satisfaction were

X_{24}, little control and final say over job,

X_{26}, job appropriate for abilities,

X_{29}, parents regard school as "baby-sitting" agency, and

X_{30}, parents deeply concerned about a top quality education.

When the members of the sample perceived that they had minimal control over their labor and that their school was regarded as a "baby-sitting" agency, their alienation from the opportunity to experience self-actualization through the teaching job increased. However, if the sample felt that their job was suitable for their abilities and that parents are concerned about the quality of education their children are receiving, the alienation index on self-actualization decreased.

Two independent variables,

X_{24}, having little control and final say over the teaching job, and

X_{25}, influence within the school building,

were the most significant independent variables predicting participation need satisfaction, X_{34}. The behavior of the dummy variables indicates that teaching career stage is significantly correlated to participation need satisfaction when taking into consideration items

on school workplace characteristics. Little control in the job predicted an increase in alienation from participation need satisfaction while having influence within the school building decreased alienation.

X_{24}, little control and final say over the job,

X_{26}, job appropriate for abilities, and

X_{28}, job gives chance to do things teacher does best.

were the most significant variables in explaining the variance in the job involvement factor, X_{35}. Increases in the three above variables caused an increase in the job involvement index. Career stage was also significant in predicting job involvement.

Discussion

When the sample was pooled, the alternative hypothesis regarding a significant relationship between the three alienation factors and workplace characteristics was supported. That is, a significant proportion of the variance for self-actualization need satisfaction, participation need satisfaction, and job involvement was accounted for by the workplace characteristics teacher influence and control, relevant test of teacher abilities, and social value of labor. When analyzing the data along individual career stages, only for experienced teachers were all three equations able to explain a significant proportion of the variance. This may be due to experienced teachers attaching more meaning to the workplace variables than beginning and preservice teachers.

Within the category of teacher influence and control, item X_{24}, little control and final say over the job, was a significant

predictor for all three factors. The behavior of X_{24} was theoretically consistent with the need satisfaction factors, X_{33} and X_{34}. The more the pre- and inservice teachers agreed that they anticipated having or had little control over their work, the higher the discrepancy or alienation index.

The response on X_{24} was similar for job involvement, X_{35}, except that little control predicted higher job involvement. Lawler and Hall had found minimal ($r = .05$) correlation between job involvement and control.[35] Added to their finding is the possible interpretation that little control increases job involvement. These two findings raise the question of the multiple meanings this item may have had for subjects in both studies. Perhaps phrasing the item ". . . no control . . ." rather than ". . . little control . . ." would reduce any potential ambiguity. Another possible explanation is that despite the degree of external control exercised over teachers, there exists aspects of the job which allow for one's involvement in their teaching work. Possibly, despite the lack of control over major policy decisions, the autonomy for teachers behind the closed classroom doors permits some degree of intrinsic involvement in the teaching job.

The other item in the influence and control characteristic, X_{25}, having influence within the school building, was a significant predictor for decreasing alienation from participation in school decision making. Thus, the two major predictors for participation

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[35]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," p. 310.

need satisfaction were the control and influence variables. The two workplace characteristic categories of relevant test of teacher abilities and social value of labor were not as vital as teacher influence and control for this sample in predicting alienation from participation in school policy creation. This relationship makes conceptual sense since influence and control imply an exercise of political power in decision making to a greater degree than the items for relevant test of abilities and social value of labor. Thus, an increase in the influence and control of teachers over their work in general would also tend to improve their opportunities for participation in policy formulation.

Two of the three variables comprising the relevant test of teacher abilities category were significant predictors. The more the job of teaching was considered appropriate, X_{26}, by the sample, the less alienated they were from attaining self-actualization through involvement in their labor as a teacher. When the job was assessed as giving teachers a chance to do things they do best, X_{28}, job involvement increased. One reason for job involvement, therefore, seems to be a function of when the labor demanded is in line with the skills and expertise teachers acquire through their preservice training. Excessive record keeping and crowded classrooms, for example, may be variables which teachers might feel detract from applying their technical teaching skills and subsequently result in less involvement in their teaching job.

Creativity in the job, X_{27}, was the one item in teacher ability category that was not a significant predictor for the pooled

sample for any of the three alienation factors. For the individual regressions it was nevertheless significant in explaining an increase in job involvement for teacher education students who had not student taught and accounting for a reduction in alienation from the opportunity for self-actualization for first-year teachers.

Two of the four social value of labor variables were significant predictors of the self-actualization need satisfaction index for the pooled sample. Parent concern and perception of the role of the school, X_{29} and X_{30}, accounted for a decrease in alienation. Interest in the school from parents, one of the primary consumers of public education, may be a means by which teachers are able to assess the social importance of their work.

The three workplace characteristics categories (1) teacher influence and control, (2) relevant test of teacher abilities, and (3) social value of labor contained items which were significant predictors for only the self-actualization factor. The variance in the participation need satisfaction factor was best explained by the influence and control items, whereas relevant test of teacher abilities items were significant variables for the job involvement factor. Apparently the self-actualization factor is a more universal concept which is affected by a broad range of workplace characteristics. The participation and involvement factors, however, are more associated with specific workplace categories.

Comparison of Four Career Stage Regressions to Pooled Regression of Individual Alienation Scores on Workplace Characteristics

Results

All twenty-three of the pooled regressions of individual scores comprising alienation, X_1 to x_{23}, on workplace characteristics, X_{24} to X_{32}, were statistically significant at the 95 percent or greater probability level. For the teacher career stages, five were significant for teacher education students who had not student taught, four for students who had completed student teaching, seven for first-year teachers, and seventeen for experienced teachers. The F-test comparing the pooled sample to the individual career stage regressions indicates that pooling is the legitimate level of analysis except for dependent alienation variables, opportunity for accomplishment, X_3, and growth, X_4. These results are displayed in Table 4.8 (pp. 106-7) and Table 4.9 (pp. 114-15) and Appendix E.

A significant proportion of the variance was accounted for by the workplace characteristic variables for the opportunity for accomplishment dependent variable, X_3, for preservice teachers who have not student taught (R^2 = .30), first-year teachers (R^2 = .39), and experienced teachers (R^2 = .35). For teacher education students who have not student taught the most significant workplace variables were influence and control, X_{24} and X_{25}, and the job giving teachers a chance to do things they do best, X_{28}. When there is little control in the job, alienation from the opportunity for accomplishment increases whereas teacher influence within the school building

Table 4.9.--Significant Multiple Regressions of Individual Alienation Scores ($X_1,\ldots,X_{23}$) on Workplace Characteristics ($X_{24},\ldots,X_{32}$) by Teacher Career Stages.

Individual Score	R^2	α	Most Significant Workplace Variables b_i (with α)
1. Teacher Education Students Who Have Not Student Taught:			
X_3 (Accomplishment [B-A])[a]	.30[b]	.007[c]	X_{24} (Control and Final Say Over Job), .16[d] (.014)[c]; X_{25} (Influence Within School Building), -.19 (.019); X_{28} (Job Gives Chance to Do Things Teacher Does Best), .23 (.033)
X_4 (Growth [B-A])	.35	.001	X_{24} (Control and Final Say Over Job), .14 (.026); X_{27} (Creativity in Job), -.27 (.031); X_{29} (Parents Regard School as "Baby-sitting" Agency), -.18 (.008); X_{30} (Parents Deeply Concerned about a Top Quality Education), -.23 (.002); X_{31} (Parents Who Want Feedback on Their Children), .17 (.057)
X_{20} (Personally Involved in Job)	.28	.009	X_{25} (Influence Within School Building), .25 (.005)
X_{21} (Important Involvement in Job)	.22	.057	X_{25} (Influence Within School Building), .32 (.026); X_{27} (Creativity in Job), .46 (.040)
X_{22} (Satisfaction from Job)	.26	.025	X_{27} (Creativity in Job), .64 (.017)
2. Teacher Education Students Who Have Completed Student Teaching:			
X_{20} (Personally Involved in Job)	.33	.009	X_{28} (Job Gives Chance to Do Things Teacher Does Best), .42 (.008)
X_{21} (Important Involvement in Job)	.48	<.0005	X_{24} (Control and Final Say Over Job), .23 (.059); X_{28} (Job Gives Chance to Do Things Teacher Does Best), .80 (<.0005)
X_{22} (Satisfaction from Job)	.40	.001	X_{24} (Control and Final Say Over Job), .31 (.017); X_{28} (Job Gives Chance to Do Things Teacher Does Best), .41 (.028)
X_{23} (Live, Eat, and Breathe Job)	.29	.034	X_{24} (Control and Final Say Over Job), .27 (.036); X_{28} (Job Gives Chance to Do Things Teacher Does Best), .63 (.015); X_{31} (Parents Who Want Feedback on Their Children), .52 (.047)
3. First-Year Teachers:			
X_2 (Independence [B-A])	.44	.002	X_{24} (Control and Final Say Over Job), .23 (.006); X_{27} (Creativity in Job), -.33 (.004)
X_3 (Accomplishment [B-A])	.39	.008	X_{28} (Job Gives Chance to Do Things Teacher Does Best), -.28 (.018); X_{30} (Parents Deeply Concerned about a Top Quality Education), -.21 (.036)
X_4 (Growth [B-A])	.39	.009	X_{30} (Parents Deeply Concerned about a Top Quality Education), -.39 (.001)
X_5 (Participation in Determining Teaching Assignment [B-A])	.33	.038	X_{26} (Job Appropriate for Abilities), -.42 (.012)
X_{19} (Participation in Curriculum Determination [B-A])	.31	.053	X_{24} (Control and Final Say Over Job), .25 (.078)[e]
X_{20} (Personally Involved in Job)	.31	.055	X_{26} (Job Appropriate for Abilities), .23 (.043)
X_{21} (Important Involvement in Job)	.38	.010	X_{30} (Parents Deeply Concerned about a Top Quality Education), .24 (.084)[e]

Table 4.9.--Continued.

Individual Score	R^2	α	Most Significant Workplace Variables b_i (with α)
4. Experienced Teachers:			
X_1 (Self-fulfillment [B-A])	.51	<.0005	X_{26} (Job Appropriate for Abilities), -.43 (<.0005); X_{29} (Parents Regard School as "Baby-sitting" Agency), .31 (.008); X_{31} (Parents Who Want Feedback on Their Children), .46 (.012)
X_2 (Independence [B-A])	.33	.001	X_{24} (Control and Final Say Over Job), .25 (.018)
X_3 (Accomplishment [B-A])	.35	.001	X_{28} (Job Gives Chance to Do Things Teacher Does Best), -.43 (.002); X_{29} (Parents Regard School as "Baby-sitting Agency), .21 (.043)
X_4 (Growth [B-A])	.48	<.0005	X_{28} (Job Gives Chance to Do Things Teacher Does Best), -.35 (.035)
X_5 (Participation in Determining Teaching Assignment [B-A])	.28	.009	X_{24} (Control and Final Say Over Job), .29 (.007)
X_6 (Participation in Evaluating Own Work [C-A])[f]	.32	.002	X_{24} (Control and Final Say Over Job), .61 (.002)
X_7 (Participation in Evaluating Own Work [B-A])[g]	.30	.004	X_{24} (Control and Final Say Over Job), .37 (.044)
X_8 (Participation in Disciplinary Policies [C-A])	.32	.002	X_{24} (Control and Final Say Over Job), .59 (.003); X_{25} (Influence Within School Building), -.53 (.013)
X_9 (Participation in Disciplinary Policies [B-A])	.24	.032	X_{25} (Influence Within School Building), -.23 (.100)[e]
X_{12} (Participation in Standardized Test Selection [C-A])	.29	.005	X_{25} (Influence Within School Building), -.68 (.002); X_{27} (Creativity in Job), .70 (.018)
X_{14} (Participation in Budget Determination [C-A])	.32	.002	X_{24} (Control and Final Say Over Job), .35 (.059); X_{25} (Influence Within School Building), -.49 (.015)
X_{15} (Participation in Budget Determination [B-A])	.27	.010	X_{25} (Influence Within School Building), -.36 (.066)[e]
X_{17} (Participation in Hiring of New Administrators [B-A])	.29	.006	X_{24} (Control and Final Say Over Job), -.46 (.017); X_{25} (Influence Within School Building), -.41 (.050); X_{32} (Principal Provides Adequate Information on Teacher's Performance), -.39 (.015)
X_{18} (Participation in Curriculum Determination [C-A])	.37	<.0005	X_{24} (Control and Final Say Over Job), .42 (.010); X_{25} (Influence Within School Building), -.48 (.007)
X_{19} (Participation in Curriculum Determination [B-A])	.36	<.0005	X_{26} (Job Appropriate for Abilities), .31 (.088)[e]
X_{20} (Personally Involved in Job)	.30	.002	X_{27} (Creativity in Job), .23 (.041)
X_{22} (Satisfaction from Job)	.29	.005	X_{26} (Job Appropriate for Abilities), .42 (.001); X_{29} (Parents Regard School as "Baby-sitting" Agency), .23 (.058)

[a] B-A for $X_1,\ldots,X_5$ is a measure of dissatisfaction with A how much of the factor mentioned in the item is associated with the subject's present or prospective teaching job and B how much of the factor they feel should be associated with their job.

[b] Coefficient of multiple determination; proportion of variance in individual score explained by $X_{24},\ldots,X_{32}$.

[c] 1-significance level.

[d] Regression coefficient.

[e] No independent variable was significantly different from zero to the 95 percent level.

[f] C-A for X_6, X_8, X_{10}, X_{12}, X_{14}, X_{16}, and X_{18} is a measure of dissatisfaction with C the amount of the factor that would be associated with the subject's job if he or she were given "release time" during the school day once a week.

[g] B-A for X_7, X_9, X_{11}, X_{13}, X_{15}, X_{17}, and X_{19} is a measure of dissatisfaction with B the amount of the factor that would be associated with the subject's job if he or she had to commit one hour once a week after school.

decreases alienation. X_{28} predicted a positive change in alienation. For first-year teachers the significant predictors, the job giving teachers a chance to do things they do best, X_{28}, and parents being concerned about a top quality education for their children, X_{30}, predicted a decline in the alienation index for opportunity for accomplishment. For experienced teachers, parents regarding the school as a "baby-sitting" agency, X_{29}, accounted for a significant increase in alienation from accomplishment, while, like first-year teachers, when the teaching job lets teachers do those activities at which they feel best qualified, X_{28}, alienation is lowered.

Again, a significant proportion of the variance was explained by the workplace characteristics for opportunity for growth, X_4, for teacher education students who have not student taught (R^2 = .35), first-year teachers (R^2 = .39), and experienced teachers (R^2 = .48). Five of the nine workplace items were significant in accounting for the variance in opportunity for growth. The workplace variables were little control and final say in job, X_{24} (increase in alienation), creativity in job, X_{27} (decrease), parents regarding school as "baby-sitting" agency, X_{29} (decrease), parent concern for quality education, X_{30} (decrease), and parents wanting feedback on their children (increase). For first-year teachers parent concern regarding the quality of education, X_{30}, predicted a decrease in alienation. The job giving a teacher the chance to do things teachers do best, X_{28}, was the primary significant workplace variable for experienced teachers.

For the remaining twenty-one significant pooled regressions all but one had a multiple correlation coefficient (R) greater than .30. The five pooled regressions in which workplace characteristics accounted for the largest amount of variance were opportunity for self-fulfillment, X_1 (R^2 = .30); personally involved in job, X_{20} (R^2 = .28); important involvement in job, X_{21} (R^2 = .25); satisfaction from job (R^2 = .25); and participation in hiring new administrators with "release time" option, X_{16} (R^2 = .20).

The most significant variables accounting for the variance in the twenty-one pooled regressions were little control and final say, X_{24}, in thirteen equations and the teacher career stages in twelve cases. Other significant independent variables were influence within the school building (3 instances), X_{25}; job appropriate for abilities (3), X_{26}; creativity in job (1), X_{27}; job gives chance to do things teacher does best (2), X_{28}; parents deeply concerned about a top quality education (2), X_{30}; and principal provides adequate information on teacher's performance (1), X_{32}. With the exception of principal feedback, X_{32}, this group of workplace characteristics are the ones which in previous analysis (see sections Multiple Regression Analysis of Alienation Factors on Workplace Characteristics and Pooled Multiple Regression Compared to Individual Career Stage Regressions above) had been significant independent variables. Along with teacher career stages, the principal providing adequate information on the teacher's performance, X_{32}, was a significant predictor in explaining the variance for participation in hiring of new administrators given the after hours option, X_{17}. Principal feedback served to decrease alienation from the opportunity for participation in the hiring process.

Discussion

As with the three alienation factors, workplace characteristics account for a significant proportion of the variance in the individual items which comprise alienation. The findings suggest that the workplace categories of (1) teacher influence and control, (2) relevant test of teacher abilities, and (3) social value of labor are appropriate groupings for analyzing the relationships between teacher alienation and workplace characteristics. The consistency of significantly correlated results supported the hypothesis that the majority of workplace items were ones which were predictors of alienation levels of teachers.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter provides an overview of the present study. A summary of the problem situation, theoretical framework, review of related literature, and the methodology (including results and discussion) is presented. A conclusion section summarizes the findings and interpretations. The chapter also contains recommendations for implementation of the results and for additional research.

Introduction and Purpose

Public schools as workplaces purchase the labor power[1] of teachers for employment. Having sold their labor power to the schools, teachers are faced with an employer who places constraints upon the nature of their work. Managers of schools make numerous decisions

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[1]Marx conceived of "labor power" as a commodity which workers exchange for money or a price. The selling of labor power is a precursor of alienated labor. Marx states that "the exercise of labour power, labour, is the worker's own life-activity, the manifestation of his own life. And this life activity he sells to another person in order to secure the necessary means of subsistence. Thus his life-activity is for him only a means to enable him to exist. He works in order to live. He does not even reckon labour as part of his life, it is rather a sacrifice of his life. It is a commodity which he has made over to another. Hence, also the product of his activity is not the object of his activity. . . . What he produces for himself is wages . . ." Marx, "Wage Labour and Capital," pp. 169-71.

which determine the processes and product of the labor of teachers. Lack of participation in such administrative decisions by teachers may have a negative effect upon their mental state. With their labor serving more as a commodity than as a personally fulfilling activity, teachers may experience alienation from their work.

Recent research on teaching has considered the way in which teachers operate as decisions makers within their own classrooms.[2] The options of teachers as decision makers in classrooms may, however, be severely limited by institutional constraints placed upon their work. Furthermore, the message to teachers from teacher educators, school administrators, and the public regarding the actual purpose and social value of the product of the labor of teachers is often ambiguous and/or contradictory. Under working conditions which may diminish the social value of their labor and inhibit their control, teachers may find their work alienating. Teachers may, therefore, experience their labor as not belonging to them.

This study focuses upon teacher alienation of labor as it relates to such public school workplace characteristics as (1) work being a relevant test of teacher abilities, (2) the social value of teacher labor, and (3) teacher influence and control. Alienation of labor is inversely related to high degrees of need satisfaction attainment and job involvement by teachers (see Questionnaire Description section below). Also investigated is the difference among career stages of teachers from preservice to the field in levels of alienation.

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[2]Shavelson, "Teachers' Decision Making," pp. 372-414; Shulman, "Teaching as Clinical Information Processing."

The Problem Situation

John Dewey characterized a despotically governed society as having people "engaged in activity which is socially serviceable, but whose service they do not understand and have no personal interest in."[3] In contrast, a democratic polity emphasizes egalitarianism manifested in participatory decision making. Dewey explained,

> . . . a society which makes provision for participation in its good of all its members on equal terms and which secures flexible readjustment of its institutions through interaction of the different forms of associated life is in so far democratic.[4]

Furthermore, Morgart, Mihalik, and Martin contend that "there can be no political democracy without genuine democratization of the workplace as well."[5]

The governing of schools as workplaces raises the issue of the democratic involvement of teachers in the school decision making process. During their preservice training teachers may be anticipating careers as professionals with a substantial degree of control over their labor. Hoy explains that students in teacher education programs are socialized into "ideal images and practices."[6] But upon beginning work as a teacher, the teacher new to the occupation "may suddenly be confronted with a set of organizational norms and values at variance

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[3]Dewey, Democracy and Education, p. 98.

[4]Ibid., p. 115.

[5]Morgart, Mihalik, and Martin, "Alienation in and Educational Context: The American Teacher in the Seventies," p. 3.

[6]Hoy, "Infuence of Experience on the Beginning Teacher," p. 315.

with those acquired in formal preparation."[7] It may well be that for beginning teachers there arises a dissonance between their anticipated ideal of some form of participatory democracy and the operating reality of schools despotically organized.

Having control over the decisions affecting one's occupation is generally the domain of those who claim professional status. In his analysis of teachers Lortie observes that teaching is not a profession in the usual sense since teachers "are officially employees without powers of governance. Public schools . . . have no legally-based 'senates' or similar arrangements for collective participation by faculty members in the overall operation of the organization."[8]

The exclusion of teachers from long-range curricular planning,[9] for example, may have serious implications for the implementation of improved instructional programs and techniques in public school classrooms. Wolcott notes, "New procedures introduced in the educator subculture are invariably imposed on teachers rather than by teachers."[10] Furthermore, Lortie states that "the fragile nature of the teacher's autonomy is an autonomy which . . . possesses not legitimation in the official statement of authority distribution in

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[7]Ibid.

[8]Lortie, "Balance of Control and Autonomy in Elementary School Teaching," pp. 4, 19.

[9]Smith, "Teacher Planning for Instruction," pp. 7, 11.

[10]Wolcott, Teacher versus Technocrat, pp. 195, 212.

American public schools."[11] Such working conditions are the same ones which Dewey assailed for failing to account for "human factors and relationships" by means of "a corresponding distortion of emotional life."[12]

Such a "distortion of emotional life" within the public school workplace may be expected to have detrimental psychological effects upon teachers. Morgart, Mihalik, and Martin explain that

> . . . if teachers' needs remain essentially peripheral in the decision-making process determining the nature of their work role, then it becomes easier to understand why teachers like other workers might experience their work activities as alienating rather than as a means of developing their mental and emotional growth.[13]

The institutional arrangements of schools which may negatively affect both the autonomy and mental state of teachers appears also to be a major factor in teachers' concerns about their jobs. Corwin states, "There is reason to believe that a desire for more influence over policy and disagreement with central level decision making and district goals account for much of the teacher militancy and dissatisfaction."[14]

Theoretical Framework

A conceptual framework for analyzing the potentially adverse psychological effect of a career in teaching is through an examination

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[11]Lortie, "Balance of Control and Autonomy in Elementary School Teaching," p. 41.

[12]Dewey, Democracy and Education, p. 99.

[13]Morgart, Mihalik, and Martin, "Alienation in and Educational Context: The American Teacher in the Seventies," p. 2.

[14]Corwin, "The New Teaching Profession," p. 238.

of teachers as workers in the schooling production process. Furthermore, according to Dreeban, conceptualizing the school as a workplace helps "to show that there are concepts and perspectives derived from other areas of the world of work that, when applied to the schools, make them more understandable."[15]

The notion of alienation is concerned with the intrinsic nature of work and provides a theoretical framework from which to examine the teacher as laborer. Alienation represents a person's separation from oneself and one's work. There are four aspects which constitute the whole of alienating labor:

1. The relation of the worker to the product of labour as an alien object exercising power over him . . .

2. The relation of labour to the act of production within the labour process. The relation is the relations of the worker to his own activity as an alien activity not belonging to him. . . . Estranged labour turns thus:

3. Man's species being, both nature and his spiritual species property, into a being alien to him, into a means to his individual existence . . .

4. The estrangement of man from man.[16]

To determine the degree of alienation of workers, job satisfaction is generally an inappropriate measure for alienation of labor. Researchers approaching the topic from that perspective often "are thus concerned less with the nature of the work performed than with considerations pertaining to professional status."[17] Faunce, therefore,

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[15]Dreeban, "The School as a Workplace," p. 450.

[16]Marx, "Economic and Philosophic Manuscripts of 1844," pp. 60-63.

[17]Schacht, Alienation, p. 169.

prefers to focus upon the "quality of work experience" rather than job satisfaction. More specifically, alienation of labor can be seen through "a withdrawal of self investment" from an occupational role.[18]

If teachers are alienated and have divested themselves from their work, the explanation may be that from the perspective of teachers there may be an inadequate opportunity within their workplace to experience such need satisfaction elements as autonomy, creativity, and recognition for achievement. A sense of withdrawal of self investment from one's work relates directly back to the Marxian concept of being estranged from both the product and act of the labor process. Both Marxian humanism[19] and a high self investment in one's work imply a positive, self actualizing unity between the mental state and the labor of an individual.

Research leading to a comprehensive understanding of teachers in the work world is limited. As of 1973 Dreeban reports that "for the most part, the work of teachers has remained unconceptualized as have those aspects of the environment that may in fact be related to the character of the work."[20] On this point, Morgart, Mihalik, and Martin

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[18]Faunce, "Self Investment in the Occupational Role," pp. 2, 18.

[19]Marx defined humanism as the "positive transcendance of . . . human self-estrangement . . .; the complete return of man to himself as a social (i.e., human) being . . ." (Marx, "Economic and Philosophic Manuscripts of 1844," p. 70); on this point Ollman adds that all individuals "are considered alienated in the way and to the degree that their members fall short of the [humanistic] ideal. . . . The forms of alienation differ for each class because their position and style of life differ . . ." (Ollman, Alienation: Marx's Conception of Man in Capitalist Society, p. 132).

[20]Dreeban, "The School as a Workplace," p. 454.

add, "It is clear that work alienation, especially as it may be a growing phenomenon for the modern public school teacher, is a complex and as yet relatively unanalyzed motif in social/administrative science of education."[21]

Review of Related Research

Most research upon teacher alienation has to date derived its theoretical base from Seeman's 1959 essay, "On the Meaning of Alienation." However, only one aspect of Seeman's five factor model, self-estrangement, coincides with Marx's theory of alienation of labor.[22] Research upon job satisfaction and morale of teachers is hindered by a poor conceptual base and from a lack of consensus on terminology.[23] Studies which attend to participation of teachers in decisions which affect the processes and product of their labor begin to lend insight into teacher alienation. Most studies in this realm consistently report that high job satisfaction and morale of teachers is positively related to their involvement in school policy

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[21]Morgart, Mihalik, and Martin, "Alienation in and Educational Context: The American Teacher in the Seventies," p. 41.

[22]This departure from Marx is acknowledged by Seeman in his discussion of powerlessness (Seeman, "On the Meaning of Alienation," p. 784). The diffuse nature of Seeman's model for analyzing the school as a workplace as it relates to teacher alienation has posed problems for educational researchers. See Bush, "Alienation and Self Ideal Discrepancy;" Hearn, "Teachers' Sense of Alienation with Respect to School System Structure;" Parker, "Alienation of Public School Teachers;" and Moeller and Charters, "Relation of Bureaucratization to Sense of Power Among Teachers."

[23]In a cross-cultural study of teachers, Fraser found defining job satisfaction a frustrating task since it is used as a "global and multifaceted concept" (Fraser, "Organizational Properties and Teacher Reactions," p. 22).

determination.[24] None of these studies, however, comment in a precise and thorough manner upon the crucial elements of alienation theory, i.e., the relationship of teachers to the mode and outcome of their labor and the corresponding association of this relationship upon their mental state.

Regarding the process of alienation, little empirical research is available on the effect of the labor of teaching upon teachers from preservice training, to the first year of work, and eventually into being an "experienced" teacher. Schacht states that for the term alienation to be appropriately applied, it needs to suggest an evolving state of affairs.[25] Therefore, a contribution to empirical research upon teacher alienation would be to look at the various stages of career development through which teachers proceed.

Methodology

Sample

Four groups of subjects received the questionnaire. The common characteristic among all subjects was that (1) they received or

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[24]See Barakat, "Alienation from the School System;" Belasco and Alutto, "Decisional Participation and Teacher Satisfaction;" "Who Should Make What Decisions?" Ambrosie and Heller, "The Secondary School Administrator and Perceived Teacher Participation in Decision-Making;" McClure, "Decision Making at the Institutional Level;" Knoop and O'Reilly, "Participative Decision Making in Curriculum;" Ingle and Munsterman, "Relationship of Values to Group Satisfaction;" Ellenburg, "Factor Affecting Teacher Morale;" and Chung, "Teacher-Centered Management Style of Public School Principals."

[25]Schacht, Alienation, pp. 179-80.

are receiving their preservice training through the teacher education curriculum at Michigan State University and (2) they were teaching at or being certified at the elementary school level in Michigan. Teachers in the field were limited to those currently teaching in Michigan public schools. The four groups are:

- preservice elementary education majors who have not student taught
- preservice elementary education majors who have completed student teaching
- first-year teachers at the elementary level
- experienced teachers (four years or more) at the elementary level

Questionnaire Description

The questionnaire was designed to measure two distinct categories of information, alienation of labor and workplace characteristics. Alienation of labor was measured by two factors: (1) need satisfaction and (2) job involvement. Workplace characteristics included items on teacher influence and control, relevant test of teacher abilities, and the social value of teacher labor. There were two parallel forms of the questionnaire, one for students in teacher education and another for teachers in the field. The questionnaire for students reflected the fact that they were not presently employed as teachers and asked them to project upon their prospective experiences as teachers. The other questionnaire is based on the actual experiences of teachers (see Appendices A and B).

Lawler and Hall offer a conceptual and methodological framework for examining the topic of teacher alienation. Their factors of need

satisfaction and job involvement offer a means for capturing the concept of alienation of labor. Those factors are defined by Lawler and Hall in the following manner:

- need satisfaction: the degree to which the higher order needs of self-actualization, autonomy, and responsibility are fulfilled
- job involvement: "the degree to which a person is identified with his work, or the importance of work, or the importance of working in his self-image."[26]

Lawler and Hall's need satisfaction factor included two general items on workplace participation. Belasco and Alutto in their study of teacher participation in the school decision making process posed twelve decision situations.[27] Influenced by the Belasco and Alutto approach, need satisfaction items developed by Lawler and Hall regarding opportunity for participation in decision making were altered in this study for the following reasons: (a) to reflect decisions relevant to public school teachers and (b) to expand the number of items (from two items to eight) to include a variety of school decisions. Seven of the need satisfaction participation items (8-14) were altered to reflect a time trade-off an individual must make to participate in the school decision making process.

The job involvement aspect of alienation included four items used by Lawler and Hall (see items 6-7 and 15-16). The nineteen need

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[26]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," pp. 306 and 308; Lodhahl and Kejner, "The Definition and Measurement of Job Involvement," p. 26, as cited in Lawler and Hall, p. 306.

[27]Belasco and Alutto, "Decisional Participation and Teacher Satisfaction," p. 49.

satisfaction difference scores plus the four job involvement observations serve as the basis for the data analysis on alienation.

The workplace characteristics which Lawler and Hall included as appropriate in analyzing the relationship between job design variables and alienation (need satisfaction and job involvement) were:

- the degree of influence and control felt by the job holder over his/her work
- the degree to which the job is perceived as a relevant test of the job holder's abilities
- the probability that the job holder would receive socially meaningful feedback about his/her work

Five items from Lawler and Hall's questionnaire were used in this present study to measure: (1) teacher influence and control in the workplace (see items 17 and 21) and (2) if the job of teaching is a relevant test of teacher abilities (see items 18-20).[28] To reflect Lawler and Hall's third job design component of feedback, four questions used by Brookover (see items 22-25)[29] were included to assess the social value of the labor of teachers. That is to say, those four items are situations which measure the degree to which teachers receive socially meaningful feedback upon their work.

All workplace characteristics items were on a 7-point scale, from 1 strongly agree to 7 strongly disagree. There were nine items

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[28]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," p. 306.

[29]Brookover, "Teacher Questionnaire: School Social Climate Study."

on workplace characteristics that reflect the perceptions of teachers or prospective teachers.

Analysis Procedures

Using the total sample, a factor analysis was initially conducted on the twenty-three individual scores comprising alienation. The factor analysis resulted in a three factor solution.[30] For subsequent analyses both the twenty-three individual scores and the three factors were used as dependent variables. The factors provide a broad conceptualization of the phenomenon of alienation. Analysis with the individual scores allows for observations on the relative strength of the components comprising the three factors. For ease of interpretation the hypotheses being tested are stated in terms of the factors. The alienation indices refer to relative levels of alienation among the four groups of subjects.

Analysis of variance with post hoc complex comparisons among the teacher career stage means on the factors and individual scores comprising alienation was conducted. This required the initial computation of twenty-six equations (three factors and twenty-three individual scores).

Next, for each career stage the three factors and twenty-three individual scores for alienation were regressed on the nine workplace characteristic scores. Following this, the sample was pooled into one regression equation. This pooled multiple regression was then compared to the individual career stage regressions. An F-test was performed to determine if the four sets of regressions for the career

[30]Principal factoring with iteration followed by the varimax orthogonal rotation was used to compute the factors.

stages came from the same population. For both the analysis of variance and multiple regression analysis a significance level at the 95 percent probability level was set. All findings are based on the self-reported perceptions of subjects on the present instrument.

Results and Discussion

Factor Analysis: Results and Discussion

The three factor solution accounted for 52.6 percent of the variance and most closely approximated simple structure. The three factors are

- self-actualization need satisfaction
- participation need satisfaction
- job involvement

The job involvement factor replicated the findings of Lawler and Hall with scientists[31] and Cummings and Bigelow with blue-collar workers.[32] With the addition in this present study of personal time trade-off decision regarding opportunity for participation on the need satisfaction items, the factor analysis produced two factors for need satisfaction. Previous research had not included personal time allocation possibilities resulting in a single need satisfaction factor.

The results of the factor analysis indicate that when the need satisfaction variables regarding opportunity for participation

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[31]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," p. 309.

[32]Cummings and Bigelow, "Satisfaction, Job Involvement, and Intrinsic Motivation," pp. 523-25.

were altered to include a personal time allocation, the pre- and inservice teachers sampled interpret their need for participation in the school decision making process as different from their self-actualization need for self-fulfillment, growth, accomplishment, and independence. When variable "participation in determining own teaching assignment" was presented without a personal time allocation consideration, the item did not load on one unique factor.

Analysis of Variance with Post Hoc Comparisons among Career Stage Means on Alienation Factors: Results and Discussion

Through analysis of variance the following hypothesis was tested:

H_1: The rank order of the group means for the alienation of labor variables (as measured by need satisfaction and job involvement) from least to greatest amount of alienation will be significantly different as follows: (1) students in teacher education who have not student taught, (2) students in teacher education who have completed student teaching, (3) first-year teachers, and (4) experienced teachers.

For each of the three alienation factors a significant difference existed among the four groups. In no cases, however, did the teacher education students differ significantly as hypothesized between each other nor did the teacher groups. Differences in the direction alternatively hypothesized were consistently found between teacher education students and teachers. Although possessing mean scores in the direction hypothesized, students who had completed

student teaching were not significantly different than first-year teachers in their levels of alienation.

Both groups of teacher education students were less alienated than the teacher samples regarding the opportunity to experience self-actualization as a teacher. Preservice teachers who had not student taught were also less alienated from the opportunity for participation in the school decision making process than both teacher groups. Experienced teachers were more alienated from involvement in their jobs as teachers than either of the teacher education samples.

The Scheffé post hoc comparisons suggest that despite the student teaching experience, the teacher education student groups sampled do not significantly differ in their conception of what employment as a teacher holds for them. The majority of significant contrasts were between teacher education students who had not student taught and both teacher samples. Apparently becoming a first-year teacher has the general effect of bringing that group's perception of the work of teaching closer to those held by experienced teachers. It may be that people enter a teaching career with an idealized image of teaching, but only upon actual full-time involvement in their work become significantly more alienated with teaching than when they initially began their career as teacher education students.

On the three factors comprising alienation teacher education students anticipated a lower degree of alienation from their prospective teaching jobs than teachers, especially experienced ones, were presently perceiving. This may be explained by the fact that unlike teacher education students, teachers have sold their labor power to the public schools for employment. Marx's theory of alienation states

that a worker experiences alienation when the product and processes of his or her labor is determined and reified by external forces.[33] With their labor serving more as a commodity than as a personally fulfilling activity, teachers may be experiencing alienation from their work. As Maslow has observed for the general laboring population, the self-esteem of teachers may also rest "on good, worthy work to be introjected, thereby becoming part of the self."[34]

Using Aiken and Hage's guidelines for participation, "the degree to which staff members participate in setting the goals and policies of the entire organization,"[35] teachers sampled in this study felt a relatively high degree of alienation from the school decision making proces. These results support research on work in schools[36] and other settings[37] which report a positive relationship between

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[33]Marx, "Economic and Philosophic Manuscripts of 1844," pp. 60-63.

[34]Maslow, Eupsychian Management, pp. 12-13.

[35]Aiken and Hage, "Organizational Alienation," p. 498

[36]See Barakat, "Alienation from the School System;" Belasco and Alutto, "Decisional Participation and Teacher Satisfaction;" "Who Should Make What Decisions?" Ambrosie and Heller, "Secondary School Administrator and Perceived Teacher Participation in Decision-Making;" McClure, "Decision Making at the Institutional Level;" Knoop and O'Reilly, "Participative Decision Making in Curriculum;" Ingle and Munsterman, "Relationship of Values to Group Satisfaction;" Ellenburg, "Factor Affecting Teacher Morale;" and Chung, "Teacher-Centered Management Style of Public School Principals."

[37]Fromm, To Have or To Be, p. 101; March and Simon, Organizations, p. 95; Vroom, Work and Motivation, p. 118; Bachman and Tannebaum, "The Control-Satisfaction Relationship," p. 247; and Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," pp. 310-12.

worker satisfaction and control (or desire for control) over his or her labor.

Teachers were significantly less involved in their jobs than teacher education students anticipate they will be. Alienation of labor can be seen through "a withdrawal of self investment" or personal involvement from one's job.[38] Along these lines Maslow adds, "The only happy people I know are the ones who are working well at something they consider important. . . . This was the universal truth for all my self-actualizing subjects."[39] Possibly due to the vagueness of the product of schooling and the external control over the process of teacher labor, teachers may come to question the value and importance of the work they are performing.

Analysis of Variance with Post Hoc Comparisons among Career Stage Means on Individual Alienation Scores: Results and Discussion

Analysis of variance with post hoc comparisons were also conducted on the twenty-three individual scores comprising alienation. This series of post hoc comparisons assessed the differences among the teacher career stage means towards each individual score. Seventeen of the twenty-three individual analyses of variance exhibited a significant difference among the group means.

As in the case of the three alienation factors, teacher education students did not differ significantly between each other. This

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[38]Faunce, "Self Investment in the Occupational Role," p. 18.

[39]Maslow, Eupsychian Management, p. 6.

was also true for the teacher groups except in one case. In that single instance experienced teachers were less alienated than first-year teachers from the opportunity for participation in text book selection when allocating an hour of their time once a week after school. With this one exception, differences in the direction alternatively hypothesized for the three factors were consistently found between teacher education students and teachers on the seventeen significant analyses of variance.

From a total of forty-one significant subset comparisons, only three were between teacher education students who had completed student teaching and first-year teachers. The three differences were on opportunity for participation items. First-year teachers were more alienated than preservice teachers who had student taught with respect to participation in evaluating one's own work, standardized test selection, and hiring new administrators. A possible explanation for this difference is that these particular participation opportunities may be examples of ones which become most immediately meaningful to the novice teacher in contrast to what they may have anticipated when they were teacher education students who had completed student teaching.

Three of the four items which comprise the self-actualization need satisfaction factor displayed significant differences among the groups. Preservice teachers who had not student taught were less alienated than both groups of teachers from the opportunity in the teaching job for self-fulfillment, accomplishment, and growth. Teacher education students who had completed student teaching were also less alienated than experienced teachers regarding the opportunity for growth. Given the control exercised externally of teachers over the

production process of teaching, teachers may not be presently experiencing these self-actualizing needs and are withdrawing their intrinsic involvement from their labor. Teacher education students, however, in contrast to teachers anticipate they will be able to attain self-fulfillment, accomplishment, and growth through the work of teaching.

Seven different school decision making possibilites with two different personal time allocation considerations were presented to the sample. All seven participation categories produced significant differences among the means when the potential for "release time" during the school day once a week was available. Allocating an hour once a week after school for participation in school decision making resulted for four of the seven opportunity for participation variables in significant group mean differences. Opportunity for participation after school produced alienation scores lower than the "release time" option on the same item. This difference may reflect that the sample overall is more willing to allocate their time during the school day than after regular work hours in order to participate in decision making. Despite the perceived willingness, the higher scores on the "release time" option also suggest, especially for the teacher samples, the possibility that dissatisfaction prevails in part since teachers are denied participation in a large number of school decisions which affect their work.[40]

The highest levels of alienation from participation in decision making opportunities were in the hiring of new administrators

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[40]Smith, "Teacher Planning for Instruction," pp. 7, 11; Lortie, "The Balance of Control and Autonomy in Elementary School Teaching," pp. 4, 19.

for the school district, budget determination for the teachers' own school, and standardized test selection. Alienation from the hiring process of administrators may be because administrators control numerous decisions which affect the labor of teachers.[41] Furthermore, teachers generally have little voice in employment decisions regarding administrators. The concern over school budget may be a function of teachers desiring increased decisional input on instructional materials which they feel are needed for them to perform their work as teachers.[42] Alienation from participation in standardized test selection may be explained by the existence of a large number of teachers who consider standardized tests an unnecessary intrusion into their workplaces.[43]

A comparatively moderate degree of alienation from participation options was produced for evaluating one's own work, curriculum determination, and text book selection. Alienation from the opportunity to participate in evaluating one's own work may stem from schooling production goals which are never explicitly stated for the teacher. Greene in Teacher as a Stranger suggests that "the teacher's feeling of responsibility may well be eroded by an implicit demand that he be the agent of an externally defined purpose, which he can

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[41] Ibid.

[42] This interpretation is based in part on discussions with teachers who participated in the questionnaire pilot.

[43] Quinto and McKenna, Alternatives to Standardized Testing.

only understand as a slogan or still another expression of prevailing peity."[44]

The relatively moderate lack of participation in curriculum and text determination may be a function of teachers generally not controlling "long-range planning decision."[45] In the case of text book selection experienced teachers were less alienated than first-year teachers when allocating an hour of their time once a week after school. As new full-time members to the employment of teaching, first-year teachers may be concerned over the lack of input they have in determining the text books for use in their own classrooms.

The least amount of alienation among the four groups of subjects for an opportunity for participation variable was in disciplinary policies for students. Disciplinary policies for this sample may be a realm in which a large degree of participation by teachers presently exists. Bowles and Gintis contend that a central role of schooling is to reproduce the unequal hierarchical relationships found in work settings by creating students submissive to authority.[46] Teacher involvement in creating and carrying out disciplinary policies may be a way in which the function of submission is attained.

Three items representing job involvement resulted in significant mean differences between teacher education students and teachers.

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[44]Greene, Teacher as Stranger, pp. 269-70.

[45]Smith, "Teacher Planning for Instruction," p. 7.

[46]Bowles and Gintis, Schooling in Capitalist America, pp. 125-48.

Both groups of preservice teachers anticipate being more personally involved in their work, having more important involvement in their job, and receiving more satisfaction from a teaching career than experienced teachers. Based on the responses to the job involvement variables, students who had not student taught projected more important involvement in and satisfaction from the work of teaching than first-year teachers perceived they presently had in their jobs. Thus, subjects who had been in a teaching career longest were the least involved group in their labor. As noted previously for the job involvement factor, alienation may increase as teachers experience "a withdrawal of self investment" from their occupational role.[47]

Multiple Regression Analyses of Alienation Factors on Workplace Characteristics: Results and Discussion

Multiple regression was used to test the following hypothesis:

H_2: For each of four career stages of a teacher (students in teacher education who have not student taught, students in teacher education who have completed student teaching, first-year teachers, and experienced teachers), a significant proportion of the variance of alienation of labor (as measured by need satisfaction and job involvement) will be explained by workplace characteristics (as measured by teacher influence and control, a relevant test of teacher abilities, and the social value of teacher labor).

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[47] Faunce, "Self Investment in the Occupational Role," p. 18.

A significant proportion of the variance at the 95 percent level was explained for the self-actualization need satisfaction factor by the nine workplace variables for teacher education students who had not student taught (R^2 = .26), first-year teachers (R^2 = .51), and experienced teachers (R^2 = .47). The workplace items significantly predicted the variance for the participation need satisfaction factor for experienced teachers (R^2 = .41). The job involvement factor had a significant proportion of its variance accounted for by the workplace characteristics for preservice teachers who have not student taught (R^2 = .31), preservice teachers who have completed student teaching (R^2 = .48), and experienced teachers (R^2 = .21).

The statistical comparison of the four individual regressions to the pooled sample indicated that pooling was permissible. Therefore, regardless of the statistical significance of the explained variance for the individual regressions, the difference among the separate career stage regressions were not significant when compared to the pooled sample.

For the pooled sample a significant proportion of the variance in the three alienation factors was explained by the workplace variables: self-actualization need satisfaction (R^2 = .34), participation need satisfaction (R^2 = .23), and job involvement (R^2 = .28). When the sample was pooled, therefore, the alternative hypothesis regarding a significant relationship between the three alienation factors and workplace characteristics was supported. That is, a significant proportion of the variance for self-actualization need satisfaction, participation need satisfaction, and job involvement was accounted for by the workplace characteristics teacher influence

and control, relevant tests of teacher abilities, and social values of labor. When analyzing the data along individual career stages, only for experienced teachers were all three equations able to explain a significant proportion of variance. This may be due to experienced teachers attaching more meaning to the workplace variables than beginning and preservice teachers.

Within the category of teacher influence and control, "little control and final say over the job" was a significant predictor for all three factors. The behavior of that item was theoretically consistent with the two need satisfaction factors. The more the pre- and inservice teachers agreed that they anticipated having or had little control over their work, the higher the discrepancy or alienation index.

The response on the "little control" item was similar for job involvement except that little control predicted higher job involvement. Lawler and Hall had found minimal ($r = .05$) correlation between job involvement and control.[48] Added to their finding is the possible interpretation that little control increase job involvement. These two findings raise the question of the multiple meanings this item may have had for subjects in both studies. Perhaps phrasing the item ". . . no control . . ." rather than ". . . little control . . ." would reduce any potential ambiguity. Another possible explanation is that despite the degree of external control exercised over teachers, there exists aspects of the job which allow for one's involvement in

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[48]Lawler and Hall, "Relationship of Job Characteristics to Job Involvement," p. 310.

their teaching work. Possibly, despite the lack of control over major policy decisions, the autonomy for teachers behind the closed classroom doors permits some degree of intrinsic involvement in the teaching job.

The other item in the influence and control characteristic, "having influence within the school building," was a significant predictor for decreasing alienation from participation in school decision making. Thus, the two major predictors for participation need satisfaction were the control and influence variables. The two workplace characteristic categories of relevant test of teacher abilities and social value of labor were not as vital as teacher influence and control for this sample in predicting alienation from participation in school policy creation. This relationship makes conceptual sense since influence and control imply an exercise of political power in decision making to a greater degree than the items for relevant test of abilities and social value of labor. Thus, an increase in the influence and control of teachers over their work in general would also tend to improve their opportunities for participation in policy formulation.

Two of the three variables comprising the relevant test of teacher abilities category were significant predictors. The more the job of teaching was considered appropriate by the sample, the less alienated they were from attaining self-actualization through involvement in their labor as a teacher. When the job was assessed by teachers as giving them a chance to do things they do best, their perceived job involvement increased. Job involvement seems to be the most predictable, therefore, when the labor demanded is in line with the skills and expertise teachers acquire through their preservice

training. Excessive record keeping and crowded classrooms, for example, may be variables which teachers might feel detract from applying their technical teaching skills and subsequently result in less involvement in their teaching job.

Creativity in the job was the one item in teacher ability category that was not a significant predictor for the pooled sample for any of the three alienation factors. For the individual regressions it was nevertheless significant in explaining an increase in job involvement for teacher education students who had not student taught and accounting for a reduction in alienation from the opportunity for self-actualization for first-year teachers.

Two of the four social value of labor variables were significant predictors of the self-actualization need satisfaction index for the pooled sample. Parent concern and perception of the role of the school accounted for a decrease in alienation. Interest in the school from parents, one of the primary consumers of public education, may be a means by which teachers are able to assess the social importance of their work.

Each of the three workplace characteristic categories (1) teacher influence and control, (2) relevant test of teacher abilities, and (3) social value of labor contained variables which were significant predictors for only the self-actualization factor. The variance in the participation need satisfaction factor was best explained by the influence and control items, whereas relevant test of teacher abilities items were significant variables for the job involvement factor. Apparently the self-actualization factor is a more universal concept which is affected by a broad range of workplace

characteristics. The participation and involvement factors, however, were more associated with specific workplace categories.

Multiple Regression Analysis of Individual Alienation Scores on Workplace Characteristics: Results and Discussion

All twenty-three of the pooled regressions of individual scores comprising alienation on workplace characteristics were statistically significant at the 95 percent or greater probability level. For the teacher career stages, five were significant for teacher education students who had not student taught, four for students who had completed student teaching, seven for first-year teachers, and seventeen for experienced teachers. The F-test comparing the pooled sample to the individual career stage regressions indicates that pooling is a legitimate level of analysis except for the two dependent alienation variables opportunity for "accomplishment" and "growth."

A significant proportion of the variance was accounted for by the workplace characteristic variables for the opportunity for accomplishment dependent variable for preservice teachers who have not student taught (R^2 = .30), first-year teachers (R^2 = .39), and experienced teachers (R^2 = .35). When teacher education students who have not student taught project little control in the job, alienation from the opportunity for accomplishment increases whereas teacher influence within the school building decreases alienation. The job giving teachers a chance to do things they do best predicted a positive change in alienation for preservice who had not student taught. For first-year teachers the significant predictors "the job giving teachers a chance to do things best" and "parents being concerned

about a top quality education for their children" predicted a decline in the alienation index for opportunity for accomplishment. For experienced teachers, parents regarding the school as a "baby-sitting" agency accounted for a significant increase in alienation from accomplishment, while, like first-year teachers, when the teaching job lets teachers perform those activities at which they feel best qualified, alienation is lowered.

Again, a significant proportion of the variance was explained by the workplace characteristics for opportunity for growth for teacher education students who have not student taught (R^2 = .35), first-year teachers (R^2 = .39), and experienced teachers (R^2 = .48). Five of the nine workplace items were significant in accounting for the variance in opportunity for growth: little control and final say in job (increase in alienation), creativity in job (decrease), parents regarding school as "baby-sitting" agency (decrease), parent concern for quality education (decrease), and parents wanting feedback on their children (increase). For first-year teachers parent concern regarding the quality of education predicted a decrease in alienation. The job giving a teacher the chance to do things teachers do best was the primary significant workplace variable for experienced teachers in predicting a decline in alienation.

For the remaining twenty-one significant pooled regressions all had a multiple correlation coefficient (R) greater than .30. The five pooled regressions in which workplace characteristics accounted for the largest amount of variance were opportunity for self-fulfillment (R^2 = .30), personally involved in job (R^2 = .28), important

involvement in job (R^2 = .25), satisfaction from job (R^2 = .25), and participation in hiring new administrators with "release time" option (R^2 = .20).

The most significant independent workplace variables accounting for the variance in the twenty-one pooled regressions were "little control and final say" in thirteen equations and the teacher career stages in twelve cases. Other significant independent variables were influence within the school building (3 instances), job appropriate for abilities (3), creativity in job (1), job gives chance to do things teacher does best (2), parents deeply concerned about a top quality education (2), and principal provides adequate information on teacher's performance (1). With the exception of principal feedback, this group of workplace characteristics are the ones which in previous analysis on the alienation factors had been significant independent variables. Along with teacher career stages, the principal providing adequate information on the teacher's performance was a significant predictor in explaining the variance for participation in hiring of new administrators given the after hours option. Principal feedback served to decrease alienation from the opportunity for participation in the hiring process.

Conclusions

It should be noted that the results of this study are generalizable to the present sample who was teaching at or being certified at the elementary school level in Michigan and received or are receiving their preservice training through the teacher education curriculum at Michigan State University. Given the possible similarities among

teacher training institutions and teaching experiences at the elementary level in other states, discreet and tentative generalizations could potentially be made to other populations. The assumption in making such generalizations would be that at a macro-level both experiences gained in teaching training and the mode of production in elementary schools across the nation display low variability.

Other considerations in interpretation include that the findings are based on the self-reported perceptions of subjects on the present instrument. Also, the alienation indices refer to relative levels of alienation among the four groups of subjects. Finally, there may be other workplace variables with more explanatory power than those chosen for this study.

The factor analysis results suggest that need satisfaction and job involvement are distinct job attitude categories for people in a teaching career. Need satisfaction from the work of teaching had two dimensions. Subjects differentiated between need satisfaction conditions which provide self-actualizing experiences and those which allow for school decision making participation opportunities.

In nearly all the post hoc mean comparisons on the indicators of alienation, both the three factors and the twenty-three individual alienation scores, teachers (experienced and/or first year) were significantly more alienated than teacher education students (not student taught and/or completed student teaching). The alternative hypothesis, however, was not supported since the four groups sampled did not differ significantly among themselves on any comparisons. Not having student taught resulted in significantly lower mean alienation scores than the teacher samples, yet was not significantly different

from students who had completed student teaching. Most differences for preservice teachers who had finished student teaching were with experienced teachers. The findings indicate that both preservice groups anticipate more involvement and a higher level of need satisfaction attainment through a teaching career than teachers are presently realizing. Since teacher training programs focus primarily on a set of technical skills, students may not have an adequate chance to examine the organizational structure of the school workplace and the total occupational role they will have as teachers.

Regarding the participation time trade-off possibilities, all of the groups were more dissatisfied with the opportunity to become involved in school policy determination given "release time" during the school day rather than after work hours. Teachers may be desiring more input into decision making as a regular part of their job rather than as an adjunct to their work after hours. As a normal function of their employment, administrators, however, are full participants in school policy formulation which directly affects the labor of teachers. The strong administrative role in decision making may explain the high degree of alienation by subjects on the options of hiring new administrators, budget determination, and standardized test selection. Despite the relatively high index of dissatisfaction registered, teacher education students remained significantly less alienated in those three and all other opportunities for participation.

The consistent trend of the teaching samples to be more alienated and less self invested in their labor than teacher education students project in their teaching careers may signify the overall personally frustrating nature of teacher work. Since many beginning

teachers do not make a life career of teaching, the experienced teacher sample represent teachers who, of course, had not dropped out from teaching. The perceptions of the experienced teachers in this sample were similar to the correlational results of an international study on teachers. Commenting upon the inverse relationship between age and job satisfaction, the cross-cultural report concluded that "the 'commitment' of older teachers to teaching was a function of resignation rather than the intrinsic worth of the task."[49]

The statistical comparison of the individual regressions representing the four groups of subjects to the pooled sample indicated that pooling was permissible for the three alienation factors and twenty-one of the twenty-three individual alienation scores. When the sample was pooled, the hypothesis regarding the existence of a significant relationship between the three factors and the workplace characteristics was supported. Furthermore, all of the twenty-three of the pooled regressions of individual scores comprising alienation on workplace characteristics were statistically significant.

Each of the three workplace characteristic categories (1) teacher influence and control, (2) relevant test of teacher abilities, and (3) social value of labor contained items which were significant predictors for only the self-actualization factor. Apparently the self-actualization factor is a more universal concept which is affected by a broad range of workplace characteristics. The participation and involvement factors, however, are more associated with specific workplace categories. The variance in the participation need

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[49]Fraser, "Organizational Properties and Teacher Reactions," pp. 26-27.

satisfaction factor was best explained by the influence and control items, whereas relevant test of teacher abilities items were significant variables for the job involvement factor.

A review of the results of both the analyses of variance and the multiple regressions suggests that alienation levels of people in a teaching career are related to the career stage of the subject and to school workplace characteristics. The longer subjects had been working as teachers, the more alienated and less involved they were with their labor. Compounded with this finding was the presence of workplace variables which accounted for a significant increase or decrease in alienation levels. It appears, therefore, that particular points in a teacher's career and working conditions are meaningful indicators for explaining the degree of alienation and intrinsic satisfaction a teacher is experiencing with his or her job.

Recommendations

The findings from this study have implications for teacher educators, teachers, school administrators, and researchers investigating teacher job satisfaction or morale. The results indicate that students in a teacher training program have a somewhat idealized version of what their teaching job will entail when compared to the actual perceptions and experiences of teachers. Teacher educators may want to expand the preservice curriculum to include information pertaining to the organizational structure of public schools. In conjunction with data on the organizational and social milieu of the schools, the occupational role of teachers could also be addressed. Consideration to the comprehensive nature of the teaching job would be

constructive since teacher education programs mainly focus on a set of technical classroom skills without attending to broader school concerns such as curricular goal setting and general policy determination. Taken a step further, teacher education programs could begin the task of training preservice teachers in organizational skills which would enable teachers to become more involved in the school policy making process.

Following the lead of industrial unions, labor negotiations by teachers with the school district management are primarily interested in the extrinsic conditions of the job: wages and hours. Attention to only material benefits may not necessarily alleviate possible teacher alienation from their work. Given the results of this study and "the fragile nature of the teacher's autonomy,"[50] teacher organizations may wish to include in negotiations considerations for the intrinsic satisfaction of their members. Collective bargaining points could include a more equal voice with administrators in school decision making which could allow teachers to exercise more control and influence over the processes and product of their labor.

School administrators in a proactive effort may desire to alter the design of the teaching job in an attempt to decrease teacher dissatisfaction. School officials may wish to combat teacher alienation by allowing direct participation of teachers in long-range planning decisions which determine the nature of the teaching job. With the rising public interest in basic learning competencies for

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[50]Lortie, "The Balance of Control and Autonomy in Elementary School Teaching," p. 41.

students, school districts are having to depend on their teachers to implement curricular improvements. But, if "new procedures introduced in the educator subculture are invariably imposed on teachers rather than by teachers,"[51] teacher resistance and alienation appear to be an anticipated outcome.

Previous research on teachers as workers has generally failed to tie the subjective feelings of teachers to concrete events pertaining to their labor within the school system. Researchers in the area of teacher job satisfaction, morale, and/or alienation may find constructive Marx's theory of alienated labor. Marx's conceptualization of alienation is concerned with the intrinsic nature and humanistic potential of work. Alienation theory offers a model for considering the mental state of the teacher and the events which affect teacher labor. Furthermore, as the factor analysis results indicated, research upon the school as a workplace will need to consider conditions which may relate to the intrinsic labor needs of teachers for both participation in school policy formation and self-actualization.

Further research in teacher alienation is needed which can go beyond the data generated from this study. Future studies may wish to analyze other workplace variables which may have explanatory power greater than and/or in addition to those chosen for this study. Studies which attempt to develop a taxonomy for categorizing school management systems along a democratic-despotic continuum are needed. With such an organizational taxonomy, relationships between management styles and the psychological well-being of teachers could be more

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[51]Wolcott, Teacher versus Technocrat, p. 195.

clearly determined. Furthermore, in-depth teacher interviews which probe the questionnaire items in this study would greatly enhance the current state of knowledge regarding the interpretation by teachers of the use of their labor.

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APPENDICES

APPENDIX A

QUESTIONNAIRE FOR FIRST-YEAR AND EXPERIENCED TEACHERS

MICHIGAN STATE UNIVERSITY

INSTITUTE FOR RESEARCH ON TEACHING
COLLEGE OF EDUCATION · ERICKSON HALL

EAST LANSING · MICHIGAN · 48824

April, 1978

NOTE: All information you provide is confidential. No names of participants will be used in this study. Names are asked for the purpose of organizing returned questionaires and for sending summary reports to participants desiring one.

NAME: _____ SEX: Male Female
(optional) (circle one)

Would you like to receive a summary of the results of this study? Yes No
(circle one)

If yes, please provide a mailing address to which you would like the report sent:

_____

_____

_____
(include zip code)

At what grade level are you presently teaching? _____

Including this year, how many years have you been teaching? _____years.

How would you describe the community in which you teach? (circle one)

rural suburban urban

How many teachers are on your building staff? _____

THANK YOU ———— PLEASE PROCEED TO THE QUESTIONAIRE

JOB ATTITUDE QUESTIONAIRE

INSTRUCTIONS: For all items CIRCLE the number (1 through 7) on the line which best assesses your feelings toward each individual item.

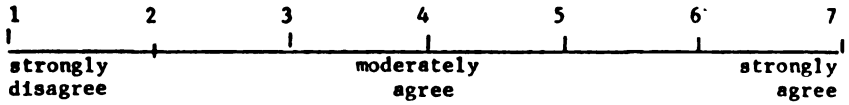
For items 1-5 circle one number on the line (1 through 7) for both columns A and B which best assesses your feelings toward each item.

ITEMS	A degree to which the item is presently associated with your job as a teacher	B degree to which the item should be associated with your job as a teacher.
1. Feelings of self-fulfillment	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly
2. Opportunity for independent thought and action.	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly
3. Feeling of worthwhile accomplishment.	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly
4. Opportunity for personal growth and development.	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly
5. Opportunity for participating in the determination of my specific teaching assignment in my school building.	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly

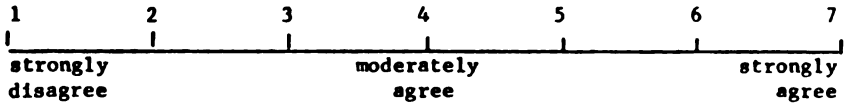
PLEASE CONTINUE TO THE NEXT PAGE

INSTRUCTIONS: For items 6 - 7 circle one number on the line (1 through 7) which best assesses your feelings toward each item.

6. I am very much involved personally in my work as a teacher.



7. The most important things that happen to me involve my job.



INSTRUCTIONS: For items 8 - 16 circle one number on the line (1 through 7) for the three columns A, B, and C which best assesses your feelings toward each item.

ITEM	A degree to which the item is presently associated with your job as a teacher.	B degree to which you would want the item to be associated with your job as a teacher if you had to commit up to one hour once a week after school.	C degree to which you would want the item to be associated with your job as a teacher if you were given "release time" during the school day once a week.
8. Opportunity for participating in the determination of the means for evaluating my work as a teacher.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly

PLEASE CONTINUE TO THE NEXT PAGE

ITEM	A degree to which the item is presently associated with your job as a teacher.	B degree to which you would want the item to be associated with your job as a teacher if you had to commit up to one hour once a week after school.	C degree to which you would want the item to be associated with your job as a teacher if you were given "release time" during the school day once a week.
9. Opportunity for participating in the establishment of disciplinary policies for my students.	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly
10. Opportunity for participating in the selecting of specific instructional texts for use in my classroom.	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly

PLEASE CONTINUE TO THE NEXT PAGE

ITEM	A degree to which the item is presently associated with your job as a teacher.	B degree to which you would want the item to be associated with your job as a teacher if you had to commit up to one hour once a week after school.	C degree to which you would want the item to be associated with your job as a teacher if you were given "release time" during the school day once a week.
11. Opportunity for participating in the selection of standardized tests for use in my school district.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly
12. Opportunity for participating in the determination of budget needs for my school building.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly

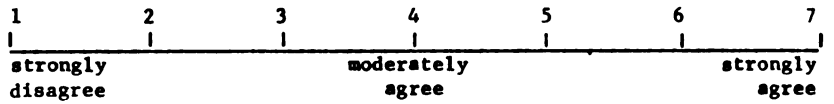
PLEASE CONTINUE TO THE NEXT PAGE

ITEM	A degree to which the item is presently associated with your job as a teacher.	B degree to which you would want the item to be associated with your job as a teacher if you had to commit up to one hour once a week after school.	C degree to which you would want the item to be associated with your job as a teacher if you were given "release time" during the school day once a week.
13. Opportunity for participating in the hiring of new administrators for my school district.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly
14. Opportunity for participation in the determination of the curriculum to be used for my classroom.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly

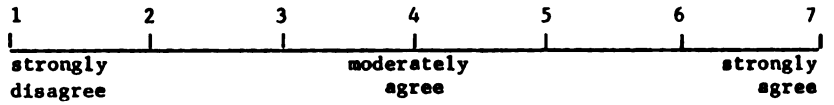
PLEASE CONTINUE TO THE NEXT PAGE

INSTRUCTIONS: For items 15 - 25 circle one number on the line (1 through 7) which best assesses your feelings toward each item.

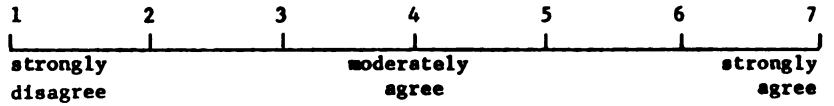
15. The major satisfaction in my life comes from my job.



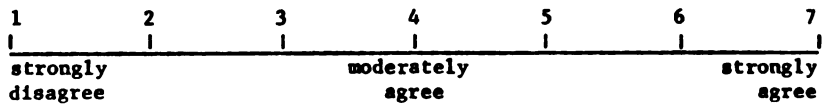
16. I live, eat, and breathe my job.



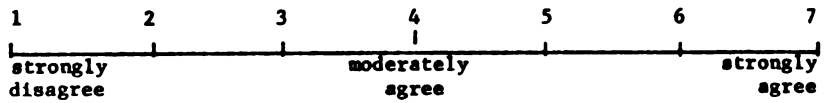
17. I have little control and final say over what to do on my job.



18. My job is appropriate for my abilities.



19. My job gives me a chance to be creative.



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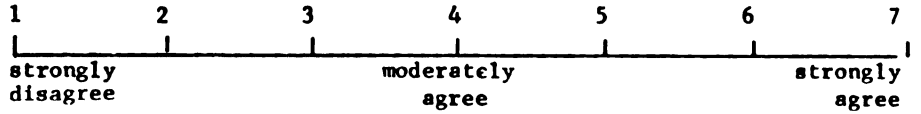
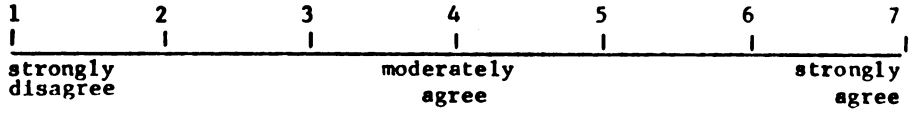
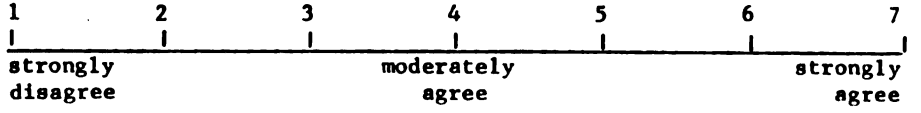
20. My job gives me a chance to do the things I do best.



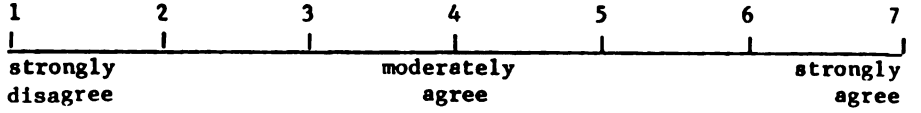
21. I have influence on what goes on within my school building.



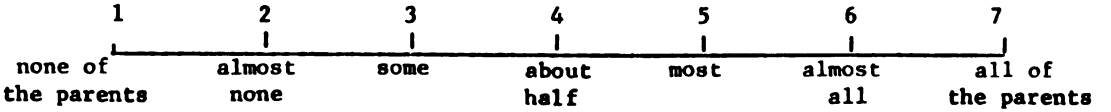
22. The parents of my students regard my school primarily as a "baby-sitting" agency.



23. The parents of my students are deeply concerned that their children receive a top quality education.



24. How many of the parents of your students want feedback from you on how their children are doing in school?



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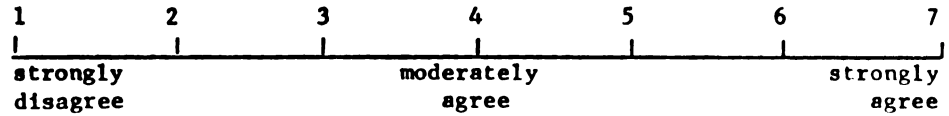
25. My principal provides me adequate information on how he/she feels I am doing with my students.



THANK YOU FOR YOU COOPERATION.

APPENDIX B

QUESTIONNAIRE FOR TEACHER EDUCATION STUDENTS

MICHIGAN STATE UNIVERSITY

INSTITUTE FOR RESEARCH ON TEACHING
COLLEGE OF EDUCATION · ERICKSON HALL

EAST LANSING · MICHIGAN · 48824

April, 1978

Would you like to receive a summary of the results of this study? Yes No
(circle one)

If yes, please provide a mailing address to which the report could be sent during the summer:

_____

_____

_____
(include zip code)

Will your teaching certification include the elementary level? Yes No
(circle one)

Have you completed your student teaching assignment at the elementary level?

Yes No
(circle one)

What year are you in school? (circle one)

freshman sophomore junior senior

In which type of community would you prefer to teach? (circle one)

rural suburban urban

How many teachers would you prefer to have working in the same school building with you? _____

THANK YOU ——— PLEASE PROCEED TO THE QUESTIONAIRE

JOB ATTITUDE QUESTIONAIRE

INSTRUCTIONS: For all items CIRCLE the number (1 through 7) on the line which best assesses your feelings toward each individual item.

For items 1-5 circle one number on the line (1 through 7) for both columns A and B which best assesses your feelings toward each item.

ITEMS	A degree to which you anticipate the item to be associated with your prospective teaching job.	B degree to which the item should be associated with your prospective teaching job.
1. Feelings of self-fulfillment	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly
2. Opportunity for independent thought and action.	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly
3. Feeling of worthwhile accomplishment.	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly
4. Opportunity for personal growth and development.	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly
5. Opportunity for participating in the determination of my specific teaching assignment in my school building.	1 2 3 4 5 6 7 very minimally — moderately — very strongly	1 2 3 4 5 6 7 very minimally — moderately — very strongly

PLEASE CONTINUE TO THE NEXT PAGE

INSTRUCTIONS: For items 6 - 7 circle one number on the line (1 through 7) which best assesses your feelings toward each item.

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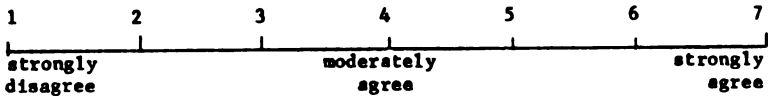
6. I anticipate that I will be very much involved personally in my work as a teacher.



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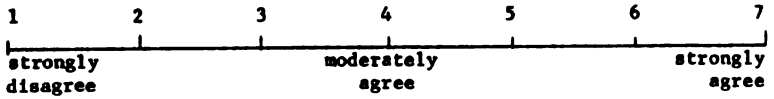
7. I anticipate that the most important things that will happen to me will involve my job as a teacher.



INSTRUCTIONS: For items 8 - 16 circle one number on the line (1 through 7) for the three columns A, B, and C which best assesses your feelings toward each item.

ITEM	A degree to which you anticipate the item to be associated with your prospective teaching job.	B degree to which you would want the item to be associated with your prospective teaching job if you had to commit up to one hour once a week after school.	C degree to which you would want the item to be associated with your prospective teaching job if you were given paid "release time" from your classroom during the school day.
8. Opportunity for participating in the determination of the means for evaluating my work as a teacher.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly

PLEASE CONTINUE TO THE NEXT PAGE

ITEM	A degree to which you anticipate the item to be associated with your prospective teaching job.	B degree to which you would want the item to be associated with your prospective teaching job if you had to commit up to one hour once a week after school.	C degree to which you would want the item to be associated with your prospective teaching job if you were given paid "release time" from your classroom during the school day.
9. Opportunity for participating in the establishment of disciplinary policies for my students.	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly
10. Opportunity for participating in the selecting of specific instructional texts for use in my classroom.	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly	1 — very minimally 2 — 3 — 4 — moderately 5 — 6 — 7 — very strongly

PLEASE CONTINUE TO THE NEXT PAGE

ITEM	A degree to which you anticipate the item to be associated with your prospective teaching job.	B degree to which you would want the item to be associated with your prospective teaching job if you had to commit up to one hour once a week after school.	C degree to which you would want the item to be associated with your prospective teaching job if you were given paid "release time" from your classroom during the school day.
11. Opportunity for participating in the selection of standardized tests for use in my school district.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly
12. Opportunity for participating in the determination of budget needs for my school building.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly

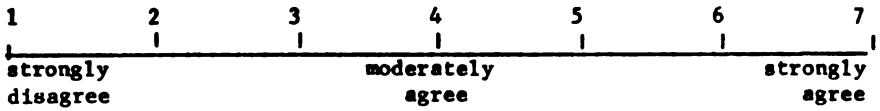
PLEASE CONTINUE TO THE NEXT PAGE

ITEM	A degree to which you anticipate the item to be associated with your prospective teaching job.	B degree to which you would want the item to be associated with your prospective teaching job if you had to commit up to one hour once a week after school.	C degree to which you would want the item to be associated with your prospective teaching job if you were given paid "release time" from your classroom during the school day.
13. Opportunity for participating in the hiring of new administrators for my school district.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly
14. Opportunity for participating in the determination of the curriculum to be used for my classroom.	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly	1 very minimally 2 3 4 moderately 5 6 7 very strongly

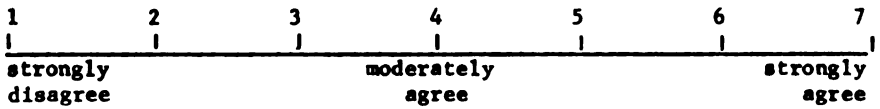
PLEASE CONTINUE TO THE NEXT PAGE

INSTRUCTIONS: For items 15-25 circle one number on the line (1 through 7) which best assesses your feelings toward each item.

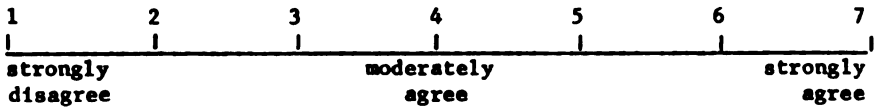
15. I anticipate that the major satisfaction in my life will come from my teaching job.



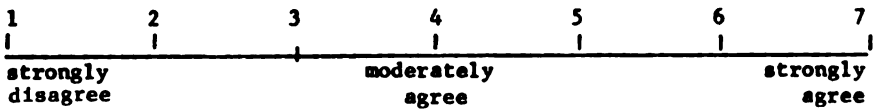
16. I anticipate that I will live, eat, and breathe my job.



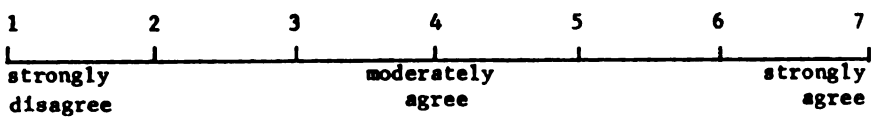
17. I will have little control and final say over what to do on my job as a teacher.



18. My job as a teacher will be appropriate for my abilities.



19. My job as a teacher will give me a chance to be creative.



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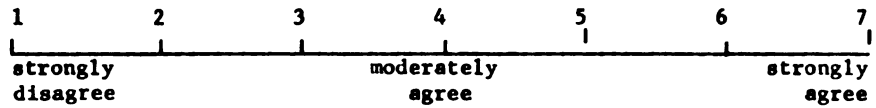
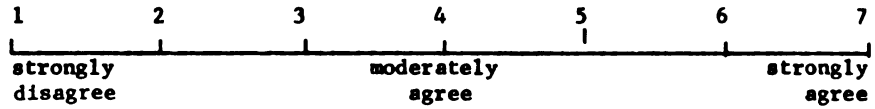
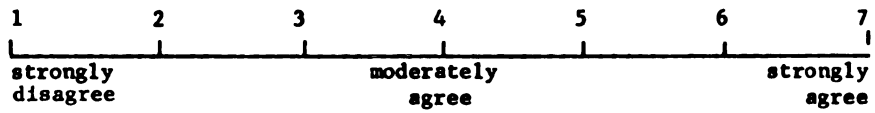
20. My job as a teacher will give me a chance to do the things I do best.



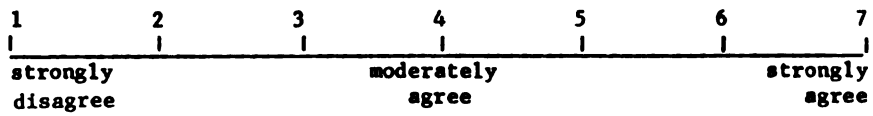
21. I will have influence on what goes on within my school building.



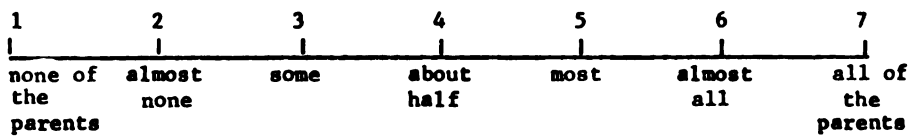
22. I anticipate that the parents of my students will regard my school as a "baby-sitting" agency.



23. I anticipate that the parents of my students will be deeply concerned that their children receive a top quality education.



24. How many of the parents of your students do you anticipate will want feedback from you on how their children are doing in school?



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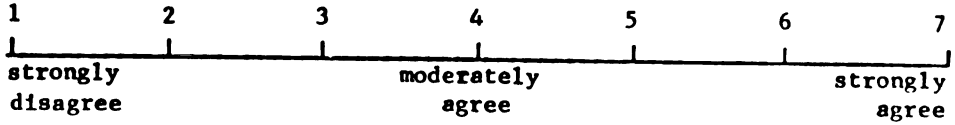
25. I anticipate that my principal will provide me adequate information on how he/she feels I am doing with my students.



THANK YOU FOR YOUR COOPERATION

APPENDIX C

ANALYSIS OF VARIANCE AND COMPARISONS ON ALIENATION FACTORS WITH TEACHER CAREER STAGES AS INDEPENDENT VARIABLES

Table C-1.--Analysis of Variance and Comparisons on Self-actualization Need Satisfaction Factor, X_{33}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	407.30	135.76	9.69	<.0005
Within Groups	271	3793.60	13.99		
Total	274	4200.90			

N = 275

Subsets in which the group means on the Self-actualization Need Satisfaction factor,[a] X_{33}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (1.15) < $\overline{G}_3$ (3.33)[b]

subset 2: $\overline{G}_1$ (1.15) < $\overline{G}_4$ (4.28)

subset 3: $\overline{G}_2$ (2.42) < $\overline{G}_4$ (4.28)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]Based on B-A: A = presently associated (teachers) or anticipate association (students) with teaching job and B = should be associated with teaching job.

[b]Dissatisfaction increases with rise in mean score.

Table C-2.--Analysis of Variance and Comparisons on Participation Need Satisfaction Factor, X_{34}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	11462.86	3820.95	10.38	<.0005
Within Groups	271	99705.82	367.92		
Total	274	111168.68			

N = 275

Subsets in which the group means on the Participation Need Satisfaction factor,[a] X_{34}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (12.65) < $\overline{G}_3$ (26.81)[b]

subset 2: $\overline{G}_1$ (12.65) < $\overline{G}_4$ (28.35)

Note:

G_1 = teacher education students who have not student taught

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]Determined by time trade-off discrepancy scores between actual (teachers) or anticipated (students) participation state and projected participation state given time commitment after school and/or "release time" during day.

[b]Dissatisfaction increases with rise in mean score.

Table C-3.--Analysis of Variance and Comparisons on Job Involvement Factor, X_{35}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	433.98	144.66	7.34	<.0005
Within Groups	271	5335.09	19.68		
Total	274	5769.07			

N = 275

Subsets in which the group means on the Job Involvement factor, X_{35}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (19.97) > $\overline{G}_4$ (16.82)[a]

subset 2: $\overline{G}_2$ (18.98) > $\overline{G}_4$ (16.82)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_4 = experienced teachers

[a]Job involvement decreases with a decline in the mean score.

APPENDIX D

ANALYSIS OF VARIANCE AND COMPARISONS ON INDIVIDUAL ALIENATION SCORES WITH TEACHER CAREER STAGES AS INDEPENDENT VARIABLES

Table D-1.--Analysis of Variance and Comparisons on Self-fulfillment Score, X_1, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	32.44	10.81	6.24	<.0005
Within Groups	265	458.94	1.73		
Total	268	491.38			

N = 269

Subsets in which the group means on the Self-fulfillment score,[a] X_1, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (.22) < $\overline{G}_3$ (.94)[b]

subset 2: $\overline{G}_1$ (.22) < $\overline{G}_4$ (1.09)

Note:

G_1 = teacher education students who have not student taught

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]Based on B-A: A = presently associated (teachers) or anticipate association (students) with teaching job and B = should be associated with teaching job.

[b]Dissatisfaction increases with rise in mean score.

Table D-2.--Analysis of Variance and Comparisons on Independence Score, X_2, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	4.83	1.61	1.17	.321
Within Groups	265	364.55	1.37		
Total	268	369.38			

N = 269

There were no subsets in which the group means on the Independence score,[a] X_2, differ significantly at the .05 level under the Scheffé procedure.

[a]Based on B-A: A = presently associated (teachers) or anticipate association (students) with teaching job and B = should be associated with teaching job.

Table D-3.--Analysis of Variance and Comparisons on Accomplishment Score, X_3, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	28.06	9.35	7.87	<.0005
Within Groups	266	316.10	1.19		
Total	269	344.16			

N = 270

Subsets in which the group means on the Accomplishment score,[a] X_3, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (.28) < $\overline{G}_3$ (.94)[b]

subset 2: $\overline{G}_1$ (.28) < $\overline{G}_4$ (1.07)

Note:

G_1 = teacher education students who have not student taught

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]Based on B-A: A = presently associated (teachers) or anticipate association (students) with teaching job and B = should be associated with teaching job.

[b]Dissatisfaction increases with rise in mean score.

Table D-4.--Analysis of Variance and Comparisons on Growth Score, X_4, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	63.26	21.09	12.82	<.0005
Within Groups	266	437.53	1.64		
Total	269	500.80			

N = 270

Subsets in which the group means on the Growth score,[a] X_4, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (.14) < $\overline{G}_3$ (.90)[b]

subset 2: $\overline{G}_1$ (.14) < $\overline{G}_4$ (1.35)

subset 3: $\overline{G}_2$ (.46) < $\overline{G}_4$ (1.35)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]Based on B-A: A = presently associated (teachers) or anticipate association (students) with teaching job and B = should be associated with teaching job.

[b]Dissatisfaction increases with rise in mean score.

Table D-5.--Analysis of Variance and Comparisons on Participation in Determining Teaching Assignment Score, X_5, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	19.27	6.42	2.32	.076
Within Groups	266	736.59	2.77		
Total	269	755.86			

N = 270

There were no subsets in which the group means on the Participation in Determining Teaching Assignment score,[a] X_5, differ significantly at the .05 level under the Scheffé procedure.

[a]Based on B-A: A = presently associated (teachers) or anticipate association (students) with teaching job and B = should be associated with teaching job.

Table D-6.--Analysis of Variance and Comparisons on Participation in Evaluating Own Work (C-A) Score, X_6, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	137.23	45.74	10.22	<.0005
Within Groups	271	1213.19	4.48		
Total	274	1350.42			

N = 275

Subsets in which the group means on the Participation in Evaluating Own Work (C-A)[a] score, X_6, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (.57) < $\overline{G}_3$ (2.35)[b]

subset 2: $\overline{G}_1$ (.57) < $\overline{G}_4$ (2.10)

subset 3: $\overline{G}_2$ (1.23) < $\overline{G}_3$ (2.35)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of using school day "release time" once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-7.--Analysis of Variance and Comparisons on Participation in Evaluating Own Work (B-A) Score, X_7, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	15.50	5.17	1.46	.225
Within Groups	271	956.67	3.53		
Total	274	972.17			

N = 275

There were no subsets in which the group means on the Participation in Evaluating Own Work (B-A)[a] score, X_7, differ significantly at the .05 level under the Scheffé procedure.

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-offs of allocating an hour after school once a week for participation.

Table D-8.--Analysis of Variance and Comparisons on Participation in Disciplinary Policies (C-A) Score, X_8, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	104.93	34.98	8.57	<.0005
Within Groups	270	1101.64	4.08		
Total	273	1206.57			

N = 274

Subsets in which the group means on the Participation in Disciplinary Policies (C-A)[a], score, X_8, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (.26) < $\overline{G}_3$ (.92)[b]

subset 2: $\overline{G}_1$ (.26) < $\overline{G}_4$ (1.30)

subset 3: $\overline{G}_2$ (.34) < $\overline{G}_4$ (1.30)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of using school day "release time" once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-9.--Analysis of Variance and Comparisons on Participation in Disciplinary Policies (B-A) Score, X_9, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	2.87	.96	.32	.812
Within Groups	269	809.37	3.01		
Total	272	812.24			

N = 273

There were no subsets in which the group means on the Participation in Disciplinary Policies (B-A)[a] Score, X_9, differ significantly at the .05 level under the Scheffé procedure.

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of allocating an hour after school once a week for participation.

Table D-10.--Analysis of Variance and Comparisons on Participation on Text Book Selection (C-A) Score, X_{10}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	57.99	19.33	4.50	.004
Within Groups	270	1160.96	4.30		
Total	273	1218.95			

N = 274

Subsets in which the group means on the Participation on Text Book Selection (C-A)[a] score, X_{10}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\bar{G}_1$ (.74) < $\bar{G}_3$ (1.70)[b]

subset 2: $\bar{G}_1$ (.74) < $\bar{G}_4$ (1.92)

Note:

G_1 = teacher education students who have not student taught

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of using school day "release time" once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-11.--Analysis of Variance and Comparisons on Participation in Text Book Selection (B-A) Score, X_{11}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	34.28	11.43	3.37	.019
Within Groups	271	918.10	3.39		
Total	274	952.38			

N = 275

Subset in which the group means on the Participation in Text Book Selection (B-A)[a] score, X_{11}, differ significantly at the .05 level under the Scheffé procedure:

G_4 (.54) < G_3 (1.47)[b]

Note:

G_3 = first-year teachers

G_4 = experienced teachers

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of allocating an hour after school once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-12.--Analysis of Variance and Comparisons on Participation in Standardized Test Selection (C-A) Score, X_{12}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	198.40	66.13	13.26	<.0005
Within Groups	268	1336.98	4.99		
Total	271	1535.38			

N = 272

Subsets in which the group means on the Participation in Standardized Test Selection (C-A)[a] score, X_{12}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: G_1 (1.05) < G_3 (2.68)[b]

subset 2: G_1 (1.05) < G_4 (3.07)

subset 3: G_2 (1.50) < G_3 (2.68)

subset 4: G_2 (1.50) < G_4 (3.07)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of using school day "release time" once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-13.--Analysis of Variance and Comparisons on Participation in Standardized Test Selection (B-A) Score, X_{13}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	53.60	17.87	4.47	.004
Within Groups	268	1071.57	4.00		
Total	271	1125.17			

N = 272

Subsets in which the group means on the Participation in Standardized Test Selection (B-A)[a] score, X_{13}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (1.00) < $\overline{G}_3$ (2.05)[b]

subset 2: $\overline{G}_1$ (1.00) < $\overline{G}_4$ (1.95)

Note:

G_1 = teacher education students who have not student taught

G_3 = first-year teachers

G_4 = experienced teachers

---

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of allocating an hour after school once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-14.--Analysis of Variance and Comparisons on Participation in Budget Determination (C-A) Score, X_{14}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	184.03	61.34	12.22	<.0005
Within Groups	270	1354.83	5.02		
Total	273	1538.86			

N = 274

Subsets in which the group means on the Participation in Budget Determination (C-A)[a] score, X_{14}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (1.27) < $\overline{G}_4$ (3.34)[b]

subset 2: $\overline{G}_2$ (1.76) < $\overline{G}_4$ (3.34)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_4 = experienced teachers

---

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of using school day "release time" once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-15.--Analysis of Variance and Comparisons on Participation in Budget Determination (B-A) Score, X_{15}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	38.63	12.88	2.98	.032
Within Groups	270	1167.46	4.32		
Total	273	1206.09			

N = 274

Subset in which the group means on the Participation in Budget Determination (B-A)[a] score, X_{15}, differ significantly at the .05 level under the Scheffé procedure:

$\overline{G}_1$ (1.15) < $\overline{G}_4$ (2.13)[b]

Note:

G_1 = teacher education students who have not student taught

G_4 = experienced teachers

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of allocating an hour after school once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-16.--Analysis of Variance and Comparisons on Participation in Hiring New Administrators (C-A) Score, X_{16}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	281.20	93.73	17.84	<.0005
Within Groups	270	1418.18	5.25		
Total	273	1699.38			

N = 274

Subsets in which the group means on the Participation in Hiring New Administrators (C-A)[a] score, X_{16}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (1.36) < $\overline{G}_3$ (3.41)[b]

subset 2: $\overline{G}_1$ (1.36) < $\overline{G}_4$ (3.82)

subset 3: $\overline{G}_2$ (2.14) < $\overline{G}_4$ (3.41)

subset 4: $\overline{G}_2$ (2.14) < $\overline{G}_4$ (3.82)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

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[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of using school day "release time" once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-17.--Analysis of Variance and Comparisons on Participation in Hiring New Administrators (B-A) Score, X_{17}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	127.45	42.48	9.42	<.0005
Within Groups	270	1217.99	4.51		
Total	273	1345.44			

N = 274

Subsets in which the group means on the Participation in Hiring New Administrators (B-A)[a] score, X_{17}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\bar{G}_1$ (1.44) < $\bar{G}_3$ (2.83)[b]

subset 2: $\bar{G}_1$ (1.44) < $\bar{G}_4$ (3.10)

subset 3: $\bar{G}_2$ (1.98) < $\bar{G}_4$ (3.10)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

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[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of allocating an hour after school once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-18.--Analysis of Variance and Comparisons on Participation in Curriculum Determination (C-A) Score, X_{18}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	109.92	36.64	9.34	<.0005
Within Groups	270	1059.51	3.92		
Total	273	1169.43			

N - 274

Subset in which the group means on the Participation in Curriculum Determination (C-A)[a] score, X_{18}, differ significantly at the .05 level under the Scheffé procedure:

$\overline{G}_1$ (.77) < $\overline{G}_4$ (2.45)[b]

Note:

G_1 = teacher education students who have not student taught

G_4 = experienced teachers

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of using school day "release time" once a week for participation.

[b]Dissatisfaction increases with rise in mean score.

Table D-19.--Analysis of Variance and Comparisons on Participation in Curriculum Determination (B-A) Score, X_{19}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	12.75	4.25	1.37	.253
Within Groups	270	838.14	3.10		
Total	273	250.89			

N = 274

There were no subsets in which the group means on the Participation in Curriculum Determination (B-A)[a] score, X_{19}, differ significantly at the .05 level under the Scheffé procedures.

[a]The discrepancy score between actual (teachers) or anticipated (students) participation states and projected time trade-off of allocating an hour after school once a week of participation.

Table D-20.--Analysis of Variance and Comparisons on Personally Involved in Job Score, X_{20}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	14.89	4.96	4.69	.003
Within Groups	271	286.65	1.06		
Total	274	301.54			

N = 275

Subsets in which the group means on the Personally Involved in Job score, X_{20}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: G_1 (6.42) > G_4 (5.87)[a]

subset 2: G_2 (6.37) > G_4 (5.87)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_4 = experienced teachers

[a]Job involvement decreases with a decline in the mean score.

Table D-21.--Analysis of Variance and Comparisons on Important Involvement in Job Score, X_{21}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	52.78	17.59	9.54	<.0005
Within Groups	271	499.96	1.84		
Total	274	552.74			

N = 275

Subsets in which the group means on the Important Involvement in Job Score, X_{21}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (5.09) > $\overline{G}_3$ (4.33)[a]

subset 2: $\overline{G}_1$ (5.09) > $\overline{G}_4$ (3.96)

subset 3: $\overline{G}_2$ (4.64) > $\overline{G}_4$ (3.96)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

[a]Job involvement decreases with a decline in the mean score.

Table D-22.--Analysis of Variance and Comparisons on Satisfaction from Job Score, X_{22}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	51.48	17.16	8.16	<.0005
Within Groups	271	569.89	2.10		
Total	274	621.37			

N = 285

Subsets in which the group means on the Satisfaction from Job score, X_{22}, differ significantly at the .05 level under the Scheffé procedure:

subset 1: $\overline{G}_1$ (4.99) > $\overline{G}_3$ (4.13)[a]

subset 2: $\overline{G}_1$ (4.99) > $\overline{G}_4$ (3.94)

subset 3: $\overline{G}_2$ (4.67) > $\overline{G}_4$ (3.94)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

[a]Job involvement decreases with a decline in the mean score.

Table D-23.--Analysis of Variance and Comparisons on Live, Eat, and Breathe Job Score, X_{23}, with Teacher Career Stages as Independent Variables.

Source	d.f.	Sum of Squares	Mean Squares	F-ratio	F-probability
Between Groups	3	7.56	2.52	.88	.450
Within Groups	271	773.11	2.85		
Total	274	780.67			

N = 275

There were no subsets in which the group means on the Live, Eat, and Breathe Job score, X_{23}, differ significantly at the .05 level under the Scheffé procedure.

APPENDIX E

MULTIPLE REGRESSION ANALYSIS RESULTS

KEY TO APPENDIX E

Dependent Variables	Label
X_1	Self-fulfillment (B-A)[a]
X_2	Independence (B-A)
X_3	Accomplishment (B-A)
X_4	Growth (B-A)
X_5	Participation in Determining Teaching Assignment (B-A)
X_6	Participation in Evaluating Own Work (C-A)[b]
X_7	Participation in Evaluating Own Work (B-A)[c]
X_8	Participation in Disciplinary Policies (C-A)
X_9	Participation in Disciplinary Policies (B-A)
X_{10}	Participation in Text Book Selection (C-A)
X_{11}	Participation in Text Book Selection (B-A)
X_{12}	Participation in Standardized Test Selection (C-A)
X_{13}	Participation in Standardized Test Selection (B-A)
X_{14}	Participation in Budget Determination (C-A)
X_{15}	Participation in Budget Determination (B-A)
X_{16}	Participation in Hiring of New Administrators (C-A)
X_{17}	Participation in Hiring of New Administrators (B-A)
X_{18}	Participation in Curriculum Determination (C-A)
X_{19}	Participation in Curriculum Determination (B-A)
X_{20}	Personally Involved in Job

KEY TO APPENDIX E (continued)

Dependent Variables	Label
X_{21}	Important Involvement in Job
X_{22}	Satisfaction from Job
X_{23}	Live, Eat, and Breathe Job
X_{33}	Self-actualization Need Satisfaction
X_{34}	Participation Need Satisfaction
X_{35}	Job Involvement
Independent Variables	
X_{24}	Control and Final Say Over Job
X_{25}	Influence Within School Building
X_{26}	Job Appropriate for Abilities
X_{27}	Creativity in Job
X_{28}	Job Gives Chance to Do Things Teacher Does Best
X_{29}	Parents Regard School as "Baby-sitting" Agency
X_{30}	Parents Deeply Concerned about a Top Quality Education
X_{31}	Parents Who Want Feedback on Their Children
X_{32}	Principal Provides Adequate Information on Teacher's Performance
Dummy Variables[d]	
D_1	Teacher Education Students Who Have Completed Student Teaching
D_2	First-Year Teachers
D_3	Experienced Teachers

Notes to Key

[a]B-A for $X_1,\ldots,X_5$ is a measure of dissatisfaction with A how much of the factor mentioned in the item is associated with the subject's present or prospective teaching job and B how much of the factor they feel should be associated with their job.

[b]C-A for X_6, X_8, X_{10}, X_{12}, X_{14}, X_{16}, and X_{18} is a measure of dissatisfaction with C the amount of the factor that would be associated with the subject's job if he or she were given "release time" during the school day once a week.

[c]B-A for X_7, X_9, X_{11}, X_{13}, X_{15}, X_{17}, and X_{19} is a measure of dissatisfaction with B the amount of the factor that would be associated with the subject's job if he or she had to commit one hour once a week after school.

[d]For cases belonging to the excluded category of dummy variables (K groups - 1) = 3 dummy variables, Students who have Not Student Taught:

$$y = a + \sum_{24}^{32} b_i X_i$$

Table E-1.--Multiple Regression Analysis of Alienation Scores on Workplace Characteristics for Teacher Education Students Who Have Not Student Taught.

Indep. Var. \ Dep. Var.	Regression Coefficients and Corresponding Standard Errors (in parentheses)													
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}
Constant	2.21 (1.18)	.09 (1.23)	.68 (.80)	2.25[a] (.81)	3.37 (1.90)	-.70 (2.64)	.82 (2.08)	-3.25 (2.22)	-1.67 (1.69)	-.60 (2.40)	2.89 (1.72)	2.22 (2.56)	5.15 (2.21)	.58 (2.86)
X_{24}	.13 (.09)	.24[a] (.09)	.16[a] (.08)	.14[b] (.06)	.11 (.15)	.15 (.20)	.20 (.16)	.03 (.17)	.07 (.13)	.27 (.19)	.21 (.13)	-.19 (.20)	-.17 (.17)	.02 (.22)
X_{25}	-.05 (.12)	-.05 (.13)	-.10 (.08)	-.00 (.08)	.03 (.19)	.31 (.26)	.27 (.21)	-.26 (.22)	-.12 (.17)	.01 (.24)	.13 (.17)	.11 (.26)	.25 (.22)	-.10 (.29)
X_{26}	-.13 (.12)	.04 (.12)	-.10 (.08)	.01 (.08)	.14 (.19)	-.12 (.26)	-.09 (.20)	.13 (.22)	.15 (.17)	.02 (.24)	.19 (.16)	.00 (.25)	.09 (.22)	.05 (.28)
X_{27}	.06 (.18)	-.17 (.19)	-.08 (.12)	-.27[b] (.12)	-.55 (.29)	.11 (.40)	.24 (.31)	-.31 (.34)	-.16 (.26)	-.51 (.36)	-.22 (.26)	-.45 (.39)	-.34 (.33)	-.15 (.43)
X_{28}	-.03 (.15)	.17 (.16)	.23[b] (.10)	.03 (.11)	.15 (.25)	.11 (.34)	-.15 (.27)	.59[b] (.29)	.27 (.22)	.61 (.31)	-.02 (.22)	.38 (.33)	-.11 (.29)	.40 (.37)
X_{29}	-.06 (.09)	-.01 (.10)	-.06 (.06)	-.18[a] (.06)	.03 (.15)	-.09 (.21)	-.12 (.16)	.17 (.18)	.10 (.14)	.10 (.19)	-.01 (.13)	.25 (.21)	.00 (.18)	.08 (.23)
X_{30}	.08 (.10)	-.14 (.11)	.04 (.70)	-.23[a] (.07)	-.28 (.17)	.08 (.23)	.00 (.18)	-.21 (.19)	.01 (.15)	-.13 (.21)	-.21 (.15)	-.06 (.22)	-.10 (.19)	-.14 (.25)
X_{31}	-.11 (.12)	.26[b] (.13)	.10 (.09)	.17[b] (.09)	-.07 (.21)	.02 (.29)	-.07 (.22)	.45 (.24)	.22 (.18)	-.13 (.26)	-.27 (.19)	-.06 (.28)	-.25 (.24)	-.06 (.31)
X_{32}	-.20 (.12)	-.10 (.13)	-.10 (.08)	-.02 (.09)	.14 (.20)	-.27 (.28)	-.20 (.22)	.08 (.23)	-.05 (.18)	.25 (.25)	.00 (.18)	-.12 (.27)	-.18 (.23)	.05 (.30)
R	.43	.44	.55	.59	.38	.23	.27	.35	.27	.40	.44	.32	.32	.19
R^2	.18	.19	.30[a]	.35[a]	.14	.05	.07	.12	.07	.16	.20	.10	.10	.03
N	70	70	70	70	70	70	79	70	70	70	70	70	70	70

Table E-1.--Continued.

Indep. Var. \ Dep. Var.	Regression Coefficients and Corresponding Standard Errors (in parentheses)											
	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}	X_{33}	X_{34}	X_{35}
Constant	5.47[a] (2.47)	2.26 (3.05)	4.37 (2.52)	-1.56 (2.61)	2.56 (1.88)	4.09[a] (.88)	2.85[b] (1.41)	1.26 (1.72)	-.04 (1.89)	5.66[b] (2.95)	20.01 (22.96)	9.04 (4.38)
X_{24}	.06 (.19)	-.19 (.24)	-.20 (.19)	.16 (.20)	.18 (.14)	.02 (.06)	.04 (.10)	.21 (.13)	.19 (.15)	.59[a] (.22)	-.25 (1.71)	.27 (.33)
X_{25}	-.06 (.25)	-.16 (.31)	.20 (.25)	-.12 (.26)	.01 (.19)	.25[a] (.88)	.32[b] (.14)	.33 (.17)	.27 (.19)	-.25 (.30)	2.26 (3.35)	1.18[a] (.44)
X_{26}	.10 (.24)	.06 (.30)	.21 (.25)	.05 (.26)	.20 (.18)	.08 (.09)	-.02 (.14)	.03 (.17)	-.03 (.18)	-.14 (.29)	1.31 (2.28)	.11 (.44)
X_{27}	-.22 (.37)	.05 (.46)	-.23 (.38)	-.23 (.39)	.60 (.28)	.20 (.13)	.46[b] (.22)	.64[a] (.26)	.36 (.28)	-.49 (.45)	.12 (2.31)	1.66[a] (.67)
X_{28}	.12 (.32)	.06 (.40)	-.11 (.33)	.58 (.34)	-.05 (.24)	-.08 (.11)	-.27 (.18)	-.14 (.22)	.22 (.25)	.29 (.38)	2.21 (2 96)	-.46 (.56)
X_{29}	-.20 (.20)	.21 (.25)	.04 (.20)	.21 (.21)	-.02 (.15)	-.02 (.07)	-.10 (.11)	-.15 (.14)	-.19 (.15)	-.24 (.23)	1.21 (1.83)	-.35 (.35)
X_{30}	-.19 (.22)	-.04 (.27)	-.05 (.22)	-.05 (.23)	-.09 (.16)	-.02 (.77)	.11 (.12)	.09 (.15)	.07 (.16)	-.18 (.26)	.67 (2.00)	.38 (.38)
X_{31}	-.33 (.27)	-.22 (.33)	-.27 (.27)	-.17 (.28)	-.39 (.20)	.04 (.09)	-.21 (.15)	-.25 (.19)	-.30 (.20)	.38 (.32)	-1.10 (2.47)	.70 (.47)
X_{32}	-.15 (.26)	.05 (.32)	-.15 (.26)	.18 (.27)	-.10 (.19)	-.08 (.09)	.00 (.15)	-.12 (.18)	-.01 (.20)	-.48 (.30)	-1.20 (2.40)	-.33 (.46)
R	.34	.21	.27	.34	.40	.53	.47	.51	.47	.51	.24	.56
R^2	.11	.04	.07	.12	.16	.28[a]	.22[b]	.26[b]	.22	.26	.06	.31
N	70	70	70	70	70	70	70	70	70	73	73	73

The general multiple regression equation for the 23 individual alienation scores ($X_1,\ldots,X_{23}$) and the three alienation factors (X_{33}, X_{34}, X_{35}), Y_1, regressed on the nine workplace items ($X_{24},\ldots,X_{32}$) is

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} + b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + e$$

[a]F-test significant at .01 [b]F-test significant at .05

See Key at beginning of Appendix E (p. 206) for variable labels.

Table E-2.--Multiple Regression Analysis of Alienation Scores on Workplace Characteristics for Teacher Education Students Who Have Completed Student Teaching.

Dep. Var. / Indep. Var.	Regression Coefficients and Corresponding Standard Errors (in parentheses)													
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}
Constant	1.15 (1.85)	-.42 (1.76)	-.04 (1.36)	1.09 (1.60)	1.18 (2.47)	1.69 (2.88)	2.88 (2.30)	-2.69 (2.22)	-.98 (1.33)	2.64 (2.92)	2.73 (2.33)	2.63 (2.47)	1.48 (2.67)	2.47 (2.97)
X_{24}	.14 (.16)	.32[b] (.15)	.07 (.11)	.01 (.13)	.16 (.21)	.01 (.24)	.03 (.19)	.13 (.18)	.00 (.11)	-.05 (.25)	-.09 (.20)	-.03 (.23)	-.15 (.23)	-.08 (.25)
X_{25}	.11 (.18)	.00 (.17)	-.06 (.13)	.01 (.16)	-.22 (.25)	-.19 (.29)	.05 (.23)	-.14 (.22)	.00 (.13)	-.03 (.29)	-.01 (.23)	.30 (.27)	-.31 (.27)	.32 (.30)
X_{26}	-.20 (.16)	.02 (.15)	.03 (.12)	-.34[a] (.14)	-.19 (.21)	.42 (.25)	.28 (.20)	.18 (.19)	-.06 (.12)	.00 (.25)	-.20 (.20)	.12 (.24)	-.02 (.27)	.29 (.30)
X_{27}	-.14 (.26)	.41 (.24)	.03 (.19)	-.07 (.22)	.20 (.34)	.51 (.40)	-.15 (.32)	.64[b] (.31)	-.01 (.18)	.08 (.41)	-.34 (.32)	.25 (.38)	.16 (.37)	.10 (.41)
X_{28}	.09 (.23)	.08 (.22)	.11 (.17)	.12 (.20)	.19 (.30)	-.77[b] (.35)	-.04 (.28)	-.46 (.27)	.03 (.16)	-.26 (.36)	.21 (.29)	.58 (.34)	-.18 (.33)	-.59 (.36)
X_{29}	.07 (.14)	-.10 (.13)	.04 (.10)	.00 (.12)	.00 (.19)	.09 (.22)	-.11 (.18)	.27 (.17)	.20[b] (.10)	.02 (.22)	-.06 (.18)	.03 (.21)	.02 (.21)	.33 (.23)
X_{30}	-.21 (.22)	-.39 (.21)	-.27 (.16)	.02 (.19)	.09 (.29)	-.44 (.34)	-.06 (.27)	-.45 (.27)	-.05 (.16)	-.44 (.35)	-.10 (.28)	-.59 (.33)	-.50 (.32)	-.100[a] (.35)
X_{31}	.18 (.23)	-.20 (.22)	.13 (.17)	.15 (.20)	-.12 (.31)	-.19 (.36)	-.20 (.28)	-.07 (.28)	-.01 (.17)	.17 (.37)	.20 (.29)	-.07 (.34)	-.01 (.33)	.24 (.37)
X_{32}	.00 (.17)	.13 (.16)	.04 (.12)	.00 (.14)	-.06 (.22)	.35 (.26)	-.02 (.21)	.60[a] (.20)	.28[b] (.12)	.18 (.26)	.08 (.21)	.30 (.25)	.22 (.24)	.34 (.27)
R	.34	.45	.36	.38	.24	.38	.28	.50	.41	.25	.25	.37	.29	.49
R^2	.12	.20	.13	.14	.06	.15	.08	.25	.17	.06	.06	.13	.08	.24
N	60	60	60	60	60	60	60	60	60	60	60	60	60	60

Table E-2.--Continued.

Dep. Var. / Indep. Var.	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}	X_{33}	X_{34}	X_{35}
	Regression Coefficients and Corresponding Standard Errors (in parentheses)											
Constant	2.61	6.80	5.15	3.56	3.42	2.46[b]	.32	-1.57	-4.21[b]	1.72	33.72	-3.13
	(2.58)	(3.19)	(2.83)	(2.78)	(2.33)	(1.25)	(1.40)	(1.48)	(2.04)	(5.01)	(26.36)	(4.55)
X_{24}	-.08	-.09	.02	.22	.19	.16	.23[b]	.31[a]	.37[b]	.55	.62	1.08[a]
	(.22)	(.27)	(.24)	(.23)	(.20)	(.10)	(.12)	(.12)	(.17)	(.42)	(2.23)	(.38)
X_{25}	.35	-.03	-.04	.02	.05	.23	-.13	.11	-.01	.06	.90	.21
	(.26)	(.32)	(.28)	(.28)	(.23)	(.12)	(.14)	(.15)	(.20)	(.50)	(2.64)	(.45)
X_{26}	-.02	.22	.10	.29	.14	-.12	.09	.18	-.13	-.50	1.66	.00
	(.22)	(.28)	(.25)	(.24)	(.20)	(.11)	(.12)	(.13)	(.17)	(.43)	(2.29)	(.40)
X_{27}	-.31	-.41	-.56	-.06	-.43	.19	-.11	-.03	.13	.24	-.46	.20
	(.36)	(.44)	(.39)	(.39)	(.32)	(.17)	(.19)	(.21)	(.28)	(.70)	(3.67)	(.63)
X_{28}	.04	-.41	-.05	-.46	-.04	.42[a]	.80[a]	.41[b]	.63[a]	.42	-3.39	2.30[a]
	(1.31)	(.39)	(.35)	(.34)	(.29)	(.15)	(.17)	(.18)	(.25)	(.61)	(3.24)	(.35)
X_{29}	.14	.17	-.03	.05	-.05	-.08	.03	.05	-.06	.04	1.10	-.05
	(.20)	(.25)	(.22)	(.21)	(.18)	(.10)	(.11)	(.11)	(.16)	(.39)	(2.04)	(.35)
X_{30}	-.67[b]	-.07	.14	-.47	-.08	.07	.02	.00	.06	-.86	-4.88	.09
	(.31)	(.38)	(.34)	(.33)	(.28)	(.15)	(.17)	(.18)	(.24)	(.60)	(3.15)	(.54)
X_{31}	.21	.01	-.03	-.03	-.04	.02	.03	.30	.52[b]	.24	.09	.84
	(.32)	(.40)	(.35)	(.35)	(.29)	(.16)	(.17)	(.19)	(.25)	(.63)	(3.30)	(.57)
X_{32}	.20	.15	-.04	.22	.08	-.15	.00	.02	.06	.19	2.69	-.04
	(.23)	(.29)	(.25)	(.25)	(.21)	(.11)	(.12)	(.13)	(.18)	(.45)	(2.37)	(.41)
R	.38	.21	.24	.39	.31	.58	.69	.64	.54	.35	.32	.68
R^2	.15	.09	.06	.15	.10	.33[a]	.48[a]	.40[a]	.29[a]	.12	.10	.48[a]
N	60	60	60	60	60	60	60	60	60	60	60	60

The general multiple regression equation for the 23 individual alienation scores ($X_1,\ldots,X_{23}$) and the three alienation factors (X_{33}, X_{34}, X_{35}), Y_i, regressed on the nine workplace items ($X_{24},\ldots,X_{32}$) is

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} + b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + e$$

[a]F-test significant at .01 [b]F-test significant at .05

See Key at beginning of Appendix E (p. 206) for variable labels.

Table E-3.--Multiple Regression Analysis of Alienation Scores on Workplace Characteristics for First-Year Teachers.

Indep. Var. \ Dep. Var.	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}
	Regression Coefficients and Corresponding Standard Errors (in parentheses)													
Constant	1.99 (1.05)	.213[a] (.79)	1.76 (.99)	3.63[a] (1.13)	4.10[a] (1.52)	2.20 (1.93)	3.32 (1.84)	4.56[a] (1.67)	5.11[a] (1.94)	-.56 (2.18)	.68 (2.10)	5.80[b] (2.51)	6.49[a] (1.95)	.76 (2.08)
X_{24}	-.01 (.11)	.23[a] (.82)	.19 (.10)	.10 (.12)	.13 (.16)	-.01 (.20)	.00 (.19)	.09 (.17)	.26 (.20)	.16 (.23)	.30 (.22)	-.19 (.26)	-.20 (.20)	.15 (.22)
X_{25}	.22 (.12)	-.12 (.09)	.10 (.12)	.04 (.13)	-.02 (.18)	.07 (.23)	-.06 (.22)	-.09 (.20)	-.33 (.23)	-.05 (.26)	-.12 (.25)	-.35 (.30)	-.65[a] (.23)	-.17 (.25)
X_{26}	-.15 (.11)	.00 (.08)	.13 (.10)	-.08 (.12)	-.42[a] (.16)	-.19 (.20)	-.19 (.19)	.00 (.18)	.00 (.20)	.07 (.23)	.00 (.22)	.08 (.26)	.07 (.20)	-.19 (.22)
X_{27}	-.21 (.14)	-.33[a] (.10)	-.16 (.13)	-.15 (.15)	-.06 (.20)	-.03 (.26)	-.42 (.25)	-.45[b] (.22)	-.64[a] (.26)	.33 (.29)	.22 (.28)	-.40 (.34)	-.48 (.26)	-.18 (.28)
X_{28}	-.04 (.12)	.39 (.09)	-2.8[a] (.11)	-.10 (.13)	.05 (.18)	.42 (.23)	.55[a] (.21)	.20 (.19)	.38 (.22)	-.37 (.25)	-.30 (.24)	.29 (.29)	.52[b] (.23)	.63[a] (.24)
X_{29}	.19 (.11)	-.03 (.08)	.10 (.10)	.00 (.12)	.16 (.16)	.04 (.20)	-.01 (.19)	-.09 (.17)	-.25 (.20)	.44 (.22)	.24 (.22)	.01 (.26)	.00 (.20)	.46[b] (.21)
X_{30}	-.05 (.10)	.02 (.08)	-.21[b] (.10)	-.39[a] (.11)	-.08 (.15)	-.29 (.19)	-.35 (.18)	-.05 (.17)	.00 (.19)	.05 (.22)	.27 (.21)	-.37 (.25)	-.17 (.19)	-.10 (.20)
X_{31}	.03 (.12)	-.04 (.09)	.11 (.11)	-.04 (.13)	-.12 (.18)	.09 (.22)	.11 (.21)	-.23 (.19)	-.37 (.22)	.31 (.25)	.07 (.24)	.09 (.29)	-.14 (.22)	-.04 (.24)
X_{32}	-.03 (.08)	.06 (.06)	.06 (.08)	.14 (.09)	-.01 (.12)	-.08 (.15)	.05 (.15)	-.08 (.13)	.01 (.15)	-.13 (.17)	-.27 (.17)	.10 (.20)	.00 (.16)	.01 (.17)
R	.55	.67	.63	.62	.57	.38	.46	.48	.54	.46	.52	.36	.53	.50
R^2	.30	.44[a]	.39[a]	.39[a]	.33[b]	.14	.22	.23	.29	.21	.27	.13	.28	.25
N	51	51	51	51	51	51	51	51	51	51	51	51	51	51

Table E-3.--Continued.

Dep. Var. / Indep. Var.	Regression Coefficients and Corresponding Standard Errors (in parentheses)											
	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}	X_{33}	X_{34}	X_{35}
Constant	.16 (2.23)	1.44 (2.41)	.92 (2.29)	-1.29 (1.64)	.85 (1.33)	4.23[a] (1.07)	1.53 (1.41)	1.44 (1.69)	-2.14 (1.94)	9.44[a] (2.53)	29.02 (15.97)	5.29 (5.14)
X_{24}	.26 (.23)	-.09 (.25)	.19 (.24)	.17 (.17)	.25 (.14)	-.07 (.11)	.26 (.15)	.20 (.18)	.38 (.20)	.52[b] (.26)	1.31 (1.66)	.75 (.53)
X_{25}	-.24 (.26)	.28 (.28)	.27 (.27)	.14 (.19)	.10 (.16)	-.01 (.13)	-.02 (.17)	.07 (.20)	.10 (.23)	.24 (.30)	-1.24 (1.90)	.11 (.61)
X_{26}	-.41 (.23)	-.02 (.25)	-.21 (.24)	-.13 (.17)	-.22 (.14)	.23[b] (.11)	.21 (.15)	.16 (.18)	.30 (.20)	-.11 (.27)	-1.32 (1.69)	.93 (.53)
X_{27}	-.19 (.30)	.32 (.32)	.42 (.31)	.02 (.22)	-.10 (.18)	.06 (.14)	-.13 (.19)	-.07 (.23)	.30 (.26)	-.86[a] (.34)	-1.55 (2.15)	.17 (.69)
X_{28}	.85[a] (.26)	.19 (.28)	.22 (.27)	.02 (.19)	.15 (.15)	.06 (.12)	.29 (.16)	.09 (.20)	-.09 (.23)	-.36 (.29)	3.65[b] (1.85)	.26 (.60)
X_{29}	.47[b] (.23)	-.12 (.25)	-.25 (.24)	.13 (.17)	.09 (.14)	-.03 (.11)	-.22 (.14)	-.10 (.17)	.22 (.20)	.29 (.26)	1.11 (1.64)	-.18 (.53)
X_{30}	.13 (.22)	-.14 (.24)	-.16 (.23)	.15 (.16)	.23 (.13)	.01 (.10)	.24 (.14)	-.03 (.17)	-.04 (.19)	-.66[a] (.25)	-.70 (1.56)	.28 (.50)
X_{31}	-.24 (.26)	-.22 (.28)	-.16 (.26)	.30 (.19)	.21 (.15)	.00 (.12)	.00 (.16)	.30 (.20)	.24 (.22)	.07 (.29)	.49 (1.85)	.52 (.59)
X_{32}	.00 (.18)	-.37 (.19)	-.32 (.18)	.01 (.13)	-.04 (.11)	.07 (.08)	-.01 (.11)	.14 (.14)	-.06 (.15)	.22 (.20)	-1.07 (1.28)	.03 (.41)
R R^2	.55 .30	.39 .15	.44 .20	.42 .17	.56 .31[b]	.55 .31[b]	.61 .38[a]	.44 .20	.49 .24	.71 .51[a]	.43 .19	.51 .26
N	51	51	51	51	51	51	51	51	51	52	52	52

The general multiple regression equation for the 23 individual alienation scores ($X_1,\ldots,X_{23}$) and the three alienation factors (X_{33}, X_{34}, X_{35}), Y_1, regressed on the nine workplace items ($X_{24},\ldots,X_{32}$) is

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} + b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + e$$

[a]F-test significant at .01 [b]F-test significant at .05

See Key at beginning of Appendix E (p. 206) for variable labels.

Table E-4.--Multiple Regression Analysis of Alienation Scores on Workplace Characteristics for Experienced Teachers.

Dep. Var. / Indep. Var.	Regression Coefficients and Corresponding Standard Errors (in parentheses)													
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}
Constant	.41 (1.28)	.03 (1.21)	-.22 (1.12)	3.55[a] (1.38)	1.47 (1.64)	3.78 (2.17)	2.74 (2.13)	1.74 (2.26)	1.47 (2.21)	3.06 (2.16)	.53 (2.36)	4.45 (2.34)	2.15 (2.37)	6.31 (2.11)
X_{24}	.11 (.11)	.25[a] (.10)	.16 (.09)	.03 (.12)	.39[a] (.14)	.61[a] (.19)	.37[b] (.18)	.59[a] (.19)	.26 (.19)	.33 (.18)	.01 (.20)	.28 (.20)	.12 (.20)	.35[b] (.18)
X_{25}	-.08 (.12)	-.21 (.11)	-.01 (.10)	-.07 (.13)	-.07 (.15)	-.35 (.20)	-.20 (.20)	-.53[a] (.21)	-.34 (.20)	-.32 (.20)	-.18 (.22)	-.68[a] (.22)	-.37 (.22)	-.49[a] (.19)
X_{26}	-.43[a] (.11)	-.05 (.11)	.04 (.10)	-.22 (.12)	-.01 (.15)	-.04 (.20)	.21 (.19)	-.09 (.20)	.10 (.20)	-.14 (.19)	.24 (.21)	-.21 (.21)	.18 (.21)	-.11 (.19)
X_{27}	.16 (.16)	.07 (.15)	.26 (.14)	-.10 (.17)	.08 (.20)	.17 (.27)	.01 (.26)	.15 (.28)	.12 (.27)	.30 (.26)	.29 (.29)	.70[a] (.29)	.47 (.29)	.43 (.26)
X_{28}	-.17 (.15)	-.06 (.14)	-.43[a] (.13)	-.35[b] (.16)	-.13 (.20)	-.11 (.26)	-.18 (.25)	.25 (.27)	.17 (.26)	-.01 (.26)	-.21 (.28)	-.31 (.28)	-.46 (.28)	-.04 (.25)
X_{29}	.31[a] (.11)	.18 (.11)	.21[b] (.10)	.21 (.12)	.03 (.15)	-.24 (.20)	-.03 (.19)	-.13 (.20)	.08 (.20)	-.26 (.19)	.11 (.21)	-.10 (.21)	.18 (.21)	-.31 (.19)
X_{30}	-.13 (.15)	.08 (.14)	.00 (.13)	.00 (.16)	-.16 (.20)	.09 (.26)	-.36 (.25)	.31 (.27)	.07 (.26)	-.23 (.26)	-.09 (.33)	.31 (.28)	-.12 (.28)	.00 (.25)
X_{31}	.46[a] (.18)	.09 (.17)	.20 (.15)	.32 (.19)	.18 (.23)	-.30 (.30)	.07 (.30)	-.50 (.31)	-.45 (.31)	-.06 (.30)	.00 (.16)	-.22 (.33)	.04 (.33)	-.30 (.30)
X_{32}	.06 (.09)	-.06 (.08)	.08 (.08)	-.17 (.10)	-.15 (.11)	-.06 (.15)	-.21 (.15)	.01 (.16)	-.15 (.15)	.10 (.15)	-.20 (.28)	-.08 (.16)	-.06 (.16)	-.26 (.15)
R	.72	.57	.59	.69	.53	.56	.55	.56	.49	.41	.31	.54	.43	.57
R^2	.51[a]	.33[a]	.35[a]	.48[a]	.28[a]	.32[a]	.30[a]	.32[a]	.24[b]	.17	.09	.29[a]	.19	.32[a]
N	74	74	74	74	74	74	74	74	74	74	74	74	74	74

Table E-4.--Continued.

Dep. Var. / Indep. Var.	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}	X_{33}	X_{34}	X_{35}
	Regression Coefficients and Corresponding Standard Errors (in parentheses)											
Constant	4.53[b] (2.05)	6.59[a] (2.20)	7.26[a] (2.20)	4.45[a] (1.83)	2.77 (1.97)	4.27[a] (.95)	2.12 (1.25)	.45 (1.34)	-1.42 (1.54)	4.76 (3.42)	54.47[a] (16.55)	6.35 (13.88)
X_{24}	.16 (.18)	.05 (.19)	-.46[a] (.19)	.42[a] (.16)	.24 (.17)	.02 (.09)	.06 (.11)	.10 (.11)	.27[b] (.13)	.41 (.31)	2.99[b] (1.52)	.30 (.35)
X_{25}	-.36 (.19)	-.40[b] (.20)	-.41[b] (.20)	-.48[a] (.17)	-.28 (.18)	-.07 (.09)	-.03 (.12)	.07 (.12)	-.02 (.14)	-.48 (.34)	-5.30[a] (1.66)	-.06 (.39)
X_{26}	-.01 (.19)	.18 (.20)	.34 (.20)	.00 (.17)	.31 (.18)	.07 (.08)	.03 (.11)	.41[a] (.12)	.35[a] (.14)	-1.06[a] (.29)	.26 (1.42)	.58 (.33)
X_{27}	.26 (.25)	.27 (.27)	.36 (.27)	-.09 (.23)	-.28 (.24)	.23[b] (.11)	-.14 (.15)	-.19 (.16)	.08 (.19)	.56 (.40)	2.91 (1.95)	.03 (.45)
X_{28}	.04 (.24)	-.19 (.26)	-.37 (.26)	.20 (.22)	.04 (.23)	.13 (.11)	.41[a] (.15)	.18 (.16)	-.11 (.18)	-.80[b] (.41)	-.53 (1.97)	.87 (.46)
X_{29}	-.04 (.18)	-.11 (.20)	.08 (.20)	-.12 (.17)	.24 (.18)	-.12 (.09)	.15 (.12)	.23[b] (.12)	.15 (.14)	.77[b] (.34)	-.71 (1.63)	.35 (.38)
X_{30}	-.25 (.25)	.20 (.26)	.06 (.26)	-.20 (.22)	-.31 (.23)	.41 (.12)	.21 (.16)	.17 (.16)	.70 (.18)	.01 (.45)	-.35 (2.16)	.55 (.51)
X_{31}	-.19 (.29)	-.48 (.31)	-.41 (.31)	-.03 (.26)	-.06 (.27)	-.02 (.07)	-.26 (.18)	-.18 (.19)	.24 (.21)	.86 (.48)	-3.12 (2.35)	-.40 (.55)
X_{32}	-.20 (.14)	-.23 (.15)	-.39[a] (.15)	-.07 (.12)	-.05 (.14)	-.03 (.13)	.01 (.09)	.55 (.09)	.11 (.11)	.04 (.25)	-1.93 (1.21)	.14 (.28)
R	.52	.45	.54	.61	.60	.54	.39	.54	.44	.69	.64	.46
R^2	.27[a]	.21	.29[a]	.37[a]	.36[a]	.30[a]	.15	.29[a]	.19	.47[a]	.41[a]	.21[b]
N	74	74	74	74	74	74	74	74	74	81	81	81

The general multiple regression equation for the 23 individual alienation scores ($X_1,\ldots,X_{23}$) and the three alienation factors (X_{33}, X_{34}, X_{35}), Y_i, regressed on the nine workplace items ($X_{24},\ldots,X_{32}$) is

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} + b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + e$$

[a]F-test significant at .01 [b]F-test significant at .05

See Key at beginning of Appendix E (p. 206) for variable labels.

Table E-5.--Pooled Multiple Regression Analysis of Alienation Scores on Workplace Characteristics and Career Stages.

Indep. Var. \ Dep. Var.	Regression Coefficients and Corresponding Standard Errors (in parentheses)													
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}
Constant	1.77[a] (.65)	1.07 (.62)	.89 (.55)	3.22[a] (.64)	2.87[a] (.88)	1.31 (1.17)	2.85[a] (1.02)	.06 (1.08)	1.42 (.94)	.74 (1.15)	1.88 (1.05)	2.64[b] (1.25)	3.31[a] (1.13)	1.85 (1.22)
X_{24}	.09 (.06)	.25[a] (.05)	.12[a] (.47)	.05 (.05)	.20[a] (.76)	.30[a] (.10)	.20[b] (.88)	.31[a] (.09)	.21[a] (.08)	.23[b] (.10)	.12 (.09)	.09 (.11)	-.04 (.10)	.19[c] (.10)
X_{25}	.04 (.06)	-.10 (.06)	-.02 (.05)	.02 (.06)	-.05 (.09)	-.14 (.11)	-.07 (.10)	-.26[a] (.10)	-.16 (.09)	-.15 (.11)	-.05 (.10)	-.25[b] (.12)	-.16 (.11)	-.19 (.12)
X_{26}	-.29[a] (.06)	-.03 (.06)	-.04 (.05)	-.18[a] (.06)	-.12 (.08)	-.04 (.11)	.07 (.09)	-.01 (.10)	.04 (.09)	-.06 (.10)	.07 (.10)	-.07 (.11)	.04 (.10)	-.01 (.11)
X_{27}	-.07 (.08)	-.06 (.08)	.01 (.07)	-.15 (.08)	-.02 (.11)	.14 (.15)	-.12 (.13)	.03 (.14)	-.11 (.12)	.15 (.15)	.08 (.14)	.12 (.16)	.00 (.15)	.10 (.16)
X_{28}	-.03 (.08)	.03 (.07)	-.13[b] (.06)	-.15[b] (.07)	.01 (.10)	.06 (.14)	.93 (.12)	.13 (.12)	.14 (.11)	.00 (.13)	-.12 (.12)	.01 (.14)	-.03 (.13)	.17 (.14)
X_{29}	.17[a] (.56)	.03 (.05)	.09[b] (.47)	.03 (.55)	.05 (.07)	-.08 (.10)	-.06 (.09)	.03 (.09)	.04 (.08)	.06 (.10)	.07 (.09)	.02 (.11)	.06 (.10)	.09 (.10)
X_{30}	-.05 (.07)	-.06 (.06)	-.08 (.06)	-.18[a] (.07)	-.08 (.09)	-.09 (.12)	-.22[b] (.10)	.00 (.11)	.01 (.10)	-.08 (.19)	-.04 (.11)	-.07 (.13)	-.16 (.12)	-.15 (.13)
X_{31}	.07 (.08)	.03 (.07)	.06 (.06)	.14[c] (.07)	-.05 (.10)	-.14 (.13)	-.05 (.12)	-.15 (.12)	-.19 (.11)	-.01 (.13)	-.07 (.12)	-.13 (.14)	-.12 (.13)	-.07 (.14)
X_{32}	-.01 (.05)	-.02 (.05)	.02 (.04)	-.03 (.05)	-.09 (.07)	-.04 (.09)	-.08 (.08)	.04 (.08)	-.04 (.07)	.03 (.09)	-.09 (.08)	.02 (.10)	-.03 (.09)	-.10 (.10)
D_1	.10 (.21)	.25 (.19)	.05 (.17)	.05 (.20)	-.04 (.28)	.59 (.37)	.25 (.32)	.38 (.34)	.10 (.30)	.28 (.36)	.11 (.33)	.40 (.40)	.17 (.36)	.42 (.39)
D_2	.31 (.23)	-.19 (.21)	.44[b] (.19)	.27 (.22)	.07 (.31)	1.54[a] (.41)	.32 (.36)	.82[b] (.37)	-.23 (.33)	1.06[a] (.40)	.17 (.36)	1.40[a] (.43)	.74[c] (.39)	.79[c] (.42)
D_3	.22 (.22)	-.18 (.21)	.42[b] (.18)	.58[a] (.21)	-.05 (.30)	1.16[a] (.39)	-.48 (.34)	1.06[a] (.36)	-.14 (.31)	.60 (.38)	-.90[a] (.35)	1.74[a] (.42)	.56 (.38)	1.44[a] (.41)
R	.54	.44	.49	.59	.39	.41	.34	.42	.32	.34	.28	.43	.33	.44
R^2	.30[a]	.19[a]	.24[a]	.35[a]	.16[a]	.17[a]	.11[a]	.18[a]	.10[a]	.11[a]	.07[a]	.19[a]	.11[a]	.19[a]
N	255	255	255	255	255	255	255	255	255	255	255	255	255	255

Table E-5.--Continued.

Dep. Var. / Indep. Var.	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}	X_{20}	X_{21}	X_{22}	X_{23}	X_{33}	X_{34}	X_{35}
	Regression Coefficients and Corresponding Standard Errors (in parentheses)											
Constant	3.00[a] (1.12)	2.73[b] (1.27)	3.73 (1.19)	1.22 (1.08)	2.54[a] (.94)	3.69[a] (.50)	2.38[a] (.71)	1.00 (.75)	-.87 (.89)	6.34[a] (1.76)	29.40[a] (9.78)	6.46[a] (2.16)
X_{24}	.13 (.09)	-.02 (.11)	-.08 (.10)	.30[a] (.09)	.24[a] (.08)	.04 (.04)	.16[a] (.06)	.18[a] (.06)	.25[a] (.07)	.49[a] (.15)	1.97[b] (.84)	.50[a] (.18)
X_{25}	-.14 (.11)	-.17 (.12)	-.05 (.12)	-.22[b] (.10)	-.12 (.09)	.05 (.05)	.00 (.07)	.11 (.07)	.05 (.87)	-.07 (.17)	-2.30[b] (.98)	.20 (.21)
X_{26}	-.09 (.10)	.11 (.12)	.14 (.11)	.06 (.10)	.09 (.09)	.12[a] (.46)	.12[c] (.06)	.24[a] (.07)	.14 (.08)	-.63[a] (.16)	.31 (.88)	.53[a] (.19)
X_{27}	-.06 (.14)	.13 (.16)	.04 (.15)	-.10 (.14)	-.22 (.12)	.17[a] (.06)	-.10 (.09)	.01 (.10)	.17 (.11)	-.14 (.22)	.23 (1.24)	.25 (.27)
X_{28}	.30[b] (.13)	-.01 (.15)	-.06 (.14)	.16 (.12)	.07 (.11)	.09 (.06)	.06 (.07)	.17[b] (.09)	.15 (.10)	-.22 (.20)	.83 (1.13)	.80[a] (.25)
X_{29}	.07 (.10)	.01 (.10)	-.04 (.10)	.07 (.09)	.10 (.08)	-.07 (.04)	.03 (.06)	.03 (.06)	.04 (.07)	.30[b] (.15)	.65 (.86)	.05 (.19)
X_{30}	-.15 (.11)	-.01 (.13)	-.05 (.12)	-.05 (.11)	-.07 (.11)	.01 (.05)	.34[a] (.08)	.01 (.08)	.02 (.09)	-.36[b] (.18)	-.98 (1.03)	.19 (.23)
X_{31}	-.17 (.13)	-.16 (.15)	-.17 (.14)	-.05 (.12)	-.11 (.11)	.01 (.58)	-.06 (.82)	.07 (.09)	.18 (.10)	.29 (.21)	-1.48 (1.15)	.08 (.25)
X_{32}	-.13 (.09)	-.18 (.10)	-.25[a] (.09)	.03 (.08)	-.02 (.07)	.01 (.40)	.02 (.06)	.01 (.06)	.00 (.07)	-.01 (.14)	-1.01 (.78)	.04 (.17)
D_1	.37 (.35)	.65 (.40)	.50 (.38)	.74[b] (.34)	.43 (.30)	.12 (.16)	-.22 (.22)	-.13 (.24)	-.82 (.28)	.47 (.57)	5.36 (3.18)	-.30 (.70)
D_2	.19 (.39)	1.68[a] (.44)	1.10[a] (.41)	.53 (.38)	-.30 (.33)	.16 (.17)	-.50[b] (.24)	-.34 (.26)	.03 (.31)	.89 (.62)	9.89[a] (3.47)	-.45 (.77)
D_3	.31 (.37)	1.95[a] (.42)	1.21[a] (.40)	1.16[a] (.36)	-.20 (.32)	-.09 (.17)	-.94[a] (.24)	-.68[a] (.25)	-.20 (.30)	1.09 (.60)	9.10[a] (3.32)	-1.69[b] (.73)
R	.38	.44	.37	.44	.39	.53	.50	.50	.37	.58	.48	.53
R^2	.15[a]	.20[a]	.14[a]	.19[a]	.15[a]	.28[a]	.25[a]	.25[a]	.14[a]	.34[a]	.23[a]	.28[a]
N	255	255	255	255	255	255	255	255	255	267	267	267

The general multiple regression equation for the 23 individual alienation scores ($X_1,\ldots,X_{23}$) and the three alienation factors (X_{33}, X_{34}, X_{35}), Y_i, regressed on the nine workplace items ($X_{24},\ldots,X_{32}$) is

$$Y = a + b_{24}X_{24} + b_{25}X_{25} + b_{26}X_{26} + b_{27}X_{27} + b_{28}X_{28} + b_{29}X_{29} + b_{30}X_{30} + b_{31}X_{31} + b_{32}X_{32} + e$$

[a]F-test significant at .01 [b]F-test significant at .05 [c]F-test significant at .06

See Key at beginning of Appendix E (p. 206) for variable labels.

Table E-6.--Means and Standard Deviations of Dependent Regression Variables.

Dependent Variable	Mean (Standard Deviation)				
	G_1	G_2	G_3	G_4	Pooled
X_1	.23 (.96)	.57 (1.34)	1.00 (1.04)	1.08 (1.70)	.71 (1.36)
X_2	.54 (1.02)	.87 (1.34)	.63 (.87)	.85 (1.38)	.72 (1.19)
X_3	.30 (.71)	.47 (1.00)	.98 (1.05)	1.11 (1.29)	.71 (1.09)
X_4	.14 (.75)	.43 (1.18)	.94 (1.19)	1.40 (1.77)	.73 (1.38)
X_5	1.06 (1.52)	1.17 (1.74)	1.61 (1.80)	1.67 (1.80)	1.37 (1.67)
X_6	.57 (2.01)	1.18 (2.13)	2.41 (1.72)	2.09 (2.45)	1.52 (2.23)
X_7	.97 (1.60)	1.28 (1.64)	1.65 (1.72)	1.04 (2.37)	1.20 (1.89)
X_8	-.13 (1.76)	.23 (1.76)	.98 (1.57)	1.34 (2.54)	.60 (2.07)
X_9	.38 (1.30)	.48 (1.00)	.45 (1.90)	.70 (2.36)	.51 (1.73)
X_{10}	.74 (1.94)	1.10 (2.06)	2.05 (2.02)	1.73 (2.20)	1.38 (2.11)
X_{11}	1.08 (1.42)	1.27 (1.64)	1.50 (2.02)	.61 (2.30)	1.07 (1.90)
X_{12}	.98 (2.00)	1.45 (2.02)	2.78 (2.22)	3.12 (2.58)	2.07 (2.40)
X_{13}	.98 (1.72)	1.25 (1.91)	2.12 (1.89)	2.01 (2.45)	1.57 (2.08)
X_{14}	1.24 (2.16)	1.75 (2.33)	2.41 (1.98)	3.31 (2.39)	2.20 (2.37)
X_{15}	1.11 (1.94)	1.58 (1.92)	1.80 (2.21)	2.13 (2.24)	1.66 (2.11)
X_{16}	1.47 (2.31)	2.15 (2.30)	3.43 (2.16)	3.81 (2.29)	2.70 (2.46)
X_{17}	1.47 (1.94)	2.02 (1.99)	2.84 (2.11)	3.04 (2.43)	2.33 (2.22)
X_{18}	.84 (2.05)	1.62 (2.07)	1.69 (1.49)	2.55 (2.16)	1.69 (2.08)
X_{19}	1.20 (1.52)	1.68 (1.68)	1.25 (1.32)	1.65 (2.29)	1.45 (1.78)
X_{20}	6.42 (.78)	6.36 (1.05)	6.16 (1.06)	5.85 (1.18)	6.21 (1.02)
X_{21}	5.10 (1.20)	4.69 (1.33)	4.29 (1.49)	3.95 (1.42)	4.50 (1.42)
X_{22}	5.00 (1.47)	4.70 (1.65)	4.14 (1.56)	3.97 (1.48)	4.46 (1.51)
X_{23}	3.54 (1.59)	3.33 (1.65)	3.12 (1.84)	3.05 (1.59)	3.27 (1.66)
X_{33}	1.18 (2.59)	2.29 (3.67)	3.48 (2.99)	4.27 (4.93)	2.80 (3.92)
X_{34}	12.78 (17.85)	18.90 (19:10)	27.25 (14.69)	28.58 (22.48)	21.79 (20.15)
X_{35}	20.01 (3.99)	19.05 (4.27)	17.79 (4.96)	16.76 (4.57)	18.37 (4.59)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

Pooled = pooled sample

See Key at beginning of Appendix E (p. 206) for variable labels.

Table E-7.--Means and Standard Deviations of Independent Regression Variables.

Independent Variable	Mean (Standard Deviation				
	G_1	G_2	G_3	G_4	Pooled
X_{24}	2.13 (1.39)	2.15 (1.32)	2.37 (1.44)	2.89 (1.61)	2.40 (1.48)
X_{25}	6.08 (1.21)	5.62 (1.51)	4.94 (1.59)	5.16 (1.82)	5.48 (1.61)
X_{26}	6.40 (.92)	6.25 (.87)	5.70 (1.24)	5.45 (1.33)	5.95 (1.17)
X_{27}	5.96 (1.00)	5.65 (1.15)	5.20 (1.57)	5.20 (1.51)	5.51 (1.35)
X_{28}	5.18 (1.23)	5.07 (1.22)	4.20 (1.28)	4.15 (1.62)	4.66 (1.44)
X_{29}	2.20 (1.33)	2.55 (1.42)	2.63 (1.34)	3.47 (1.78)	2.74 (1.57)
X_{30}	5.26 (1.31)	5.02 (1.23)	4.49 (1.54)	4.27 (1.62)	4.79 (1.50)
X_{31}	5.11 (1.07)	5.15 (.92)	4.49 (1.40)	4.74 (1.32)	4.89 (1.21)
X_{32}	5.76 (1.60)	5.25 (1.31)	4.67 (2.04)	3.96 (1.92)	4.92 (1.78)

Note:

G_1 = teacher education students who have not student taught

G_2 = teacher education students who have completed student teaching

G_3 = first-year teachers

G_4 = experienced teachers

Pooled = pooled sample

See Key at beginning of Appendix E (p. 206) for variable labels.

Table E-8.--Statistical Comparison of Four Individual Regressions to Pooled Regression.

I. Equation for comparing the four individual regressions to the pooled regression

Q_1 = pooled sum of squared residuals

Q_2 = sum of the sum of squared residuals over N(=4) equations

$Q_3 = Q_1 - Q_2$

T = pooled sample size

p = number of regression coefficients (including constant)

Tabled F has degrees of freedom of (N-1)p, T-Np which equal 1.46 at the .05 level.

$$\text{Computed } F = \frac{Q_{3/(N-1)p}}{Q_{2/T-Np}}$$

If computed F > tabled F, then pooling is not legitimate.

II. Computed F values (Table E-8--continued).

Regression Equations (noted by dependent variable)	Computed F value	Regression Equation (noted by dependent variable)	Computed F value
X_1	1.049	X_{14}	1.219
X_2	.935	X_{15}	.936
X_3	1.503*	X_{16}	.632
X_4	1.566*	X_{17}	1.020
X_5	.595	X_{18}	1.022
X_6	1.054	X_{19}	1.155
X_7	.950	X_{20}	-.155
X_8	1.450	X_{21}	.083
X_9	1.087	X_{22}	1.002
X_{10}	.752	X_{23}	1.000
X_{11}	.790	X_{33}	1.260
X_{12}	1.226	X_{34}	.902
X_{13}	.917	X_{35}	.925

*Greater than tabled F.

See Key at beginning of Appendix E (p. 206) for variable labels.