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An Examination of the Relationship Among Job Satisfaction, Educational Satisfaction, and Post-Industrial Change for a Selected Sample of Graduates of Master's Degree Programs in Business, 1970-1990

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A dissertation submitted in partial fulfillment
of the requirements for the degree of
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at Virginia Commonwealth University

By

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DEDICATION

To my children,

Melinda, Robert, and Penne,

My mother,

Brownie A. Tomlin,

and

In memory of my father,

Will E. Tomlin,

1916-1992

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TABLE OF CONTENTS

LIST OF TABLES

Table Page

Table Page

ABSTRACT

AN EXAMINATION OF THE RELATIONSHIP AMONG JOB SATISFACTION, EDUCATIONAL SATISFACTION, AND POST-INDUSTRIAL CHANGE FOR A SELECTED SAMPLE OF GRADUATES OF MASTER'S DEGREE PROGRAMS IN BUSINESS, 1970-1990

By Sherry Tomlin Sandkam, Ph.D.

A dissertation submitted in partial fulfillment of the requirements for the Doctor of Philosophy at Virginia Commonwealth University.

School of Education, Virginia Commonwealth University, 1996.

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Post-industrial society in the United States is characterized by a knowledge explosion which has been accompanied by an increase in occupational complexity and specialization and the ongoing need to upgrade knowledge and higher education at the master's level, especially in professional programs. Research supports a consensus about the positive outcomes of master's education in general, however, conflicting data exist regarding master's degree programs in business, including criticisms of graduates, declining application and enrollment patterns, and concerns on the part of graduates with the major organizational changes which are occurring in the workplace as post-

industrial society moves from a goods-producing to an information- or knowledge-producing society.

The study examined the relationship among job satisfaction, educational satisfaction, and post-industrial change for a randomized, stratified sample of 1,000 graduates of master's degree programs in business, 1970 to 1990. Data were collected from a mailed survey questionnaire (N = 314) which included questions developed by the investigator to obtain demographic, educational, and employment information and the 1967 Minnesota Satisfaction Questionnaire (long-form) to obtain an overall measure of current job satisfaction and measures of individual job satisfaction factors.

The study's findings suggest (1) that graduates of master's degree programs in business are moderately satisfied with their current jobs; (2) that the intrinsic factors of moral values, activity, responsibility, creativity, and achievement are the most satisfying components of job satisfaction; (3) that security and the extrinsic factors of compensation, supervision-technical, company policies and practices, and advancement are the least satisfying components of job satisfaction; (4) that graduates are moderately to highly satisfied with their master's degree education in business; (5) that they appear to have been involved to a high degree in some form of post-industrial change; and (6) that overall job satisfaction,

educational satisfaction, and involvement in post-industrial change appear to be related ($p \leq .05$). Statistical significance was observed, as well, between involvement in positive or negative post-industrial change and gender, ethnicity, age, master's degree program, master's degree date, undergraduate degree discipline, current job function, current industry type, salary, current job tenure, and current job industry.

Chapter I

INTRODUCTION

Statement of the Problem

The post-industrial era in the United States has been, and continues to be, a period of dramatic social change. In general, post-industrialism represents a shift from a productive to a reproductive social order (Rosenau, 1992) and a movement away from a goods-producing society to an information- or knowledge-producing society (Bell, 1973).

Post-industrial society is characterized by a knowledge explosion which has manifested itself in the extension and creation of knowledge in terms of research and development, technology, and higher education. This knowledge explosion has been accompanied by an increase in occupational complexity and specialization which has changed the occupational distribution of the workforce, the nature of work itself, and the management of organizational life (Hage & Powers, 1992). The result has been an increase in the need to upgrade continually the knowledge and skills of the workforce. This need is reflected in the unprecedented growth which has occurred in higher education at the

master's level since the beginning of the post-industrial era in the early 1970s.

Growth in higher education at the master's level reflects, as well, the process of degree escalation which has occurred during the post-industrial era. The academic credential, as a form of cultural capital subject to the same forces of supply and demand as economic capital, has come to be used increasingly as a sorting mechanism in the screening of candidates for employment, with the master's degree becoming the entry-level credential for many professions.

Nowhere has the demand for the master's degree as an entry-level credential been more apparent than in the expansion and diversification of professional programs. Since the early 1980s, more than 80% of all master's degrees awarded have been to graduates of professional master's degree programs (Conrad, Haworth, & Millar, 1993), with more than 40% awarded to graduates of master's degree programs in business (Knox, Lindsay, & Kolb, 1993). In 1956, 3,280 students received master's degrees in business from institutions of higher education in the United States. In 1993, 20 years after the beginning of the post-industrial era, 89,615 students received master's degrees in business from U.S. institutions (Digest of Education Statistics, 1993).

Criticisms of graduates of master's degree programs in business, however, began to surface in the late 1980s (Boyatzis, Cowen, Kolb, & Associates, 1995), in sharp contrast to widespread agreement about the positive outcomes of master's education in general (Conrad et al., 1993). Graduates of master's degree programs in business, particularly M.B.A. graduates, were characterized as too analytical, not practical enough, and not sufficiently action-oriented. They were found lacking in interpersonal and communications skills, in the ability to work well in groups, and in information systems orientation. Furthermore, they were found to be too parochial in their thinking and values, as well as having overly high expectations about their first jobs after graduation from their master's degree programs (Boyatzis et al., 1995).

Such criticisms are of increasing concern to graduates who are facing a workforce of continually changing job competitiveness, of overeducation and underutilization, of diminishing prospects for long-term employment in a single organization, or even within a given field, and, in some cases, the disappearance of jobs altogether (Gilley, 1993). The criticisms are of particular concern in light of the structural changes which are taking place in post-industrial organizations looking to re-engineer job tasks, to downsize to smaller profit-centered models, to relocate or totally

eliminate industries or markets, or to restructure organizational hierarchies, often by eliminating entire levels of management. All of these actions directly affect those individuals who have invested heavily in the pursuit of a management education and a credential which would prepare them for, and provide them with access to, upwardly-mobile careers in management.

Criticisms of graduate business education, along with concerns about possible market saturation by M.B.A. graduates, the ability to translate a management education into a rewarding career, and the uncertainty which surrounds the role of the manager in the post-industrial workplace are reflected, in part, in recent application and enrollment trends at the master's degree level. These trends show significant decreases, after years of exceptional growth, for master's degree programs in business, and conflict with patterns of stability and growth in other disciplines and in master's degree education overall.

For example, graduate enrollment statistics compiled by the Council of Graduate Schools in the U.S. and Canada show level enrollment for 1993 over 1992, with an average annual increase of two percent from 1986 to 1993. Enrollment in graduate business degree programs, however, has increased at the below-average rate of one percent a year for the same time period with a seven percent decrease in enrollment from

1992 to 1993, the largest reported decrease in a discipline (Syverson & Maguire, 1994).

The same trend is reflected in graduate application statistics. While growth in the overall number of graduate applications submitted from 1986 to 1993 increased at an average annual rate of six percent, applications to graduate business degree programs increased at the below-average rate of three percent per year, with an eight percent decrease in applications from 1992 to 1993, again the largest decrease reported by field (Syverson & Maguire, 1994).

Some of the changes which have occurred in application and enrollment patterns can be attributed to the changing demographics of the "baby boom" generation as it has worked its way through the higher education system and into the workforce throughout the post-industrial period. Likewise, significant increases in the cost of graduate education and decreases in corporate subsidies have influenced application and enrollment trends. In spite of these influences, there is clear evidence of overall stability and growth in number of applicants and number of students enrolled at the master's level, as well as growth in a number of disciplines other than business.

In summary, the problem driving this research proposal focused on the fact that major organizational changes, coupled with recent criticisms of graduates of master's

degree programs in business and declining applications, have become matters of concern for all relevant stakeholders in the educational experience--prospective and enrolled students, alumni, employers, faculty, and higher education administration. Of particular concern is that the criticisms and decreases are being experienced after years of significant growth and in light of stability and moderate growth in graduate education overall and growth in disciplines other than business (Boyatzis et al., 1995). The challenge becomes one of determining which, if any, other factors may be influencing application and enrollment trends in graduate business education and the valuation of that education, especially in terms of its relationship to the post-industrial workplace.

Statement of Purpose and Significance

The purpose of this study was to examine educational satisfaction in relation to job satisfaction and post-industrial change. Specifically, the study examined the factors influencing current job satisfaction for a stratified, random sample of graduates of master's degree programs in business at one university for the academic years 1970-1971 through 1989-1990. Furthermore, the study examined the relationship among current job satisfaction, satisfaction with a master's degree education in business

(i.e., educational satisfaction), and involvement in post-industrial change during the first two decades of the post-industrial period.

The significance of the study was twofold. First, by examining job and educational satisfaction of alumni, the study responded to a void in the literature of research relating to the experiences of those directly involved in master's education--i.e., students, alumni, and employers, as opposed to administrators and faculty (Conrad et al., 1993). Secondly, while the literature provided evidence of thousands of job satisfaction studies, no study was found which related job satisfaction and educational satisfaction to involvement in post-industrial change. This study attempted to add to the literature by examining the relationship among job satisfaction, educational satisfaction, and post-industrial change, with involvement in post-industrial change as an intervening variable.

Research Questions

The following research questions guided the study for the sample population:

1. Overall, were graduates of master's degree programs in business satisfied with their current jobs as measured by the 1967 long-form Minnesota Satisfaction Questionnaire (MSQ)?

2. What factors were important to the current job satisfaction of graduates of master's degree programs in business as measured by the 20 sub-scales of the 1967 long-form Minnesota Satisfaction Questionnaire (MSQ)?

3. Overall, were graduates of master's degree programs in business satisfied with their master's degree education in business as measured by investigator-developed questions?

4. Had graduates of master's degree programs in business been involved in post-industrial change, and what was the nature of that involvement (e.g., positive, negative, mixed, or none)?

5. Were current job satisfaction, educational satisfaction, and involvement in post-industrial change related for graduates of master's degree programs in business?

6. How did the demographic variables of gender, age, ethnicity, master's degree program, master's degree date, undergraduate degree discipline, current job function, current industry type, current annual salary after taxes, current job tenure, and current industry tenure relate to overall job satisfaction, educational satisfaction, and involvement in post-industrial change?

Hypotheses

The following null hypotheses (H_o:correlation=0) were formulated to test the fifth and sixth research questions:

1. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, and involvement in post-industrial change.

2. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and gender.

3. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and age.

4. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and ethnicity.

5. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and master's degree program.

6. There is no significant relationship among levels of overall current job satisfaction, educational

satisfaction, involvement in post-industrial change, and master's degree date.

7. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and undergraduate degree discipline.

8. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current job function.

9. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current industry type.

10. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current annual salary after taxes.

11. There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current job tenure.

12. There is no significant relationship among levels of overall current job satisfaction, educational

satisfaction, involvement in post-industrial change, and current industry tenure.

Definition of Terms

The following conceptual and operational definitions were relevant to this study:

Baby boom generation was defined as those individuals born during the years 1946 to 1965 (Macionis, 1991).

Credentialism was defined as the allocation of individuals to social positions, especially occupations, on the basis of specific stated qualifications, which, although educational in nature, do not lead to either education for socially relevant need or improved performance in occupations (Collins, 1979; Jary & Jary, 1991). Instead, credentialism becomes a mechanism for regulating the flow of increasing number of job applicants and becomes an end in itself--what Dore (1976) called the "diploma disease."

Cultural capital was defined as a symbolic form of capital or wealth in the form of knowledge or ideas which results in power over other groups in the form of access to preferred occupational positions and to a greater share of economic capital (Bourdieu, 1977).

Educational satisfaction was defined as the participant's level of self-reported satisfaction with the decision to obtain a master's degree in business, taking

into account such factors as goal(s) for obtaining the degree, cost, content of instruction, quality of instruction, and usefulness of degree in the workplace (i.e., relevance, applicability).

Industry tenure was defined as the length of time participants had spent in the industries in which they currently were employed (i.e., line of work).

Industry type was defined by the sector in which the participant currently is employed: (a) private sector/for profit, (b) private sector/nonprofit, (c) public sector/for profit, or (c) public sector/nonprofit.

Job function was defined in terms of the participant's current primary work task: (a) accounting, (b) finance, (c) consumer banking, (d) consulting, (e) corporate planning, (f) information systems, (g) management (including human resource management), (h) marketing, (i) operations/ production, (j) real estate, (k) teaching, or (l) other. Job function also was characterized in terms of service or manufacturing orientation.

Job satisfaction was defined as the degree of correspondence between an individual's job needs and abilities and the ability requirements and reinforcer system of the job, as developed from the Theory of Work Adjustment (Weiss, Davis, England & Lofquist, 1966).

Job satisfaction factors were defined as those reinforcers in the workplace that contribute to the fulfillment of an individual's job needs and abilities. Based on the Theory of Work Adjustment (Weiss et al., 1966; 1967) and the Minnesota Satisfaction Questionnaire, these factors were identified as ability utilization, achievement, activity, advancement, authority, company policies and practices, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision-human relations, supervision-technical, variety, and working conditions.

Job tenure was defined as the length of time participants had spent in their current jobs.

Intrinsic job satisfaction factors were defined as those factors associated with the job itself (Herzberg, Mausner, & Snyderman, 1959). Intrinsic job satisfaction factors measured by the long-form MSQ are ability utilization, achievement, activity, authority, creativity, independence, moral values, responsibility, security, social service, social status, and variety (Weiss et al., 1966; 1967).

Extrinsic job satisfaction factors were defined as those factors associated with job context (Herzberg et. al, 1959). Extrinsic job satisfaction factors as measured by

the long-form MSQ are advancement, company policies and practices, compensation, co-workers, recognition, supervision-human relations, supervision-technical, and working conditions (Weiss et al., 1966; 1967).

Master's degree date was defined as the month and year in which the master's degree in business was awarded.

Master's degree program was defined as the name of the degree awarded: (a) Master of Accountancy (M.Acc.), (b) Master of Arts in Economics (M.A.), (c) Master of Business Administration (M.B.A.), (d) Master of Science (M.S.), or (e) Master of Taxation (M.Tax.).

Motivation was defined as a broad concern with the determinants of choice (direction), persistence, and vigor of goal-directed behavior (Beck, 1978).

Overeducation was defined as an economic condition of discrepancy between the level of education obtained and job opportunities available in the job market, where education is equated with training as opposed to the classical definition of education as the pursuit of knowledge (Kalleberg & Sorensen, 1973). Rumberger (1981, 1984) defined overeducation in terms of rewards associated with educational attainment, i.e., an actual return on investment in the form of earnings, job status, and job opportunities. He also defined overeducation in terms of the utilization, or underutilization, of educationally-developed skills.

Post-industrialism was defined as a paradigmatic change in society from industrial to post-industrial times. Beginning in the early 1970s, this change involved an economic shift from manufacturing to service industries, a technological shift to new science-based industries, and a sociological shift to a new class of technical elites (Bell, 1973). In general, post-industrialism represents a shift from a productive to a reproductive social order (Rosenau, 1992) and the beginning of a movement away from a goods-producing society to an information- or knowledge-producing society (Bell, 1973; Castells, 1986).

Post-industrial change was defined as organizational changes experienced as a result of organizational downsizing, restructuring, job re-engineering, relocation or elimination of industries or markets. Such changes were characterized by the investigator as (a) positive (e.g., promotion and/or increases in pay or benefits, voluntary relocation requiring moving to another city or state, voluntary change in job function or task, voluntary retirement or work transition buy-out); (b) negative (e.g., temporary lay-off or permanent job loss, demotion and/or decrease in pay or benefits, mandatory relocation requiring moving to another city or state, mandatory change in job function or task, expanded workload and/or increased level of responsibility without a corresponding promotion or

increase in salary, or mandatory retirement or work transition buy-out); (c) mixed (some combination of positive and negative involvement in post-industrial change); or (d) none (i.e., no involvement in post-industrial change).

Relative deprivation was defined as the judgments reached when individuals adversely compare themselves and their social situations in terms of relative, rather than absolute, standards (Jary & Jary, 1991).

Screening was defined as the use of academic qualifications as a means of selecting among candidates for employment, where the level of academic qualification is more important than the content of the education (Berg, 1970; Collins, 1971, 1977, 1979; Dore, 1976; Jary & Jary, 1991).

Undergraduate degree discipline was defined in terms of whether the undergraduate degree discipline was (a) business or business-related or (b) other.

Methodology and Data Analysis

Data were collected utilizing a mailed survey questionnaire which was distributed to a randomized, stratified sample of 1,000 alumni of master's degree programs in business at Virginia Commonwealth University who graduated during academic years 1970-1971 to 1989-1990. A

total of 314 responses from an adjusted sample population of 975 resulted in a final response rate of 32.2%.

The instrument included questions developed by the investigator to obtain demographic data, as well a measure of overall educational satisfaction and an indication of involvement in post-industrial change. The 1967 long-form version of the Minnesota Satisfaction Questionnaire was used to obtain a measure of overall current job satisfaction and 20 individual measures of factors which contribute to job satisfaction.

The data were analyzed using the statistical packages SPSS and SPSS for Windows. An initial examination of the measures obtained for overall job satisfaction and overall educational satisfaction showed the data to approximate a normal distribution. For this reason, a combination of parametric and nonparametric statistical procedures were used to analyze the data at the .05 level of statistical significance. These procedures included descriptive statistics, independent samples t-tests, correlation coefficients, and chi-square analyses.

For purposes of chi-square analysis, overall measures of job satisfaction and educational satisfaction were categorized in terms of low satisfaction (representing the lowest 31% of the measures obtained), moderate satisfaction (the middle 31%), and high satisfaction (the highest 38%).

This categorization approximated the normal distribution of the findings, as well as those reported for a 1967 normative group of managers.

Summary of Findings and Conclusions

General satisfaction MSQ scores for the sample population ranged from 20 to 100, with a mean score of 68 (*SD* = 14.49). As such, it was determined that graduates of master's degree programs in business for the period examined were moderately satisfied with their current jobs. When the mean MSQ score of the sample population was compared to the mean MSQ score (*M* = 82.37, *SD* = 9.34) reported for a 1967 normative group of managers, however, it appeared that members of the 1996 sample population were less satisfied with their current jobs.

Individual job factors with the highest mean scores for the 1996 sample population were moral values, activity, responsibility, and creativity, as compared to moral values, activity, security, and creativity for the 1967 normative group. The job factors with the lowest mean scores for the 1996 sample population were compensation, supervision-technical, security, company policies and practices, and advancement, as compared to social status, recognition, company policies and practices, advancement, and compensation for the 1967 normative group.

Overall, mean scores for individual job satisfaction factors for the 1967 normative group were higher (ranging from 17.77 to 22.08) than for the 1996 sample population (ranging from 13.60 to 19.26). Both groups, however, appeared to be most satisfied with the intrinsic factors of moral values, activity, and creativity, and least satisfied with the extrinsic factors of compensation, company policies and practices, and advancement.

Overall educational satisfaction scores for the 1996 sample population ranged from 10 to 20, with a mean score of 16.49 (SD = 2.26). As such, it was determined that the respondents were moderately to highly satisfied with their master's degree education in business. They were most satisfied that their master's degree programs in business had contributed to achievement of their career goals and least satisfied with the cost of instruction. These findings support those in the literature which show general agreement, on the part of graduates, about the positive outcomes of their graduate education (Adelman, 1994; Conrad, Haworth, & Millar, 1993; Knox, Lindsay, & Kolb, 1993).

In examining the responses relating to involvement in post-industrial change, it was determined that 222 or 79.8% of the respondents had been involved in some type of post-industrial change as a result of organizational downsizing, restructuring, job re-engineering, relocation or elimination

of industries or markets. Involvement was characterized as generally positive for 90 (32.1%) respondents, negative for 58 (20.7%) respondents, mixed for 74 (26.4%) respondents, and none for 58 (20.7%) respondents. This finding is supported by the literature on post-industrialism, changing organizational structures, and the changing role of the manager in post-industrial organizations.

Overall job satisfaction, educational satisfaction, and involvement in post-industrial change appeared to be related at the .05 level of significance, with levels of satisfaction varying according to the nature of the involvement. Statistical significance was observed, as well, between involvement in positive or negative post-industrial change and gender, ethnicity, age, master's degree program, master's degree date, undergraduate degree discipline, current job function, current industry type, salary, current job tenure, and current job industry.

Summary and Overview of Succeeding Chapters

This chapter provided an overview of the study, including a statement of the study's problem, purpose, and significance; the research questions and related hypotheses; and definitions of relevant terms. This chapter also introduced an overview of the methodology and data analysis, with a summary of the findings and conclusions.

Chapter II provides a review of the literature relating to this study. Included is a theoretical framework for the study, an overview of post-industrial society, a review of motivation theory and relevant job satisfaction research, and a review of the literature pertaining to master's degree education, master's degree programs in business, and relevant educational satisfaction research.

Chapter III discusses the design and methodology of the study. Chapter IV presents the results of the survey, and Chapter V summarizes the study's findings, interprets them, within the theoretical framework and in relation to the literature reviewed in Chapter II, and concludes with recommendations for future study.

Chapter II

REVIEW OF THE LITERATURE

Theoretical Framework

Education has been defined as the process by which knowledge--both information and skills, as well as cultural norms and values--is transmitted to members of society (Macionis, 1991). In terms of economic theory, education has been defined as a form of human capital whose worth, or importance to society, is measured by a social rate of return, i.e., the balance of the cost and benefits it brings to society. Since the early 1960s, human capital theorists have argued that expenditure on education is an investment in society and that the returns on that investment, for both the individual and society, are at least as high as investments in physical capital (Vaizey & Debeauvaix, 1961).

Functional theory. Functional theory assumes that society and its institutions--such as education--are composed of interdependent parts all working together to contribute some necessary activity to the functioning of the whole society (Ballantine, 1989). Durkheim (1922/1956) maintained that the primary function of schools is the

passing on of the knowledge and behaviors necessary to maintain order in society. He was concerned primarily with the transmission of shared values, or consensus, among members of society in order to keep the system in balance (Durkheim, 1897/1951).

Functional theory stresses the achievement aspect of education whereby important skills are attained by the most talented who are then prepared to fill important positions in society (Durkheim, 1893/1933). Functional stratification is any mechanism by which societies ensure that the most important positions--those which carry the greatest rewards and the highest rank, which have the greatest importance for society, and which require the most training and talent--are filled by the most qualified persons (Davis & Moore, 1945).

Conflict theory. Conflict theory assumes a constant tension in society created by the competing interests of individuals and groups or classes--those who control power, wealth, material goods, privilege, influence, and the means to obtain these things, e.g., education, versus those who constantly seek a larger share of society's wealth and the possibility of overthrowing existing power structures (Marx, 1852/1969). For conflict theorists, this struggle for power helps determine the structure and functioning of organizations and the hierarchy which evolves as a result of power relations. The "haves" use coercive power and

manipulation to hold society together, but change is seen as inevitable as conflicts of interest lead to the overthrow of existing structures (Ballantine, 1989).

Conflict theory maintains that education is a form of class inheritance and a means of selecting responsible new recruits for higher occupational positions (Kerbo, 1991). In the conflict over valued rewards, higher-class members are better able to ensure that their offspring win through education, with class boundaries maintained through the upgrading of educational requirements and education more a certification of class membership than of technical skills (Kerbo, 1991).

Weber (1922/1978) characterized education as a means to obtain wealth, power, and status in society. He contended that the main activity of schools is to teach particular "status cultures," both in and outside the classroom. Within the school, there are "insiders" whose status culture is reinforced and "outsiders" who face barriers. Weber also described the trend toward the rational organization of bureaucracy in modern society and a rational education which develops the "specialist type of man" as opposed to the "cultivated man" (Weber, 1922/1978).

Cultural capital theory. Bourdieu (1977) drew upon the theories of Durkheim, Marx, and Weber to develop a theory of the maintenance of social order in which education, as a

mechanism of stratification, serves to create and recreate relationships of domination and subordination within society. Bourdieu suggested that possession of the symbolic capital of culture (i.e., wealth in the form of knowledge) results in power over others in the form of access to preferred occupational positions and a greater share of economic capital.

Bourdieu and Passeron (1977) maintained that the school, through the awarding of certificates and diplomas, is key to maintaining the established social order. The language, values, assumptions, and models of success and failure adopted within the educational system are those of the dominant class, therefore, success in the educational system is dictated by the extent to which cultural capital is shared by the dominant class (Jary & Jary, 1991).

Screening theorists (Collins, 1971, 1974, 1977, 1979; Dore, 1976; and Berg, 1970) expanded Bourdieu's notion of cultural capital to hypothesize that it is the screening process itself, rather than any direct economic return on education, that explains part of the correlation between level of education and income. Educational expansion brings about an increase in the competition for jobs, in that education becomes more and more necessary, but no longer sufficient, to ensure high status employment (Collins, 1979), educational satisfaction, or job satisfaction.

Credentialism, then, is the allocation of individuals to social positions, especially occupations, on the basis of specific stated qualifications, which, although educational in nature, do not lead to either education for socially relevant need or improved performance in occupations (Jary & Jary, 1991). As such, credentialism is a mechanism for regulating the flow of increasing number of job applicants and becomes an end in itself--what Dore (1976) called the "diploma disease" (p. 141).

The process is criticized as failing to meet the real needs of society because it serves primarily as a method of selection for entry to an occupation, not as a means of preparation (Jary & Jary, 1991). Individuals pursue increasingly higher levels of education, not for the purpose of mastering a body of knowledge, but for the purpose of being certified as having completed a curriculum and obtained a degree (Dore, 1976).

Collins (1979, 1985a, 1985b) maintained that education promotes a currency of social membership in the status groups which control higher occupational levels. Occupational positions represent income as "positional property" with the class structure divided into two markets which are shaped by the degree of inflation in the cultural currency produced by the educational sector. "Productive labor" refers to individuals who are responsible for the

material production of wealth, "political labor" to those who set the conditions under which the wealth is appropriated (Collins, 1985b, p. 118-119).

Credentialism has been criticized as frustrating and alienating for those who pursue higher education in order to advance occupationally, only to find that the number of desirable jobs does not increase to match the expansion in the numbers of those educated--and credentialed--to fill such positions (Jary & Jary, 1991; Rumberger, 1981, 1984; Smith, 1986). Rumberger (1981, 1984) defined overeducation in terms of an actual return on investment when an individual is considered overeducated if the return on an investment in a particular level of schooling falls below the returns realized by similarly educated individuals or below returns from other individual investments; in terms of expectations relative to earnings, job status, and expected job opportunities; and as an underutilization of educationally developed skills. Rumberger's first two classifications deal with the rewards associated with educational attainment--i.e., earnings and status, the third with the utilization of cognitive skills.

Interaction theory. Interaction theory focuses on individuals in interaction with each other. Individuals sharing a culture are likely to interpret and define many social situations in similar ways because of similar

socialization, experiences, and expectations. Common norms evolve to guide behavior, however, differences also exist based on individual experiences, social class, and status (Ballantine, 1989).

Exchange theories are based on the assumption that there are costs and rewards involved in all social interactions (Blau, 1964; Homans; 1950, 1974) and that individuals choose specific courses of action based on the expected outcomes for that action (Duncan, 1978). Expectancy theories assume that individuals evaluate various strategies of behavior, then choose the strategy they believe will provide the rewards they value, i.e., increased pay, status, autonomy, recognition, a given credential, job satisfaction (Duncan, 1978).

Blau (1964) expanded expectancy theory to incorporate the expectations of social rewards. Porter and Lawler (1968) expanded the basic expectancy model to incorporate the role played by the equity of rewards and the individual, subjective perception of a reward as equitable or inequitable (Duncan, 1978). The concept of equity also is addressed by theories of social comparison and relative deprivation which maintain that judgments of fairness and satisfaction are determined socially according to relative, not absolute, standards or frames of reference (Davis, 1959;

Merton, 1949; Runciman, 1966; Stouffer, Suchman, DeVinney, Star, & Williams, 1949).

The concepts of exchange, expectancy, expectation, and equity are central to process theories of motivation. They are discussed in more depth in the review of motivation theory and job satisfaction literature which follows.

Summary. Functionalist and conflict theories are macro-level theories which are often posited in terms of opposition to each other as an explanation for societal behavior. Functional theory sees education as a mechanism of order and stability which contributes to the functioning of the whole society (Durkheim, 1897/1952), while conflict theory views education in terms of competing interests of individuals and groups which threaten societal equilibrium (Marx, 1852/ 1963). Interactionist theories operate at the micro-level to examine the culture of education and to explain individual, face-to-face interactions in terms of exchange, expectancy, expectation, and equity.

The three perspectives form a theoretical framework which supports the concept of education as a form of capital which is subject to the same processes of valuation and devaluation as physical currency. Each perspective provides insight into the changes which are occurring in post-industrial society--in terms of the macro-level changes which are taking place in the nature and transmission of

knowledge and the redefinition of organizational structures and roles. They provide insight, as well, into the associated changes which are occurring at the micro-level as individuals assess the outcomes and value of their educational experiences in relation to their experiences, and the experiences of relevant others, in the post-industrial workplace.

Overview of Post-industrial Society

In 1973, Daniel Bell characterized the changes occurring in the United States and throughout the world in terms of a post-industrial society involved in an economic shift from manufacturing to service industries, a technological shift to new science-based industries, and a sociological shift to a new class of technical elites (Bell, 1973). In general, for social change theorists, post-industrial society represents a paradigmatic shift from a productive to a reproductive social order (Rosenau, 1992) and the movement away from a goods-producing society to an information- or knowledge-producing society (Bell, 1973; Castells, 1986).

The structural frameworks emerging in the post-industrial era include an economical and political shift of power to the Pacific Rim and expansion of frontiers in space and biotechnology. Services and high-technology industries

have replaced materials-intensive industries, resulting in a new division of labor, as well as a globalization of capital and monetary systems. Innovations in computers and telecommunications have made interaction easier and less costly and have led to the breakup of existing work patterns and a shift in markets from physical to information networks (Bell, 1987; Castells, 1986).

At the heart of these structural changes is a knowledge explosion which has manifested itself in the extension and creation of knowledge in terms of research and development, technology, and higher education (Hage & Powers, 1992). This knowledge explosion has been accompanied by an increase in occupational complexity and specialization which is changing the nature of work and organizational life.

Hage and Powers (1992) analyze the changes occurring in the nature of work by contrasting ideal-type characteristics of industrial and post-industrial roles. For example, the physical activity associated with the transformation of material objects in the industrial era has been translated into the mental activity involved in information gathering and problem-solving in the post-industrial era. The narrowly-defined roles of the industrial era--in terms of time, place, goals, and procedures--have evolved into the less constrained and less prescribed roles of the post-industrial era.

The post-industrial employee is required to interact more frequently with others, to be more service-oriented, and to be more responsive to change. Individuals are no longer seen as extensions of machines; instead, they use machines as tools to assist in determining the parameters of their work. As such, satisfaction for the post-industrial employee produces a sense of mastery, not simply a sense of completion (Hage & Powers, 1992).

Organizations, as well as individuals, have been affected by post-industrial change. Weber's bureaucratic ideal-type (1922/1978), with its clear lines of hierarchical authority and separate functional units have seen a leveling of managerial structures and a blurring of boundaries across departments within post-industrial organizations (Hage & Powers, 1992). Instead of decisions based on the consistent application of clear rules, there is an increase in negotiation. Hiring and firing based solely on education and training has expanded to include criteria such as creativity and the ability to work well in groups. Lifetime employment in the same organization is no longer a given. Information is no longer the property of one office or a single employee. Instead, open access to information has become increasingly the norm in the post-industrial organization. There also has been a movement away from the large corporate structures of the industrial era towards the

joint venture and small high-technology companies and profit centers within multidivisional companies (Hage & Powers, 1992).

Post-industrial increases in occupational complexity, rapid growth in occupational specialization, and changes in the nature of work and organizations have led, as well, to changes in the occupational distribution of work. These changes are reflected in an emerging class structure which is composed of an upper middle class of professional and managerial workers composing approximately 29% of the workforce; a middle class of technical, administrative support, and skilled workers accounting for 41% of the workforce; a service class composing 11%; and an agricultural class composing 17% (Mosisa, U.S. Bureau of Labor Statistics, 1996).[1] This class structure reflects divisions along lines of educational attainment, with almost 60% of the labor force occupying white-collar, middle-class categories that require education.

Projections of the occupational distribution of the United States Labor Force for the 1990s show that the proportion of knowledge-intensive occupational categories is expanding rapidly, while the number of less knowledge-

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[1]These statistics are derived from an unpublished tabulation from the Current Population Survey, U.S. Bureau of Labor Statistics. A 2% rounding error accounts for 100% of the workforce.

intensive categories is declining. Of importance is the projection that the proportion of knowledge-intensive occupations in 1990 (white-collar workers, professional/ technical workers, and managers/administrators) will increase from 27.9% of the total occupational groups to 82.9% by the year 2000 (Hodson & Sullivan, 1990, cited in Hage & Powers, 1992).

Advancements in all forms of knowledge--research, technology, higher education--coupled with ongoing increases in occupational complexity and specialization, have resulted in a constant depreciation of human capital which, in turn, requires a constant upgrade of knowledge and skills (Hage & Powers, 1992). The need to invest in continuing education has led to one of the most significant sociological developments of post-industrial society in America--the evolution of a professional middle class whose very self-definition is based upon the degree to which it values education, a middle class whose economic and social status is based on the ownership of cultural capital, i.e., education, rather than the ownership of capital or property (Bell, 1987; Collins, 1979; Ehrenreich, 1989). The defining experience of this professional middle class is the lengthy time spent in pursuit of education and educational credentials which, as a form of capital, are subject to

inflationary and deflationary forces which affect both economic and social status (Ehrenreich, 1989).

The impact of education is reflected in the following employment statistics. Between 1970 and 1988, males with a minimum of 4 years of college had less than 3% unemployment; in 1988, unemployment for this group was 1.6%. Male workers with less than a high school diploma, however, had experienced unemployment at approximately 10% for that same period. Employment figures for women for the same time period were comparable (U.S. Statistical Abstract, 1990, cited in Hage & Powers, 1992).

The importance of education is reflected, as well, by the fact that, in less than one century, the United States has moved from universal primary education to something approaching mass college education (Meyer & Hannan, 1979). One quarter of the population now receives degrees from a variety of 3,600 accredited public and private colleges and universities. Total enrollment in these institutions in 1993-1994 reached 14,491,226, with more than two million degrees awarded in 1991-1992 (The Almanac of Higher Education, 1995), as compared to a total enrollment of 237,592 in 1899-1900 when 29,375 degrees were awarded by 977 institutions (Digest of Education Statistics, 1993).

In addition to increases in the number of individuals being educated in the United States is an increase in the

number of new degree programs and specializations which have been developed in response to increases in occupational complexity and the ongoing need to upgrade knowledge and skills (Hage & Powers, 1992). These increases are reflected in the expansion which has occurred at the master's degree level, with the number of master's degrees awarded annually increasing by 56% from 1970 to 1990 (Digest of Education Statistics, 1993). Much of the expansion and diversification has occurred in professional programs, where more than 80% of all master's degrees awarded since the early 1980s have been to graduates of professional master's degree programs (Conrad et al., 1993) with more than 40% to graduates of master's degree programs in business (Knox, Lindsay, & Kolb, 1993).

Motivation Theory and Relevant Job Satisfaction Research

In the first intensive study of job satisfaction, Robert Hoppock (1935) defined job satisfaction as "any combination of psychological, physiological and environmental circumstances that causes a person truthfully to say, I am satisfied with my job" (1935, p. 47). Over the years, a number of other definitions have emerged in the literature. Smith, Kendall, and Hulin (1969) defined job satisfaction as "the feelings a worker has about his job" (p. 6). Vroom (1964) equated job satisfaction with positive

job attitudes and job dissatisfaction with negative job attitudes. Locke (1976) defined job satisfaction as a "pleasurable or positive emotional state resulting from the appraisal of one's job experience" (p. 1300).

Job satisfaction is defined by Gruneberg (1979) as an individual's emotional response to a job, and by Hopkins (1983) as the fulfillment of an individual's work-related needs. Porter, Lawler, and Hackman (1975) characterized satisfaction as a feeling about a job that "is determined by the difference between the amount of some valued outcome that a person received and the amount of the outcome he [she] feels he [she] should receive" (pp. 53-54).

Of particular relevance to this study is the definition of job satisfaction as the degree of correspondence between an individual's job needs and abilities and the ability reinforcer system of the job. This definition derives from the Theory of Work Adjustment and provides the theoretical rationale for the Minnesota Satisfaction Questionnaire (Weiss et al., 1966).

By the 1960s, in response to increasing interest in the role of the individual within the workplace and increasing concern for quality of work life, research relating to job satisfaction had become crucial to the study of organizational life. The theoretical basis for research on

the subject is provided by the following summary of content and process theories of motivation.

Content theories of motivation. Content theories of motivation deal with those factors which initiate behavior, focusing on the concepts of need and incentive (Szilagyi & Wallace, 1983). Needs, or motives, are those conditions required for the survival and well-being of an individual and can be physical--such as the need for food, water, or air--or psychological--such as the need for love, pleasure, or self-esteem. A need is an internal quality which causes an individual to choose a specific behavioral act, while an incentive is an external quality associated with a goal which an individual hopes to achieve through some action (Gruneberg & Wall, 1984).

Maslow's (1954) "hierarchy of needs" is one of the most frequently-cited motivation models in the literature and provided the theoretical foundation for most of the job satisfaction research of the 1960s and 1970s. Based on the assumption that people are beings whose active needs influence their behaviors, Maslow posited five categories of needs arranged in a hierarchy of importance from basic (i.e., physiological to safety and security) to complex (i.e., social and belonging; to ego, status, and esteem; to self-actualization).

Maslow (1954) theorized that an individual advances to a higher level of the hierarchy only after the lower need is satisfied. An individual, then, will satisfy the need for food and shelter before being motivated to satisfy the need for a college education.

Although Maslow's work is the most cited in the job satisfaction literature, there is little empirical evidence to support his findings (Hunt & Hill, 1969). Maslow himself saw the model primarily as a starting point for further research. Of primary importance is the model's focus on individual need as the primary mechanism of motivation (Szilagyi & Wallace, 1983).

Herzberg, Mausner, and Snyderman (1959) expanded Maslow's need hierarchy to develop a two-factor theory of motivation which conceptualized intrinsic and extrinsic satisfiers and dissatisfiers. Herzberg's dissatisfiers parallel Maslow's lower-level needs (i.e., physiological, safety, and social needs) and are preventive factors which reduce dissatisfaction. If absent, dissatisfiers lead to high levels of dissatisfaction; if present, they create a state of neutrality. Dissatisfiers are hygiene factors which are extrinsic in nature, relate to job context, and include such things as job security, salary, working conditions, status, and fringe benefits. Herzberg's satisfiers are intrinsic, motivating factors which are

analogous to Maslow's higher-level needs, relate to job content, and include such things as achievement, recognition, advancement, responsibility, advancement, and personal growth (Herzberg et al., 1959).

In spite of criticism that Herzberg's two-factor theory does not take into account the nature of individual needs (Szilagyi & Wallace, 1983), he continues to be recognized for his contribution to motivation theory. Of particular note is the delineation of satisfaction and dissatisfaction as two separate but not necessarily opposing entities (Landy, 1985) and the conceptualization of intrinsic and extrinsic satisfiers and dissatisfiers (Herzberg et al., 1959).

McClelland's (1953, 1961) three-factor theory of motivation identified the three basic needs of achievement, affiliation, and power. McClelland's achievement and power needs parallel Maslow's need for self-esteem, with achievement motivation also corresponding to the need for self-actualization. His need for affiliation corresponds with Maslow's need for the social. For McClelland, all motives are arranged in a "hierarchy of potential" for influencing behavior that varies from individual to individual (Miner, 1980, p. 48) and are developed as individuals learn to assess the likelihood of goal attainment in different situations (Chell, 1987).

Alderfer's (1972) Existence-Relatedness-Growth (ERG) theory of motivation conceptualizes three categories of need. Existence needs correspond to Maslow's physiological and safety needs. Relatedness needs are similar to Maslow's safety, social, ego, and esteem needs. Growth needs parallel Maslow's self-actualization needs.

ERG theory is based on three concepts. In terms of need satisfaction, the less each level of need is satisfied, the more it is desired. In terms of desire strength, the more lower-level needs are satisfied, the greater the desire for higher-level needs. In terms of need frustration, the less higher-level needs are satisfied, the more the lower-level needs are desired (Alderfer, 1972).

It is important to note two differences between Alderfer's ERG theory of motivation and Maslow's hierarchy of need. First, Maslow's need hierarchy theory of motivation assumes that only one need may be operative at any time, while Alderfer's ERG theory allows for the existence of more than one need at any given time (Szilagyi & Wallace, 1983). Secondly, Maslow's hierarchy of need assumes progression from lower- to higher-order need, once the lower-order need is satisfied. Alderfer's ERG theory, however, allows for the possibility that a higher-order need may be satisfied before a lower need in the hierarchy (Szilagyi & Wallace, 1983).

Process theories of motivation. While content theories provide an understanding of individual need factors which must be met before an individual is motivated, process theories provide insight into why individuals choose particular behavioral patterns to accomplish specific goals (Szilagyi & Wallace, 1983). Central to process theories of motivation is the concept of exchange, which is defined as any social interaction involving transaction and reciprocity to explain individual motivation in terms of organizational behavior (Blau, 1964; Homans, 1950, 1974; March & Simon, 1958).

Exchange theory is based on the assumption that organizations are systems which are composed of the social behaviors of participants who contribute to the organization and receive from the organization inducements to contribute. Participants continue to contribute to the organization as long as they perceive the inducements to be as great or greater than their contributions, which are the means by which the organization develops inducements. Based on exchange theory, the organization continues to exist only as long as its contributions to the participants are sufficient to generate the inducements necessary to evoke participant contribution (Barnard, 1938; March & Simon, 1958; Simon, 1947).

Central also to process theories of motivation is the concept of expectancy. Like exchange theory, expectancy theory proposes that individuals choose specific courses of action based on the expected outcomes of that action (Duncan, 1978). Specifically, expectancy theory states that individuals evaluate various strategies of behavior, then choose the strategy they believe will provide the rewards they value, i.e., increased pay, status, autonomy, recognition (Duncan, 1978).

Vroom's (1964) expectancy theory of motivation is based on a need fulfillment model that relates effort, performance, and reward for performance. In Vroom's model, expectancy is defined as an individual's perception of the likelihood that a specific act, or level of effort, will result in a specific outcome. Valence is defined as the strength of an individual's desire for a particular outcome). Instrumentality is defined as the relationship between how performance levels and the rewards for performances are related), and outcome, as the end result of a specific action (Vroom 1964). Force-to-perform concerns individual choice about how hard the individual will work and the specific behaviors the individual will exhibit, as well as the individual's ability to perform a specific task (Szilagyi & Wallace, 1983).

Landy (1985) criticized the inability of Vroom's model to differentiate between the importance and the degree of need desired by an individual. In general, however, Vroom's model came to dominate organizational theory into the 1980s (Thierry & Koopman-Iwema, 1984). Unlike earlier models, Vroom's provided a mechanism for examining individual differences in motivation as related to organizational behavior and decision-making (Hunt & Hill, 1969).

Vroom's theory was extended by Campbell (1970) to distinguish between extrinsic and intrinsic outcomes, where extrinsic outcomes come to an individual from others as a result of the individual's efforts (i.e., pay or promotion), and intrinsic outcomes are those associated with the job itself (i,e., recognition, achievement, or personal development). Campbell (1970) also distinguished between expectancy I outcomes as those concerned with the perceived relationships between effort expended and first-order outcomes, such as performance, and expectancy II outcomes as those concerned with the relationship between first-level outcomes, such as performance, and second-level outcomes or rewards, such as pay, recognition, or achievement.

Blau (1964) expanded the expectancy theory to incorporate the expectations of social rewards. His model distinguished among the general expectations which individuals hold regarding the total benefits they will

achieve in various aspects of their social lives; the specific expectations which individuals hold regarding the behavior of others and the rewards that associating with others will bring; and the comparative expectations, or the net profits, which individuals expect to realize in social associations, i.e., rewards minus costs. Blau (1964) also stressed the importance of recognizing the fundamental problem which occurs when the effective achievement of the collective goals of organizations preclude the protection of the investments of loyal and committed members, jeopardizing a fair return for such individuals on the major investments of their lives and resulting in alienation.

The motivation theory of work adjustment (Weiss et al., 1966) is based on the theoretical rationale that individuals have a set of expectations regarding their work environments and a set of work attitudes that emerge from the fulfillment or lack of fulfillment of those expectations and which result in their evaluations of their work environments. Weiss et al. (1966) conceptualized satisfactoriness as a function of the correspondence between individual need and the job reinforcer system.

The basic expectancy model was expanded by Porter and Lawler (1968) to incorporate equity theory and the role played by the equity of rewards. In their model, an individual evaluates his or her perception of the equity of

a reward received for the performance of a task by calculating subjectively an effort-to-reward ratio. If the individual perceives the reward to be equitable, the individual is satisfied; if the reward is perceived to be inequitable, the individual is not satisfied (Porter & Lawler, 1968). It is important to note that the satisfaction, or dissatisfaction, is based on a subjective perception, not a reality, of equity (Duncan, 1978).

The concepts of equity and subjective reality also are addressed by theories of social comparison which maintain that judgments of fairness and satisfaction are determined socially according to relative, not absolute, standards (Crosby, 1976; Ross, Eyman, & Kishchuk, 1986). The concept of relative deprivation deals with the feelings which an individual or members of a group have when they compare themselves and their social situations adversely with other individuals within their own groups or within other groups (Jary & Jary, 1991).

The first theory of relative deprivation (Davis, 1959) limited the concept to comparison with in-group members. Runciman (1966) later differentiated between egoistical (individual) and fraternal (reference group) deprivation. Runciman also maintained that feelings of relative deprivation will not occur unless individuals think that it is feasible for them to have a desired object or outcome.

Gurr (1970) conceptualized relative deprivation in terms of aspirational, decremental, and progressive deprivation, which were based on different ways that an individual's expectations or perceived entitlements can exceed capabilities or actual outcomes. In contrast to Runciman, Gurr believed that relative deprivation is more likely to occur when individuals feel that it is not feasible for them to obtain their desired outcomes.

Crosby's (1976) model of relative deprivation proposed five conditions necessary for feelings of egoistical relative deprivation. An individual must see that someone else possesses a desired object, must want the object, must feel entitled to the object, must think it feasible to obtain the object, and must lack a sense of personal responsibility for not having the object. Crosby's model has been the basis for a great deal of subsequent research in the area of relative deprivation (Olson & Hazlewood, 1986).

Relevant job satisfaction research. Some of the earliest research relating to job satisfaction focused on the concepts of need and incentive and on identifying factors which affect behavior in the workplace. Early work included the research of proponents of scientific management, such as Frederick Taylor (1947), who concentrated on the relationships between fatigue and

productivity, and the original job enrichment studies of Chester Barnard (1938), who proposed that work tasks can be designed to enhance the intrinsic motivation of work.

Some critics of the job enrichment literature argued that job enrichment, i.e., more interesting work or opportunity for greater participation, was merely a way to obtain employee commitment without granting real autonomy or meaningful involvement in the decision-making process (Heckscher & Donnellon, 1994). Other critics saw job enrichment as a means to distract employee attention away from significant pay raises. Recent research, however, suggests that professionals focus far more on the work itself than on salary or compensation. In interviews with more than 200 professionals, motivation and satisfaction were discussed more frequently in terms of opportunity than reward; challenging work and autonomy were discussed more frequently than material gain (Heckscher & Donnellon, 1994).

In the first intensive research on job satisfaction per se, Hoppock (1935) studied all working adults in a small town, as well as 500 teachers from surrounding communities. From that study, he characterized workers in terms of satisfaction, dissatisfaction, and indifference, and identified monotony, working conditions, supervision, and achievement as additional components of job satisfaction. He also conceptualized satisfaction or dissatisfaction in

terms of individual job components, as well as in terms of overall job satisfaction.

Hoppock (1935) conceptualized optimum job satisfaction as a condition which allows an individual to be dissatisfied to the extent that he or she continues to establish and to be motivated to strive for the achievement of job-related goals. As such, he did not support the concept of total job satisfaction. Hoppock (1935) also did not support wide fluctuations in job satisfaction levels in the absence of radical job change.

Locke (1976) supported the work of Taylor (1947), suggesting that workers who receive the highest pay with the least amount of fatigue will be productive and satisfied workers capable of making decisions and developing opinions that influence their job performance. Drawing also upon Hoppock's work, Locke (1976) identified fatigue, monotonous work, working conditions, supervision, and personal achievement as factors which affect job satisfaction.

In a review of job satisfaction research, Locke (1976) identified factors which are conducive to job satisfaction, such as high self-esteem, fair and equitable rewards that match worker aspirations, a personal interest in the work itself, and mentally challenging work that the worker is capable of handling successfully but that is not too physically demanding. In addition to factors relating to

the actual work, Locke identified factors relating to the work environment, such as working conditions compatible with the worker's physical needs and which enable successful completion of the work, supportive superiors with compatible job values, and supervisors who minimize role conflict and role ambiguity.

In his survey of 200 engineers and accountants, Herzberg et al. (1959) concluded that the factors of recognition, achievement, advancement, responsibility/ authority, and work itself were associated more often with job satisfaction. Factors relating to job context (i.e., working conditions, company policies and procedures, and supervision) were found to be associated more often with job dissatisfaction. Salary was found to be more associated with job dissatisfaction than job satisfaction because of employee perceptions that increases in pay were seldom based on merit or quality of work. Factors associated with job satisfaction were found to do so because they enabled individual self-actualization, while factors associated with job dissatisfaction did not.

Gruneberg (1979) found job security to be the most important source of satisfaction and self-esteem. The socialization of work group members was found to be the most important source of dissatisfaction. Salary/pay was often found to be a dissatisfier because of worker perceptions of

inequitable and inconsistent allocation and worker reluctance to admit to money as a primary source of satisfaction. He found supervision to be a source of satisfaction when supervisors are considerate and involve workers in the decision-making process, and organizational structure and climate to be sources of satisfaction when there is a good match of management style and industry type. Furthermore, Gruneberg found that job satisfaction, occupational level, and occupational status increase with level of education, unless an individual is overqualified, in which case, alienation often results.

In an earlier study of age and job satisfaction, Saleh and Otis (1964) had found job satisfaction levels to decrease significantly after the age of 60 due to decreases in physical endurance and in access to sources of achievement, recognition, advancement, responsibility, and job growth. Gruneberg (1979) found that workers start out with high levels of job-related expectations and satisfaction which decrease as expectations are unmet and then increase again as workers age. Gruneberg also found, although somewhat inconsistently, that satisfaction increases as the length of service increases and the work performed becomes more important than the work conditions.

Along with Sauser and York (1978), who reviewed 21 job satisfaction studies involving gender differences, Gruneberg

(1979) found no statistical difference between job satisfaction and gender. Subsequent study, however, found males to be older, better educated, better paid, and more satisfied with promotions and work conditions than their female counterparts, and females slightly more satisfied with pay than male counterparts (Gruneberg, 1979).

Vroom (1964) found the components which determined motivation in his expectancy model--i.e., valence, instrumentality and expectancy--to be multiplicative in nature. His research showed that for motivation to be high, each component of the model had to be high. If one or more of the three components were low, the resulting motivation was found to be low (Szilagyi & Wallace, 1983).

Hackman, Oldham, Janson, and Purdy (1975), expanding upon Herzberg's work and job enrichment research, developed a diagnostic model for the purpose of analyzing existing jobs and transforming the diagnosis into a specific action plan for change. Based on their research, they formulated a model which related core job dimensions (skill variety, task identity, task significance, autonomy, and feedback) to critical psychological states (experienced meaningfulness of work, experienced responsibility for outcomes of work, and knowledge of the actual results of work activities) to personal and work outcomes (high internal work motivation,

high quality work performance, high satisfaction with work, and low absenteeism and turnover).

The allocation of rewards within an organization is one of the most powerful forces affecting organizational behaviors and is, therefore, a major concern in job satisfaction research. Since, the impact of rewards on organizational behavior has been shown to depend on the perceived value or the rewards relative to what the members of the organization feel they deserve (deCarufel, 1986), reward allocation often is examined within a social comparison framework.

In their study of American soldiers, Stouffer, Suchman, DeVinney, Star, and Williams (1949) found that members of the Air Corps had more rapid promotion rates than those in the Military Police. Members of the Air Corps, however, were found to be more dissatisfied with promotion opportunities than the Military Police. Lawler and Porter (1963) obtained similar results in a survey of more than 2,000 managers, in which they found that company presidents earning $400,000 a year were more dissatisfied with their pay than first-line supervisors earning $15,000 a year. Even in organizations where pay secrecy policies exist (i.e., individuals are uninformed about the pay of others and, in some instances, forbidden to discuss pay with fellow employees), research has shown that the process of pay

comparison exists. In such cases, individuals simply base their comparisons upon informal, and often inaccurate, hearsay and innuendo (Lawler, 1972; Mahoney & Weitzel, 1978; Milkovich & Anderson, 1972).

Recent studies relating to pay continue to provide empirical data to validate the concept of relative deprivation. Utilizing Crosby's (1976) model, a multi-study examination applied the theory of relative deprivation to the prediction of satisfaction with income and pay level (Sweeny, McFarlin, & Inderrieden, 1990). It was found that, to the extent that participants in the study felt that similar others earned more, dissatisfaction with pay resulted. Additionally, desired pay was found to be a significant predictor of pay satisfaction, as well as judgments of entitlement or deservingness.

Lawler (1973) proposed a model of facet satisfaction, in which overall job satisfaction is composed of the sum of the separate satisfactions associated with job elements such as pay, working conditions, challenge, and autonomy. Lawler's model, like Vroom's expectancy model, is multiplicative in nature. Each of Lawler's separate satisfactions is multiplied by its importance to the respondent in order to obtain an overall measure of job satisfaction. Likewise, Lawler proposed that the overall feeling of relative deprivation is the sum of the products

of relative deprivation/gratification with each component and its importance to the individual.

Research based on the expectation Theory of Work Adjustment (Weiss et al., 1964, 1965, 1966, 1967) also utilized the concept of facet measurement and led to the development of the Minnesota Satisfaction Questionnaire and the identification of 20 reinforcers in the work environment, as well as an overall measure of current, as opposed to potential, general satisfaction. Testing of the original development sample of 1,793 employed individuals, as well as subsequent reliability and validity studies on 25 different occupational groups, grouped the reinforcers into measures of intrinsic satisfaction (ability utilization, achievement, activity, authority, creativity, independence, moral values, responsibility, security, social service, social status, and variety) and extrinsic satisfaction (advancement, company policies and practices, compensation, co-workers, recognition, supervision-human relations, and supervision- technical, and working conditions).

Summary. While motivation and job satisfaction are key areas of concern in organizational life, as evidenced by the thousands of job satisfaction studies conducted, Carter and Jackson (1993) contend that nothing new has been produced theoretically for the last 25 years. The shift from the objective, prescribed goal of the bureaucratic organization

to the subjective rationality of an individual outcome which Vroom's expectancy theory represented provided an unrealized opportunity for the reassessment of motivation and job satisfaction theory in terms of a post-industrial context (Carter & Jackson, 1993).

Heckscher and Donnellon (1994) argue that the early motivation and job enrichment studies of Barnard (1938), later expanded by Hackman and Oldman (1980) and others, are reflected in recent research in small group theory and practice, teamwork, and alternative post-bureaucratic systems of pay distribution. Since some mix of team work and individual contribution is essential for achieving the post-bureaucratic requirements for effectiveness and efficiency, Heckscher and Donnellon maintain that the issues of motivation and job satisfaction are still central to the post-industrial vision of organizational life.

Master's Degree Education, Master's Degree Programs in Business, and Relevant Educational Satisfaction Research

From 1859 to 1900, the master's degree was viewed primarily as a scholarly degree for college teachers (Conrad et al., 1993). This period saw the emergence of the American university as a result of disappointment with the classical curriculum of the liberal arts college, a need for trained individuals to support the growth of the industrial

revolution, an increase in state and federal funding for higher education, and the appeal of the German university model for advanced study (Conrad et al., 1993; Veysey, 1965).

American business education during this period was concerned with the training of clerks. It was not until the establishment of the Wharton School of Finance in 1881, the first collegiate business school, that attention shifted to the managerial and administrative aspects of business (Hugstad, 1983). The primary goal of the early business schools was to provide a good, general, liberal arts education for wealthy, privileged young men.

From 1900 to 1945, the doctor of philosophy degree emerged as the required credential for college and university faculty. Approximately 75% of the master's degrees granted in the liberal arts during this period were terminal degrees to public school personnel and in a variety of other professional fields (Conrad et al., 1993). In 1909, in a report commissioned by the American Association of Universities as the first major study of the master's degree, it was concluded that the master's degree had become primarily a vocational degree and a certification degree for secondary teachers (Conrad et al., 1993, p. 9). During this period, business education abandoned its liberal arts

mission for one of pragmatism and increasingly specialized curricula (Hugstad, 1983).

The post-World War II era of 1945 to 1970 was a period of rapid expansion, professionalization, and diversification which was fueled by certification and promotion policies in the public schools, by the need for a large number of university teaching and research assistants, and by the growing demand from business and government for workers with advanced and specialized training (Conrad et al., 1993). In the United States, the number of master's degrees awarded nearly tripled during this period, with the number of institutions granting master's degrees increasing from 300 in 1940 to 621 in the early 1960s.

Increased professionalization led to a corresponding increase in new degree programs, from 121 in 1940 to 272 in 1960, and the number of master's degrees awarded annually had grown dramatically from 80,000 in 1960 to 208,000 in 1970 (Conrad et al., 1993). Berelson's (1960) study of graduate education in the United States identified the growing diversity of master's education as a major problem because of inconsistent academic standards relating to length of programs and a lack of comprehensive examination, thesis, and foreign language requirements. Berelson questioned the quality and prestige of master's education in

the United States as it became increasingly professional in nature and less oriented toward the liberal arts.

Two comprehensive and critical studies of business schools coincided with Berelson's (1960). Gordon and Howell's (1959) Ford Foundation report and Pierson's (1959) Carnegie Foundation report both found business schools to be too vocational and lacking in coherent, integrated curricula. They also found students and faculty lacking in quality. These criticisms significantly influenced the ongoing debate between vocationalism and liberal arts proponents and related concerns about specialization versus generalization. A direct result of the foundation reports was a return to the liberal arts orientation of the 1960s. This shift reversed itself once again, however, during the 1970s (Hugstad, 1983).

During the 1970s, traditional beliefs about the purpose and delivery of master's education in general began to be challenged--i.e., that master's degree programs should be full-time, that they should provide a theory-based curriculum, that they should require a thesis. During this period, the master's degree was characterized as largely professional, terminal, and practice oriented (Glazer, 1986). Changes in the degree were reflective of the emergence of post-industrialism and in response to the demands of a knowledge-based economy--i.e., the need for

individuals with advanced training and credentials for purposes of job advancement and career mobility, a demand from employers for more highly-trained practitioners, and the upgrading of the master's degree to an entry-level degree for many professions (Conrad et al., 1993).

Spencer (1986) characterized these post-industrial changes in terms of specialization, professionalization, practical experience, and absence of universal standards of residency and mentorship. Conrad, Haworth, and Millar (1993) characterized these trends in terms of diversification, professionalization, a movement away from the thesis requirement, and a proliferation of new and interdisciplinary areas of study. They also noted a sharp increase in the proportion of females receiving master's degrees during this period (from 40% in 1970-1971 to 53% in 1988-1989); a sharp increase in the proportion of part-time and older students (with approximately two-thirds of the master's students enrolled in the late 1980s as part-time and one-half 30 years of age or older); and an increase in the proportion of minorities receiving master's degrees during the 1970s and the 1980s. The U.S. Department of Education reports that the proportion of minorities increased from 15.7% in 1976 to 21.2% in 1991, attributing much of the change to increasing numbers of Hispanic and Asian students. The proportion of Black/African-American/

Non-Hispanic students has fluctuated over the last 15 years and was 9.6% in 1976 and in 1991 as well (Digest for Education Statistics, 1993.)

During the 1980s, business education continued its attempt to address the liberal arts/vocationalism dichotomy and to make business education more relevant to the business environment, with the trend leaning heavily towards a pragmatic, professional orientation. At the same time, signs of market saturation, especially for M.B.A.'s, began to appear, due, in part, to the tremendous growth in the number of degrees being awarded and to criticisms of business graduates which had begun to surface. Market saturation also reflected changes in technology and a shift from industrial to post-industrial society which often resulted in decreases and, sometimes, elimination altogether, of management personnel.

Boyatzis and Skelly (1995) characterized this period as one of "competitive pragmatism" (p. 5), in which the context of decreasing opportunities gave rise to the acceptance of limits. Cost effectiveness became a primary goal, as did the reduction and elimination of individuals who were assessed as unnecessary. The result was a significant relocation, and dislocation, of the workforce, especially in the area of mid-level management.

Within this context of post-industrial change, Conrad, Haworth, and Millar (1993) conducted the first major study of master's education in the U.S. in more than 30 years. Their goals were to determine directly how the stakeholders in master's education valued their master's experience and to identify characteristics which participants felt contributed most to the master's experience. Stakeholder groups included students, alumni, employers, faculty, and institutional and program administrators.

Based on interviews of 747 people in 47 master's program across the country, their findings established widespread agreement about the positive outcomes of master's education in general--in terms of enhanced analytical skills, development of global perspectives, ability to connect theory and practice, and improved communication and professional skills. In contrast to a widespread concern in the literature about the nature and quality of master's education and some expressed concern on the part of institutional and program administrators, they found that most stakeholders were generally positive about their master's experiences (Conrad et. al, 1993).

Most students and alumni indicated that they intentionally pursued the master's degree to improve their skills in order to become more effective in their careers. Furthermore, the majority agreed that their degrees were

valuable credentials which contributed to advancement in the workplace. For the most part, students and alumni felt that they had been served well by their master's education (Conrad et al., 1993).

Based on a sample of 5,409 black and white women and men drawn from the data file of the National Longitudinal Study of the High School Class of 1972 (NLS-72),[2] Knox, Lindsay, and Kolb (1993) obtained a representative national sample of the class for the purpose of addressing questions about the long-term impact of college, including the effects of attaining different levels of post-secondary education. Their research provided insight into the effects of higher education upon success goals and rewards (e.g., annual earnings, occupational status, and participation in professional and job-related groups), on occupational goals (i.e., job security, success, opportunities for advancement, job autonomy, and interesting work), and satisfaction with the educational experience.

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[2]NLS-72 is a database created and maintained by the National Center for Education Statistics of the U.S. Department of Education as a baseline against which subsequent cohorts will be measured. Students of the high school class of 1972 answered extensive questionnaires directly before they graduated from high school, responding to questions about their goals and values, as well as feelings of self-esteem and self-direction. They were surveyed two years after high school graduation and again in 1986, at the approximate age of 32. The second and third surveys also included questions regarding their social and political participation.

Educational satisfaction was determined by utilizing measures of academic satisfaction (including items on quality of instruction; ability, knowledge and personal qualities of teachers; course curriculum; intellectual growth; and development of work skills), prestige of the school, and perceptions of educational experiences (including items on difficulty of courses, interest level of courses, student performance, amount learned, and meeting people with new ideas). Also included were measures of social life, sports and recreational facilities, and counseling and job placement (Knox et al., 1993).

Success was determined by using measures of 1986 earnings, occupational status, job security (1972, 1986), and occupational groups (1974, 1986). Also included were measures of opportunities for children, intrinsic work value (1972, 1986) (including items on freedom to make decisions, important and interesting work), money goal (1972, 1986), and success goal (Knox et al., 1993).

Results of the study showed that 14 years after graduation from high school, 22% of the sample had pursued no further formal education, 25% had completed fewer than two years of post-secondary schooling, and 18% had completed two or more years of college without achieving an undergraduate degree. Twenty-five percent of the

participants had completed bachelor's degrees, and 11% had completed advanced degrees (Knox, et al., 1993).

Analysis of the data collected supported the belief that a college education does enhance income and occupational status, particularly for graduates of business programs (Knox et al., 1993). Furthermore, a college degree was found to be economically more rewarding for women, although absolute levels of women's earnings were shown to be substantially lower than men's. Results showed that higher education supports the social and economic dominance of the middle and upper classes, and that academic abilities and good grades in college translate into more prestigious occupations. Both undergraduate and graduate degrees were found to provide high levels of academic satisfaction, and women were found to be more satisfied than men with the academic side of a college education.

Knox, Lindsay, and Kolb (1993) qualified their findings. Given credential inflation and the fact that increasing numbers of individuals are completing at least some college, a college degree can no longer make the same guarantees about job security, occupational status, and other extrinsic factors.

Adelman (1994) utilized a combination of historical methodologies to interpret data obtained from the NLS-72 for the purpose of examining the critical educational and

occupational choices made by this cohort. The specific sample of concern was the 56% of individuals who continued their education beyond high school in some form or other, at any time until 1986, the year in which most of the members of the sample were 22 years old.

Of particular interest were a number of gender-related findings. For example, the period between age 32 and 40 was shown to be generally more critical for women's education and career development. In general, men were shown as less likely than women to be satisfied with aspects of work relating to productivity and more satisfied with opportunities for promotion and advancement. Women were found to be more enthusiastic and potentially more productive in the workplace, in spite of the fact that they are less rewarded. A higher percentage of women in the sample were shown to be satisfied with all major aspects of their college education, particularly in terms of skill development and intellectual growth; and more women than men in the sample felt they had benefitted from higher education, in spite of the fact that a higher percentage of women had experienced unemployment and disproportionately lower pay (Adelman, 1994).

These studies are significant because their findings, which establish general agreement about the positive outcomes of master's degree education in general, contrast

sharply with the criticisms of graduates of master's degree programs in business which began to surface in the late 1980s. In spite of the central role which professional graduate education has played in the expansion of master's education, criticisms of graduates of master's degree programs in business have been characterized increasingly as too analytical, as not practical or sufficiently action-oriented, and as lacking in information systems orientation. They have been characterized, as well, as too parochial in their thinking and values, as lacking in interpersonal and communications skills, and as unable to work well in groups. Finally, they have been found to have exceedingly high expectations about their first jobs after graduation from their master's programs (Boyatzis, et al., 1995).

Boyatzis, Cowen, and Kolb's (1995) recently-published report on innovation in professional education presented a case study of the restructuring of the M.B.A. program at the Weatherhead School of Management at Case Western Reserve University from a faculty model emphasizing teaching and research model to a student model emphasizing learning. Utilizing alumni, employer, faculty, student-change, and professional competency outcome assessment studies over a 10-year period of curriculum change, the Weatherhead School of Management (WSOM) attempted to address the criticisms of graduates of master's degree programs in business--as are a

number of graduate business schools across the U.S. Their goal was to manage change in the academic curriculum during this period of post-industrial change.

With the objective to measure student ability, as opposed to faculty knowledge, a value-added, cross-sectional design was used to determine improvement in student ability from beginning until completion of the program. Tests administered at various times included measures of critical thinking, learning styles and skills, executive skills, and time perception (Boyatzis et al., 1995). Entering and graduating students in 1987-1988 and 1988-1989 were examined.

Results of these series of assessments showed strong evidence of increased ability in information analysis, theory, quantitative, and technology skills, as well as some evidence of increased ability in action and initiative skills and in need for achievement. Questionable increases, however, in relation to helping, sense-making, and information-gathering skills were reported, as well as some evidence of decreased ability in terms of pattern recognition and verbal skills. No evidence of change in leadership skills, goal setting, need for affiliation or power, learning styles, future time perspective, or other nonverbal sensitivity measures were reported (Boyatzis et al., 1995).

Boyatzis, Cowen, and Kolb (1995) concluded that, in general, an M.B.A. program can enhance the development of some of the skills needed to be an effective manager. Many of the requisite managerial abilities, however, are not developed as easily, especially in the area of interpersonal skills. These findings are supported by the results of an impact study conducted by Porter and McKibbin (1988) in which they surveyed 2,055 faculty and 1,835 students from 620 schools regarding their perceptions about the emphasis of graduate business programs. Faculty and student views were consistent with employer observations and as reflected in the results of the WSOM study--that is, graduates of M.B.A. programs tend to possess a great deal of analytic and quantitative ability and less interpersonal, communications, and entrepreneurial skills (Boyatzis et al., 1993).

While it is beyond the scope and the focus of this study to discuss the literature on the developmental differences of men and women, it is important to note that some significant differences were noted in this study. In terms of personal development, and within the context of their careers histories, their life stories, and their learning plans, women appeared to make more statements than men which focused on personal development. Centrality of others appeared to be more important to women than men. In terms of arenas of responsibility, women appeared to stress

personal achievements and relationships more than men. In terms of role development, no differentiation was found between men and women relating to interactions with others versus task orientation, although women appeared to engage, more than men, in task-oriented role development in the form of formal feedback and task achievement in their learning plans (Boyatzis et al., 1995).

Summary

In terms of the theories and the literature reviewed, advanced degree seekers clearly fall within the more complex range of the needs spectrum, as they seek personal and professional growth, self-esteem and self-actualization, achievement, advancement, and status--both implied and credentialed. While theoretical insight into these complex needs and behavior patterns was provided by the literature, and a number of studies specifically addressed educational and job satisfaction, no specific empirical study was discovered which related job satisfaction, educational satisfaction, and post-industrial change for those individuals who are being affected particularly by the changes which are occurring in post-industrial organizations, i.e., graduates of master's degree programs in business. The absence of such study provided the impetus for this research study.

Chapter III

DESIGN AND METHODOLOGY

General Design

This study utilized survey research procedures to obtain information about job satisfaction, educational satisfaction, and involvement in post-industrial change. Survey research provides valuable descriptive information about "attitudes, beliefs, values, demographic facts, behaviors, opinions, habits, desires [and] ideas" (McMillan & Schumacher, 1989, p. 293) and is used frequently in business, education, and sociology to obtain accurate data for large numbers of people using small samples. Since this study was the first to relate job satisfaction, educational satisfaction, and post-industrial change for graduates of master's degree programs in business, a descriptive study was appropriate as an initial study.

Independent variables were gender, age, ethnicity, master's degree program, master's degree date, undergraduate degree discipline, current job function, current industry type, current annual salary before taxes, current job tenure, current industry tenure, and involvement in post-

industrial change. Dependent variables were educational satisfaction and current job satisfaction. Post-industrial change was the intervening variable.

Population

Virginia Commonwealth University (VCU) is the third largest doctoral-granting institution in the Commonwealth of Virginia. Classified by the Carnegie Foundation as a Research I University (Evangelauf, 1994), VCU offers 52 baccalaureate degree programs, 15 post-baccalaureate certificate programs, 63 master's degree programs, 19 doctoral degree programs, and professional degrees in dentistry, medicine, and pharmacy (Sack, VCU Office of Institutional Research, 1995).

The university is located in the state's capital city of Richmond, a major East Coast financial and manufacturing center with a metropolitan population of nearly 700,000. Located in the center of the city, Virginia Commonwealth University is the state's largest urban university, with a Fall, 1995 enrollment of 21,349 students, 3,053 of whom were degree-seeking master's students, including 395 students enrolled in master's degree programs in business (Sack, VCU Office of Institutional Research, 1995).

The university's Office of Alumni Affairs maintains a database with valid addresses for 2,000 of the 2,752

graduates who were awarded master's degrees in business during academic years 1970-1971 to 1989-1990. A randomized, stratified sample of 1,000 names was generated from the alumni database population for the period of interest.[3]

The 1970-1971 to 1989-1990 time period was relevant to this study for a number of reasons. First, social change theorists have identified the early 1970s as the beginning of the post-industrial era (Bell, 1973). Secondly, it is reasonable to assume that members of the "baby boom" generation--defined as those individuals born during the years 1946 to 1965 (Macionis, 1991)--would be pursuing graduate education and career paths in the workforce over the course of this 20-year period. In the third place, issues relating to "credentialism," "overeducation," and "underutilization" emerged as phenomena of concern during this period (Berg, 1970; Burris, 1983; Collins, 1974, 1979; Dore, 1976; Freeman, 1976; Kalleberg & Sorensen, 1973; Rumberger, 1981, 1984).

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[3]Alumni who graduated in 1990-1991 and subsequent academic years were excluded from the sample population on the assumption that there may be a significant number of graduates who, immediately after degree completion, were involved in activities that might preclude immediate realization of their career expectations (i.e., extended job searches, especially where relocation is involved that would affect other family members; "paying one's dues" in entry-level positions, especially for those graduates who begin graduate school immediately after completion of their undergraduate degree programs; repayment in service for corporate sponsorship of tuition).

Furthermore, the time period represented a generation of downward mobility during which levels of earnings, in terms of real wages, declined to 1965 levels. Decreases in real wages have led to concerns about rising tuition costs. Downward shifts in the economy have resulted in changes in federal and state student funding policies and decreases in governmental support for graduate students (Yankelovich, cited in Edgerton, 1993).

During this time period, interest in master's degree programs in business peaked and then experienced decline, in contrast to overall patterns of growth in graduate education at the master's degree level. Application, enrollment, and graduation data supported this overall trend at Virginia Commonwealth University, as well.

Available data showed applications to master's degree programs in business at VCU increasing from 209 in the Fall of 1986 to a high of 420 in the Fall of 1991, then decreasing to a low of 374 in the Fall of 1993 before stabilizing and experiencing an increase to 382 in the Fall of 1995. The increase in applications in the Fall of 1995 reflected interest in a new Fast Track M.B.A. degree significantly different, in terms of organization, presentation, and targeted market, than the traditional master's degree programs in business offered before 1995 (Sack, VCU Office of Institutional Research, 1995).

Enrollment statistics for the same period of time showed enrollment in master's degree programs in business decreasing from a high of 770 in the Fall of 1980 to a low of 379 in the Fall of 1994. Enrollment increased to 396 in the Fall of 1995, again, as a result of students enrolled in the new Fast Track M.B.A. program (Sack, VCU Office of Institutional Research, 1995).

Graduation data showed the number of graduate degrees awarded in business increasing from 41 for academic year 1970-1971, the first year in which VCU awarded master's degrees in business, to a high of 147 in academic year 1977-1978, then decreasing to 108 for the 1994-1995 academic year (Sack, VCU Office of Institutional Research, 1995). No students had graduated from the new Fast Track M.B.A. program for the time period covered by this study.

Instrumentation

The instrument used was a mailed survey questionnaire. The response format was primarily a structured, closed form format.

The first part of the questionnaire (See Appendix A) included questions developed by the investigator to obtain demographic and employment data (gender, age, ethnicity, master degree program, master degree date, undergraduate degree discipline, current industry, current job function,

current annual salary before taxes, current job tenure, and current industry tenure); data relating to satisfaction with the master's degree in business (goals for obtaining the degree; cost, content, and quality of instruction; and usefulness of the degree in the workplace); and information about the nature of involvement in post-industrial change (positive, negative, mixed, none). The first part of the questionnaire also included open-ended questions to be used by the School of Business to assess curriculum content.

The second part of the questionnaire was the 1967 long-form version of the Minnesota Satisfaction Questionnaire (MSQ), edited in 1977 for minor format changes and to eliminate gender-specific language (See Appendix B). The MSQ was used to obtain measures of current levels of actual job satisfaction. The MSQ, derived from the Theory of Work Adjustment (Weiss, Dawis, England & Lofquist, 1966), is based on the theoretical rationale that employees have a set of expectations regarding their work environments and a set of work attitudes that emerge from the fulfillment of lack of fulfillment of those expectations and which result in their evaluations of the work environments, i.e., their job satisfaction (Bolton, 1986).

The long-form MSQ consists of 100 items which correspond to 20 reinforcers in the work environment (Weiss et al., 1967). Participants in the survey were asked to

indicate how satisfied they were with each of the 20 measures of job satisfaction in relation to their current jobs. The scales are defined as follows:

Ability utilization. The chance to do something that makes use of one's abilities.

Achievement. The feeling of accomplishment obtained from one's job.

Activity. The ability to keep busy all the time.

Advancement. The chance for advancement on the job.

Authority. The chance to tell other people what to do.

Company policies and practices. The way company policies are implemented.

Compensation. Pay and the amount of work required.

Co-workers. The way co-workers get along with each other.

Creativity. The chance to try one's own methods of doing the job.

Independence. The chance to work alone on the job.

Moral values. Being able to do things that do not go against one's conscience.

Recognition. The praise one receives for doing a good job.

Responsibility. The freedom to use one's own judgment.

Security. The way the job provides for steady employment.

Social service. The chance to do things for other people.

Social status. The chance to be "somebody" in the community.

Supervision-human relations. The way the boss handles subordinates.

Supervision-technical. The competence of the supervisor to make decisions.

Variety. The chance to do different things from time to time.

Working conditions. The working conditions.

The long-form MSQ also provides an overall measure of job satisfaction. This overall measure of current job satisfaction is obtained by using the item from each of the 20 subscales which correlates the highest with its respective scale (Weiss, et al., 1967).

The MSQ manual (See Appendix B) provided normative data for 25 occupational groups, including managers (Weiss, et al., 1967). Bolton (1985) assessed the presentation of this normative data as excellent, "including detailed demographic descriptions of the samples, thorough summary statistics on the MSQ, and conversion tables" (p. 257).

For the MSQ's development sample of 1,793 employed individuals, internal reliability for the 21 scales (the 20 subscales plus the overall measure of general satisfaction)

ranged from .81 to .94, with a median of .88. Factor analysis of the 20 subscales identified intrinsic satisfaction (ability utilization, achievement, activity, authority, creativity, independence, moral values, responsibility, security, social service, social status, and variety) and extrinsic satisfaction (advancement, company policies and practices, compensation, co-workers, recognition, supervision-human relations, supervision-technical, and working conditions). Analyses of variance showed that more than 30% of the reliable variance was specific to each scale, suggesting that considerable useful information is contained in the profile of 20 job reinforcers (Bolton, 1985).

Additional test-retest reliability data calculated for the 25 occupational groups ranged from .78 to .93, with a median of .86. One-week retest coefficients ranged from .66 to .91, with a median coefficient of .83 for the 20 sub-scales and a "general satisfaction" coefficient of .89. One-year retest coefficients ranged from .35 to .71, with a median coefficient of .61 for the 20 subscales and a "general satisfaction" coefficient of .70 (Weiss et al., 1967).

Evidence in support of the construct validity of the MSQ was derived primarily from studies relating to the Theory of Work Adjustment and construct validation studies

for the Minnesota Importance Questionnaire (MIQ), an instrument designed to measure potential job satisfaction (Bolton, 1985; Weiss et al., 1964). Additional construct validity studies provided good evidence that the long-form MSQ measured overall job satisfaction in accordance with expectations of the Theory of Work Adjustment (Weiss, et al., 1965).

Evidence for the concurrent validity of the long-form MSQ was derived from a study of occupational group differences in job satisfaction (Weiss, et al., 1964). Comparisons among the 25 MSQ occupational norm groups produced results that were supported by the existing literature (Bolton, 1985).

The MSQ is one of the most popular job satisfaction instruments, as evidenced by its extensive use in published research--e.g., at least 75 studies reported in journals such as the Journal of Vocational Behavior, the Journal of Applied Psychology, and the Academy of Management Journal; in 100 Ph.D. dissertation projects; and in 20 other research studies (Bolton, 1985). Recent studies utilizing the MSQ include two Ph.D. dissertation studies completed at Virginia Commonwealth University: a national job satisfaction study of 304 nurse anesthesia faculty (Embry, 1991) and a study of job satisfaction of 172 adult education administrators in Virginia (Moak, 1992). Such extensive use of the MSQ

reflects the strength of its theoretical formulation; its consistency with the research findings and the literature; its strong psychometric foundation which derives from a series of carefully designed developmental studies supported by a variety of construct validation studies; an excellent set of occupational norms; and an extensive set of job satisfaction factors (Bolton, 1985).

Procedures

To assess content validity, a panel of 10 experts reviewed questions developed by the investigator to assess educational satisfaction and involvement in post-industrial change. Reviewers included administrators and graduate faculty from business, education, and sociology; graduates of master's degree programs in business who were not part of the sample population; and individuals experienced in survey research methodology and analysis.

Survey questionnaires were mailed to a randomized, stratified sample of 1,000 participants drawn from the university's alumni database which contained valid addresses for 2,000 of the 2,752 graduates who were awarded master's degrees in business during academic years 1970-1971 to 1989-1990. Distribution of the surveys and data collection were coordinated by VCU's Survey Research Laboratory.

There were three mailings. The first mailing included a cover letter (Appendix C), a survey instrument, and an addressed, stamped return envelope. Confidentiality of participant responses was stressed in the cover letter. Return envelopes were coded numerically so that the investigator was able to determine who had returned the survey. In order to maximize the response rate, the cover letter was signed by the Dean and Associate Dean for Graduate Studies of the School of Business, as well as the investigator. The investigator offered to send to any interested respondent a summary of the study's findings.

A follow-up postcard mailing (Appendix D) was made one week after the initial mailing. Three weeks after the initial mailing, a final follow-up mailing was made to all individuals who had not yet responded and to those who had returned only the first part of the survey. The final mailing included a cover letter (Appendix E), another survey instrument, and another addressed, stamped return envelope.

The first part of the instrument included questions developed by the investigator to obtain demographic data, as well as a measure of overall educational satisfaction. Participants were instructed to rate the five questions which dealt with educational satisfaction using a four-point Likert scale ranging from "Very Satisfied" to "Very Dissatisfied." Response choices for these questions were

scored 1 through 4, from left to right, and ranged from "Very Satisfied" = 1 to "Very Dissatisfied" = 4. Scores were reordered from "Very Dissatisfied" = 1 to "Very Satisfied" = 4, for purposes of comparison to the MSQ job satisfaction measure, and an overall measure of educational satisfaction (ranging from 5 to 20) was obtained by summing the individual measures for each of the five questions.

The long-form MSQ is a self-administered questionnaire with directions for the participant appearing on the first page of the questionnaire and item rating instructions repeated at the top of each page. Participants in the survey were instructed to rate each item using a five-point Likert scale ranging from "Very Dissatisfied" to "Very Satisfied" (Weiss, et al., 1967).

Response choices were scored 1 through 5, from left to right, and ranged from "Very Dissatisfied" = 1 to "Very Satisfied" = 5. Scale scores were calculated by summing the weights for the responses for the items in each scale. Scoring for the long-form MSQ also included a "general satisfaction" measure which used one item from each of the 20 subscales (Weiss, et al., 1967).

While there is no time limit for the long-form MSQ, participants were encouraged to answer questions as rapidly as possible. On an average, completion of the long-form MSQ requires 15 to 20 minutes (Weiss, et al., 1967)

Data Analysis

Descriptive statistics were calculated for all variables from frequency distributions using percentages, means, and standard deviations to compile a profile of the respondents to the survey. The statistical packages SPSS and SPSS for Windows were used to compute the statistical analyses which allowed the investigator to address the research questions and to test the corresponding hypotheses.

An initial examination of the measures obtained for overall job satisfaction and overall educational satisfaction showed the data to approximate a normal distribution. For this reason, a combination of parametric and nonparametric statistical procedures were used to analyze the data at the .05 level of significance. These procedures included descriptive statistics, independent samples t-tests, correlation coefficients, and chi-square analyses.

For purposes of chi-square analysis, interval measures of overall job satisfaction and educational satisfaction were redefined as categorical data in terms of low satisfaction (representing the lowest 31% of the measures obtained), moderate satisfaction (the middle 31%), and high satisfaction (the highest 38%). This categorization approximated the normal distribution of the findings, as

well as the distribution of MSQ scores reported for the 1967 MSQ normative data for the occupational group of managers.

The first research question asked: Overall, were graduates of master's degree programs in business satisfied with their current jobs? This question was addressed utilizing descriptive statistics and scores obtained from the Minnesota Satisfaction Questionnaire (MSQ) to provide overall measures of current job satisfaction. MSQ normative data provided for managers were compared to MSQ overall satisfaction mean scores obtained from respondents. Independent samples t-tests were performed to verify if the MSQ general job satisfaction scores of respondents were different from those in the 1967 normative group.

The second research question asked: What factors were important to the current job satisfaction of graduates of master's degree programs in business? The 20 subscales measured by the Minnesota Satisfaction Questionnaire were: ability utilization, achievement, activity, advancement, authority, company policies and procedures, compensation, co-workers, creativity, independence, moral values, recognition, responsibility, security, social service, social status, supervision-human relations, supervision-technical, variety, and working conditions.

Pearson Product correlation coefficients were computed to show the relationship between the 20 subscales and the

overall MSQ job satisfaction measure. These scores were rank ordered from most highly correlated to least highly correlated with the overall MSQ job satisfaction measure. The mean scores of the job satisfaction factors for the 1996 sample population were compared to those reported for the 1967 normative group of managers.

The third research question asked: Overall, were graduates of master's degree programs in business satisfied with their master's degree education in business? This question was addressed utilizing descriptive statistics and mean scores obtained from questions developed by the investigator to measure educational satisfaction. The five questions relating to educational satisfaction addressed goals for obtaining the degree; cost, content, and quality of instruction; and usefulness of the degree in the workplace. Pearson Product correlation coefficients were computed to show the relationship between subscores and the overall MSQ job satisfaction measure. These scores were rank ordered from most highly correlated to least highly correlated with the overall educational satisfaction measure.

The fourth research question asked: Had graduates of master's degree programs in business been involved in post-industrial change, and what was the nature of that involvement? This question also was addressed through the

use of descriptive statistics and mean scores obtained from questions developed by the investigator to obtain information about involvement in post-industrial change. Post-industrial change was categorized by the investigator as positive, negative, mixed, or none (i.e., no involvement).

The fifth research question asked: Were current job satisfaction, educational satisfaction, and involvement in post-industrial change related for graduates of master's degree programs in business? Pearson Product correlation coefficients were computed to examine relationships among the three variables. Where statistical significance was indicated, chi-square and contingency coefficient analyses were performed to determine the nature of the involvement in post-industrial change and the strength of relationships with job satisfaction and educational satisfaction. Mean job satisfaction and mean educational satisfaction scores were then compared within and across categories of post-industrial change.

The sixth research question asked: How did the demographic variables of gender, age, ethnicity, master's degree program, master's degree date, undergraduate degree discipline, current job function, current industry type, current annual salary before taxes, current job tenure, and current industry type relate to overall job satisfaction,

educational satisfaction, and involvement in post-industrial change? Pearson Product correlation coefficients were computed to examine relationships among the independent demographic variables, the dependent variables of job satisfaction and educational satisfaction, and the intervening variable of involvement in post-industrial change. Where statistical significance was indicated, chi-square and contingency coefficient analyses were used to determine the nature and strength of relationships. Independent samples t-tests were computed to examine statistical differences between mean job satisfaction and educational satisfaction scores for demographic variables when sorted by types of involvement in post-industrial change.

Limitations of the Design

Threats to the validity of the study were minimized by the use of a one-time survey questionnaire mailed to randomly-selected participants. Since the sample was drawn from the university's alumni database, the possibility existed of some predisposition towards educational satisfaction on the part of alumni who had maintained contact with the Alumni Office over a 20-year period. Another possible threat to external validity was the limitation of generalizability, since the sample was drawn

from a single institution. Given the randomness of the sample selection and the normal distribution of the respondent population, however, there is nothing to preclude the generalization of the results of this study to the larger population of all recipients of master's degrees in business.

There was the possibility, as well, that the use of the long-form MSQ (100 items) instead of the short-form MSQ (20 items) might result in a smaller response rate. Weiss, Dawis, England, and Lofquist (1967) strongly recommend, however, that the long-form MSQ be used unless the 15 to 20 minutes required for the long-form MSQ is completely impractical, since the long-form MSQ provides much more information in relation to the additional 10 minutes required to complete the long-form. Additionally, the long-form MSQ provides normative data for a 1967 occupational group of managers. These data were related more directly to the subjects of this study than the occupational work groups for which normative data for the short-form MSQ were collected (assemblers, clerks, engineers, janitors and maintenance workers, machinists, salespeople) (Weiss et al., 1967).

A series of published evaluations of the MSQ and its extensive use speak to its psychometric quality and practical utility (Bolton, 1985). These evaluations, as

supported by the literature, as well as the instrument's extensive set of satisfaction measures, provided the rationale for its use in this project. The MSQ also provided normative data collected before the post-industrial period which was useful for purposes of comparison. The MSQ instrument and manual are nearly 30 years old, however, and should be revised to reflect post-industrial influences on education, technology, and organizational structures, and to provide current validity and normative data.

The cover letter and instructions stressed the potential value of respondent participation and included a statement to the effect that the average time to complete the survey is 15 to 20 minutes. Furthermore, it was hoped that distribution of the survey instrument under the names of the Dean and Associate Dean of the School of Business would enhance the response rate, in spite of the length of the instrument.

Summary

This chapter included an overview of the design and methodology of the study, a description of the sample population, a discussion of questions developed by the investigator and of the MSQ, and the survey procedures followed. Also provided was a summary of the data analysis used to address the research questions and a discussion of

the limitations of the study. Chapter IV provides the results of the study.

Chapter IV

RESULTS OF THE STUDY

Survey Responses

The Alumni Affairs Office for Virginia Commonwealth University maintains an alumni database with valid addresses for 2,000 of the 2,752 graduates who were awarded master's degrees in business during academic years 1970-1971 to 1989-1990. A randomized, stratified sample of 1,000 names was generated from the alumni database population for the period of interest, with 250 alumni drawn from each of four five-year periods (1970-1971 to 1974-1975; 1975-1976 to 1979-1980; 1980-1981 to 1984-1985; 1985-1986 to 1989-1990).

On March 4, 1996, initial survey packets were mailed to the 1,000 alumni in the sample population. A follow-up postcard was mailed on March 11, 1996. A second set of survey packets was mailed on March 25, 1996. The data analysis included all surveys received by April 11, 1996.

Eighteen surveys were returned because of bad addresses and six by retirees who were ineligible to complete the Minnesota Satisfaction Questionnaire, an instrument which measures current job satisfaction. The investigator, whose

name was generated as part of the random sample, was removed from the sample population, as well as one deceased alumni.

The initial mailing and follow-up postcard generated 180 responses. The final response rate was 32.2%, a total of 314 responses from an adjusted sample population of 975.

Description of Survey Respondents

Gender. Respondents to the survey included 236 males (76.9%) and 71 females (23.1%). Table 1 displays these results. MSQ normative data for the occupational group of managers, N = 135, reported 134 males (99.3%), 1 female (0.7%) (Weiss et. al, 1967). Compared to the overall population of master's degree recipients (47% males, 53% females) reported by Conrad, Haworth, and Millar (1993), females were under-represented in the sample population.

Table 1

Gender of Respondents

Gender	f	%
Male	236	76.9
Female	71	23.1
Totals*	307	100.0

*Seven individuals did not respond to this question.

Ethnicity. Six ethnic categories were identified: Black/African-American/Non-Hispanic, Asian/Oriental or Pacific Islander, American Indian or Alaskan Native, Hispanic, White/Non-Hispanic, and other. Table 2 displays the results. For purposes of data analysis, the six ethnic categories were collapsed into two categories: White/Non-Hispanic, 288 (92.6%), and all others, 23 (7.4%).

MSQ normative data did not report ethnicity (Weiss et. al, 1967). Compared to the overall population of master's degree recipients (9.6% minorities; Conrad et. al, 1993), minorities were under-represented in the sample population.

Table 2

Ethnicity of Respondents

Ethnicity	f	%
Black/African-American/Non-Hispanic	12	3.9
Asian/Oriental or Pacific Islander	5	1.6
American Indian or Alaskan Native	0	0.0
Hispanic	2	0.6
White/Non-Hispanic	288	92.6
Other	4	1.3
Totals*	311	100.0

*Three individuals did not respond to this question.

Age. Ages of respondents were grouped according to age categories used in the 1967 MSQ normative data: 26 to 35, 36 to 45, 46 to 55, 56 to 65, 66 and over (Weiss et. al, 1967). The largest group (124, 40.9%) was in the 46-to-55 age group, compared to the 36-to-45 age group (42, 31%) for the 1967 MSQ normative group. Table 3 displays the results.

Ages of respondents in this study ranged from 29 to 72 years. The mean age of the respondents was 49.5 years (SD = 7.77). Individual ages were not provided for the 1967 MSQ normative group, therefore, measures of central tendencies could not be computed for the comparison group.

Table 3

Age of Respondents

Age (years)	f	%
26-35	25	8.3
36-45	122	40.3
46-55	124	40.9
56-65	26	8.6
66 and over	6	2.0
Totals*	303	100.0

*Eleven individuals did not respond to this question.

Master's degree program. The survey identified five master's degree programs: Master of Accountancy, Master of Arts in Economics, Master of Business Administration, Master of Science in Business, and Master of Taxation. Table 4 displays the results.

For purposes of analysis, these data were collapsed into two categories: Master of Business Administration and all other master's degree programs in business. More than half (180, 57.5%) of the respondents received M.B.A.'s; all other categories combined to total 133 (42.5%) degrees.

Degree designations were not reported for the 1967 MSQ normative group, merely that 3 (2%) individuals had completed fewer than 12 years of schooling, 47 (35%) had completed high school, 37 (27%) had completed some college and 46 (34%) had graduated from college (Weiss et. al, 1967). It should be noted that level of education is one of the most important differences between the 1996 sample population and the 1967 MSQ comparison group, indicating a very strong need for more current normative data. Because the 1996 sample population was drawn from master's degree recipients, not managers at large, no specific conclusions could be made about credential inflation. Given the fact that, from the random sample of 135 managers tested in 1967, no one had completed an advanced degree, credential inflation could be inferred.

Table 4

Master's Degree Programs of Respondents

Degree Program	f	%
Master of Accountancy	11	3.5
Master of Arts in Economics	7	2.2
Master of Business Administration	180	57.5
Master of Science in Business	106	33.9
Master of Taxation	9	2.9
Total*	313	100.0

*One individual did not respond to this question.

Master's degree date. Respondents reported degree dates ranging from 1968 to 1991[4] with the greatest number of respondents, 22 (7.2%), reporting that they completed their master's degree programs in 1985. For purposes of analysis, these data were collapsed into the same five-year periods used to stratify the sample for this study: 1970-1971 to 1974-1975; 1975-1976 to 1979-1980; 1980-1981 to

[4]Information about the sample population was obtained from official university records for alumni who graduated during academic years 1970-1971 to 1989-1990. Two surveys, however, reported years 1968 and 1991. Since diploma dates and actual completion dates sometimes vary, the researcher included the 1968 response with 1970 responses, the 1991 response with 1990 responses.

1984-1985; 1985-1986 to 1989-1990. Responses were distributed evenly across each five-year period, with a slightly larger response rate, 81 (26.4%), for 1980-1981 to 1984-1985. Table 5 displays the results.

Table 5

Master's Degree Dates of Respondents

Degree Date	f	%
1970-1971 to 1974-1975	77	25.1
1975-1976 to 1979-1980	78	25.4
1980-1981 to 1984-1985	81	26.4
1985-1986 to 1989-1990	71	23.1
Totals*	307	100.0

*Seven individuals did not respond to this question.

Undergraduate degree discipline. The survey identified two categories for undergraduate degree discipline: business (or business related) and other. One hundred ninety-nine (64.8%) respondents reported undergraduate degree discipline as business or business related, 108 (35.2%) as other. Table 6 provides a breakdown of disciplines. Of those respondents who indicated nonbusiness disciplines, 30 (9.6%) reported undergraduate degrees in the

humanities and sciences, 27 (8.6%) in engineering or architecture.

Table 6

Undergraduate Degree Disciplines of Respondents

Discipline	f	%
Business or business-related	199	64.8
Other	108	35.2
Arts	(6)	(1.9)
Education	(6)	(1.9)
Engineering or Architecture	(27)	(8.8)
Health Professions	(5)	(1.6)
Humanities and Social Sciences	(30)	(9.8)
Physical and Life Sciences	(13)	(4.2)
Social Work	(1)	(0.3)
Unspecified	(20)	(6.5)
Totals*	307	100.0

*Seven individuals did not respond to this question.

Current job function. Respondents were asked to describe current job function in terms of the following categories: accounting, finance, consumer banking,

consulting, corporate planning, information systems, management, marketing, operations/production, real estate, teaching, and other. Table 7 displays the results. The 1967 MSQ normative data did not provide job function data.

The largest number of respondents, 82 (27.4%), reported management for current job function. Twice as many individuals reported information systems (25, 8.4%) compared to operations/production (12, 4.0%), reflecting a post-industrial shift away from a goods-producing economy.

Table 7
Current Job Functions of Respondents

Job Function	f	%
Accounting	29	9.7
Consumer Banking	0	0.0
Consulting	15	5.0
Corporate Planning	6	2.0
Finance	22	7.4
Information Systems	25	8.4
Management	82	27.4
Marketing	18	6.0
Operations/Production	12	4.0
Real Estate	8	2.7
Teaching	25	8.4
Other	57	19.1
Totals*	299	100.0

*Fifteen individuals did not respond to this question.

Respondents also were asked to describe their current job functions in terms of a service or manufacturing orientation. Two hundred fifty eight (86.6%) respondents characterized their current job functions as service-oriented, 40 (13.4%) as manufacturing-oriented. These results tend to support projections about changing patterns in the occupational distribution of the U.S. labor force (Hodson and Sullivan, 1990, cited in Hage & Powers, 1992), as well as findings relating to the changing nature of work and the post-industrial shift from a productive to a reproductive society (Bell, 1973). Table 8 displays the results.

Table 8

Orientation of Current Job Functions of Respondents

Orientation	f	%
Service	258	86.2
Manufacturing	40	13.4
Totals*	298	100.0

*Sixteen individuals did not respond to this question.

Current industry type. The survey identified four industry types: private sector/for profit; private

sector/nonprofit; public sector/for profit; public sector/nonprofit. One hundred seventy eight (58.9%) individuals reported current industry type as private/for profit, 77 (25.5%) as public/nonprofit. Nearly two-thirds (202, 66.9%) of the respondents described current industry type as for profit, which is very much in keeping with the general public's image of this population. Table 9 displays the results.

Table 9

Current Industry Type of Respondents

Industry Type	f	%
Private Sector/For Profit	178	58.9
Private Sector/Nonprofit	23	7.6
Public Sector/For Profit	24	7.9
Public Sector/Nonprofit	77	25.5
Totals*	302	100.0

*Twelve individuals did not respond to this question.

Current annual salary before taxes. The survey identified five categories for current annual salary before taxes: less than $30,000, $30,000 to $49,999, $50,000 to $74,999, $75,000 to $99,999, and $100,000 or more. More

than one third of the respondents (115, 37.7%) reported current annual salaries before taxes in the $50,000-to-$74,999 range, with 52 (17.1%) reporting salaries of $100,000 or more. The 1967 MSQ normative data did not provide information on salary. Table 10 displays the results.

Table 10

Current Annual Salary Before Taxes of Respondents

Annual Salary Before Taxes	f	%
Less than $30,000	18	5.9
$30,000 - $49,999	57	18.7
$50,000 - $74,999	115	37.7
$75,000 - $99,999	63	20.7
$100,000 or more	52	17.1
Totals*	305	100.0

*Nine individuals did not respond to this question.

Current job tenure. Responses relating to current job tenure ranged from less than one year to 38 years, with a mean of 7.9 years (SD = 7.38), a median of 5 years, and a mode of 1 year. Forty-four (15.7%) respondents reported

current job tenure as 1 year, with more than half (143, 50.9%) reporting 5 years or less.

For purposes of analysis, responses were collapsed into categories which corresponded to the categories used in the 1967 MSQ normative data for managers: 1 year or less, 2 to 5 years, 6 to 10 years, 11 to 20 years, 21 to 30 years, and 31 years and over. The largest number of respondents (n = 99, 35.2%) reported current job tenure as 2 to 5 years, the same as for the normative group (n = 40, 30%). Table 11 displays the results.

Table 11

Current Job Tenure of Respondents

Number of years	f	%
1 year or less	44	15.6
2 to 5 years	99	35.2
6 to 10 years	68	24.2
11 to 20 years	48	17.1
21 to 30 years	19	6.8
31 years and over	3	1.1
Totals*	281	100.0

*Thirty-three individuals did not respond to this question.

Current industry tenure. Responses relating to current industry tenure ranged from less than 1 year to 55 years, with a mean of 16.3 years (SD = 3.27), a median of 16 years, and a mode of 20 years. The largest number of respondents (130, 43.9%) reported length of time in current line of work as 11 to 20 years. Industry tenure was not reported for the 1967 normative group. Table 12 displays the results for this question.

Table 12

Current Industry Tenure of Respondents

Number of years	f	%
1 year or less	9	3.0
2 to 5 years	21	7.1
6 to 10 years	51	17.2
11 to 20 years	130	43.9
21 to 30 years	75	25.3
31 years and over	10	3.4
Totals*	296	100.0

*Eighteen individuals did not respond to this question.

Research Questions

The following sections address the study's six research questions which were concerned with overall job satisfaction; individual job satisfaction factors; educational satisfaction; involvement in post-industrial change; relationships among job satisfaction, educational satisfaction, and involvement in post-industrial change; and relationships with the demographic variables of interest.

Overall job satisfaction. The first research question examined overall current job satisfaction, as measured by the 1967 long-form Minnesota Satisfaction Questionnaire. The overall measure of current job satisfaction provided by the MSQ was a sum-of-facets measure derived from responses to 20 of the 100 MSQ questions, one from each facet, with a possible range of scores from 20 to 100. General satisfaction scores for the sample population ranged from 20 to 100, with a mean of 68 (*SD* = 14.49).

Weiss, Davis, England, and Lofquist (1967) state that the most meaningful way to interpret the results of the Minnesota Satisfaction Questionnaire is to compare percentile scores for appropriate normative groups. A percentile score of 74 or above indicates a high level of general job satisfaction; 25 or below indicates a low level of general job satisfaction; and scores in the mid-percentile range indicate moderate job satisfaction.

The mean score for overall job satisfaction reported for the 1967 MSQ occupational group of managers, 82.37 (*SD* = 9.34), fell between the eighth and ninth percentiles, as compared to the 1996 sample population's mean MSQ score of 68, which fell between the sixth and seventh percentiles. The 1996 sample population had the lower level of overall job satisfaction.

An independent samples *t*-test of the difference between the means of the 1996 sample population and the 1967 MSQ normative group was performed to verify that the means were statistically different. The *t*-statistic indicated a statistical difference between the two means at the .001 level of significance.

Table 13

Independent Samples t-Test of the Difference of Two Means

Group	*N*	*M*	*SD*	*t*	*p*
1996 sample group	314	68.0	14.49		
1967 MSQ normative group	135	82.4	9.3	7.05	.001

Again, it is important to note that the 1967 MSQ instrument and normative data are nearly 30 years old and may not be relevant for comparison purposes. While the

literature speaks to the extensive use of the MSQ, its psychometric quality, and its practical utility (Bolton, 1985), there is a strong need to update the instrument and the normative data to reflect post-industrial influences on education levels, technology, and organizational structures.

Job satisfaction factors. The second research question examined the 20 job satisfaction factors measured by the Minnesota Satisfaction Questionnaire. Table 14 displays the respondents' mean job satisfactions factor scores in descending order.

Respondents were most satisfied with moral values, activity, responsibility, and creativity, as compared to the 1967 MSQ normative group, whose members were most satisfied with moral values, activity, security, and creativity. Respondents were least satisfied with compensation, supervision-technical, security, company policies and practices, and advancement, as compared to social status, recognition, company policies and practices, advancement, and compensation for the 1967 MSQ normative group.

Overall, the individual job satisfaction factors for the 1967 MSQ normative group were higher (ranging from 17.77 to 22.08) than for the 1996 sample population (ranging from 13.60 to 19.256). Both groups indicated that they were most satisfied with intrinsic factors (e.g., moral values, activity, creativity) and least satisfied with extrinsic

Table 14

Mean Job Satisfaction Factor Scores for Respondents, N = 313

Factor	M	SD
Moral values	19.25	5.51
Activity	17.91	5.50
Responsibility	17.86	5.41
Creativity	17.79	5.62
Achievement	17.69	5.60
Social Service	17.56	5.74
Variety	17.24	5.56
Ability utilization	17.13	5.90
Independence	17.09	5.44
Working conditions	16.74	5.67
Authority	16.27	5.40
Co-workers	16.26	5.26
Recognition	15.59	5.78
Social status	15.28	5.41
Supervision-human relations	15.17	6.48
Compensation	14.96	5.60
Supervision-technical	14.86	6.21
Security	14.76	5.81
Company policies and practices	13.72	5.71
Advancement	13.60	6.10

factors (e.g., compensation, company policies and practices, advancement). These findings support Herzberg's two-factor theory of motivation which posits intrinsic factors as satisfiers and extrinsic factors as hygiene factors which do not contribute to satisfaction (Herzberg, et. al, 1959). Table 15 compares the mean job satisfaction factor scores of the 1996 sample population with those of the 1967 MSQ normative group.

It is interesting to note the differences in levels of satisfaction expressed for the factor of "authority," 20.7 for the 1967 normative group as compared to 16.3 for the 1996 sample population. This finding appears to reflect the general discontent with traditional authority figures and structures expressed by many of the "baby-boom" generation during the 1960s and 1970s.

It is also interesting to note the differences in levels of satisfaction expressed for the factor of "security," 21.6 for the 1967 normative group as compared to 14.8 for the 1996 sample population. This finding appears to reflect growing concerns with job security due to changes occurring in post-industrial organizations, i.e., down-sizing, re-engineering, elimination of jobs and industries, elimination of management positions.

Table 15

Comparison of Mean Job Satisfaction Factor Scores

Factor	1996 Sample Population (N = 313)	1967 Normative Group (N = 135)
Ability utilization	17.1	20.9
Achievement	17.7	21.4
Activity	17.9	21.8
Advancement	13.6	19.2
Authority	16.3	20.7
Company policies and practices	13.7	19.5
Compensation	15.0	17.8
Co-workers	16.3	20.9
Creativity	17.8	21.4
Independence	17.1	20.7
Moral values	19.3	22.1
Recognition	15.6	19.5
Responsibility	17.9	21.3
Security	14.8	21.6
Social Service	17.6	21.4
Social status	15.3	19.7
Supervision-human relations	15.2	20.6
Supervision-technical	14.9	20.2
Variety	17.2	21.2
Working conditions	16.7	20.2
General satisfaction	68.0	82.4

Pearson's Product correlation coefficients were computed for each of the 20 MSQ job satisfaction factors with the overall MSQ measure of job satisfaction. Correlation coefficients ranged from .86 for "responsibility" to .59 for "independence" and "working conditions." Table 16 displays the results.

Educational satisfaction. The third research question examined educational satisfaction using five questions developed by the investigator to assess satisfaction with cost, content, and quality of instruction; contribution of master's degree education in business to accomplishment of career goals; and usefulness (i.e., applicability, relevancy) of the master's degree in business education in the workplace. Participants were instructed to rate the five questions using a four-point Likert scale ranging from "Very Satisfied" to "Very Dissatisfied." Response choices for these questions ranged from "Very Satisfied" = 1 to "Very Dissatisfied" = 4. To parallel MSQ job satisfaction scores, responses to educational satisfaction questions were reordered from lower to higher level so that "Very Dissatisfied" = 1 and "Very Satisfied" = 4. An overall measure of "educational satisfaction" was obtained by summing responses to the five questions, with a possible range of scores of 5 to 20. Overall educational satisfaction scores for the sample population ranged from 10

Table 16

Pearson Product Correlation Coefficients Between MSQ Job Satisfaction Factors and MSQ General Satisfaction Score

Factor	MSQ General Satisfaction (N = 313)	p
Ability utilization	.78	.001
Achievement	.84	.001
Activity	.78	.001
Advancement	.74	.001
Authority	.76	.001
Company policies and practices	.75	.001
Compensation	.62	.001
Co-workers	.72	.001
Creativity	.80	.001
Independence	.59	.001
Moral values	.60	.001
Recognition	.78	.001
Responsibility	.86	.001
Security	.67	.001
Social Service	.66	.001
Social status	.76	.001
Supervision-human relations	.70	.001
Supervision-technical	.69	.001
Variety	.78	.001
Working conditions	.59	.001

to 20, with a mean of 16.49 (SD = 2.26), indicating a moderate to high level of educational satisfaction.[5]

Respondents were most satisfied that their master's degree education in business had contributed to achievement of their career goals and least satisfied with the cost of instruction. These findings support those in the literature which show general agreement, on the part of graduates, about the positive outcomes of their graduate education (Conrad et. al, 1993). Table 17 displays the mean scores from highest (most satisfying) to lowest (least satisfying).

Table 17

Mean Educational Satisfaction Scores for Respondents

Factor	M	SD	N
Contribution to career goals	3.55	.54	311
Usefulness in workplace	3.29	.56	311
Quality of instruction	3.24	.56	311
Content of instruction	3.21	.64	309
Cost of instruction	3.20	.71	309

[5]For purposes of chi-square analysis, overall measures of educational satisfaction, as well as job satisfaction, were categorized in terms of low (the lowest 31% of the measures obtained), moderate (the middle 31%), and high (the highest 38%). This categorization approximated the normal distribution of the findings obtained for the study, as well as the distribution of MSQ scores reported for the 1967 MSQ normative data.

Pearson's Product correlation coefficients were computed for each of the five educational satisfaction factors with the overall measure obtained for educational satisfaction. Correlation coefficients ranged from .66 for "cost" to .78 for "usefulness in the workplace." Table 18 displays the results.

Table 18

Pearson Product Correlation Coefficients Between Educational Satisfaction Factors and Overall Educational Satisfaction

Factor	Educational Satisfaction (N = 313)	p
Contribution to career goals	.78	.001
Usefulness in workplace	.78	.001
Quality of instruction	.75	.001
Content of instruction	.77	.001
Cost of instruction	.66	.001

Post-industrial change. The fourth research question was concerned with involvement in post-industrial change and the nature of that involvement. Respondents were asked to identify examples of organizational changes they had experienced as a result of organizational downsizing,

restructuring, job re-engineering, or relocation or elimination of industries or markets.

Changes were defined by the researcher as (a) positive (e.g., promotion and/or increases in pay or benefits, voluntary relocation requiring moving to another city or state, voluntary change in job function or task, voluntary retirement or work transition buy-out); (b) negative (e.g., temporary lay-off or permanent job loss, demotion and/or decrease in pay or benefits, mandatory relocation requiring moving to another city or state, mandatory change in job function or task, expanded workload and/or increased level of responsibility without a corresponding promotion or increase in salary, or mandatory retirement or work transition buy-out); (c) mixed (some combination of positive and negative involvement); or (d) none (no involvement).

It was observed that 222 (79.3%, N = 280) respondents had been involved in some type of post-industrial change. Involvement was characterized as positive for 90 (32.1%) respondents, negative for 58 (20.7%), and mixed for 74 (26.4%). Fifty-eight (20.7%) respondents reported no involvement in any form of post-industrial change as a result of organizational downsizing, restructuring, job re-engineering, relocation or elimination of industries or markets. Thirty-four (10.8%) individuals did not respond to this question. Table 19 displays the results.

Table 19

Types of Involvement in Post-Industrial Change of Respondents

Change	N	%
Positive	90	32.1
Negative	58	20.7
Mixed	74	26.4
None	58	20.7
Totals*	280	100.0

*Thirty-four individuals did not respond to this question.

Relationship of overall job satisfaction, overall education satisfaction, and involvement in post-industrial change. The fifth research question was concerned with the relationship among overall current job satisfaction, educational satisfaction, and involvement in post-industrial change for graduates of master's degree programs in business. Pearson Product correlation coefficients (See Table 1, Appendix F) determined significance at the .05 level for (1) the relationship between job and educational satisfaction ($p = .001$); (2) the relationship between job satisfaction and involvement in post-industrial change ($p = .014$); and (3) the relationship between educational

satisfaction and involvement in post-industrial change (p = .002). Chi-square and contingency coefficient analyses were used to examine the relationships among the three variables.

First, a 3 x 3 chi-square analysis examined the relationship between overall job satisfaction and educational satisfaction. A contingency coefficient post hoc test (X^2 = .29254) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (4, N = 295) $p \leq$ .00001. Table 20 displays the results.

Table 20

A 3 x 3 Chi-square Analysis of Job Satisfaction (JS) and Educational Satisfaction (ES)

	Low ES	Moderate ES	High ES	Row Total
Low JS	47	29	18	94 31.9
Moderate JS	35	38	35	108 36.6
High JS	21	23	49	93 31.5
Column Total	103 34.9	90 30.5	102 34.6	295* 100.0

*Significant at $p \leq .05$

Next, a 3 x 4 chi-square analysis examined the relationship between overall job satisfaction and involvement in post-industrial change. A contingency coefficient post hoc test (X^2 = .22034) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (6, N = 269) $p \leq .03285$. Table 21 displays the results.

Table 21

A 3 x 4 Chi-square Analysis of Job Satisfaction (JS) and Involvement in Post-Industrial Change

	Negative Change	Positive Change	Mixed Change	None	Row Total
Low JS	38	14	25	8	85 31.6
Moderate JS	27	21	28	20	96 35.7
High JS	23	22	21	22	88 32.7
Column Total	88 32.7	57 21.2	74 27.5	50 18.6	269* 100.0

*Significant at $p \leq .05$

A 3 x 4 chi-square analysis examined the relationship between overall educational satisfaction and involvement in post-industrial change. A contingency coefficient post hoc test (X^2 = .28131) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (6, N = 274) $p \leq .00063$. Table 22 displays the results.

Table 22

A 3 x 4 Chi-square Analysis of Educational Satisfaction (ES) and Involvement in Post-Industrial Change

	Negative Change	Positive Change	Mixed Change	None	Row Total
Low ES	46	11	27	12	96 35.0
Moderate JS	22	20	24	20	86 31.4
High JS	20	26	22	24	92 33.6
Column Total	88 32.1	57 20.8	73 26.6	56 20.4	274* 100.0

*Significant at $p \leq .05$

A series of contingency tables tested the independence of job satisfaction and educational satisfaction in terms of types of involvement in post-industrial change. Contingency coefficient post hoc tests were computed to measure the strength of any associations. The findings are summarized as follows.

A Pearson Product correlation (See Table 2, Appendix F) determined significance at the .05 level for the relationship between job and educational satisfaction for those involved in positive post-industrial change (p = .034). A 3 x 3 chi-square analysis examined this relationship. When controlling for the variable of involvement in positive post-industrial change, however, a contingency coefficient post hoc test (X^2 = .19591) showed the relationship between the two variables to be unrelated at the $p \leq .05$ level of significance, X^2 (4, N = 56) $p \leq$ .69620, supporting the role of post-industrial change as an intervening variable. Table 23 displays the results.

Table 23

A 3 x 3 Chi-square Analysis of Job Satisfaction and Educational Satisfaction - Positive Post-Industrial Change

	Low ES	Moderate ES	High ES	Row Total
Low JS	3	6	5	14 25.0
Moderate JS	5	8	8	21 37.5
High JS	3	6	12	21 37.5
Column Total	11 19.6	20 35.7	25 44.6	56* 100.0

*Not significant at $p \leq .05$

A Pearson Product correlation (See Table 3, Appendix F) determined significance at the .05 level for the relationship between job and educational satisfaction for those involved in negative post-industrial change (p = .001). A 3 x 3 chi-square analysis examined this relationship. When controlling for the variable of involvement in negative post-industrial change, however, a contingency coefficient post hoc test (X^2 = .29431) showed the relationship between the two variables to be unrelated at the $p \leq .05$ level of significance, X^2 (4, N = 86) $p \leq$ .08605, supporting the role of post-industrial change as an intervening variable. Table 24 displays the results.

Table 24

A 3 x 3 Chi-square Analysis of Job Satisfaction (JS) and Educational Satisfaction (ES) - Negative Post-Industrial Change

	Low ES	Moderate ES	High ES	Row Total
Low JS	23	6	10	37 43.0
Moderate JS	14	6	7	27 31.4
High JS	7	6	9	22 25.6
Column Total	44 51.2	22 25.6	20 23.3	86* 100.0

* Not significant at $p \leq .05$

A Pearson Product correlation (See Table 4, Appendix F) determined significance at the .05 level for the relationship between job and educational satisfaction for mixed involvement in post-industrial change ($p = .026$). A 3 x 3 chi-square analysis examined this relationship. When controlling for the variable of mixed involvement in post-industrial change, however, a contingency coefficient post hoc test ($X^2 = .29424$) showed the relationship between the two variables to be unrelated at the $p \leq .05$ level of significance, X^2 (4, $N = 73$) $p \leq .14022$, again reflecting the role of post-industrial change as an intervening variable. Table 25 displays the results.

Table 25

A 3 x 3 Chi-square Analysis of Job Satisfaction (JS) and Educational Satisfaction (ES) - Mixed Post-Industrial Change

	Low ES	Moderate ES	High ES	Row Total
Low JS	12	7	5	24 32.0
Moderate JS	7	13	8	28 38.4
High JS	8	4	9	21 28.8
Column Total	27 37.0	24 32.9	22 30.1	73* 100.0

* Not significant at $p \leq .05$

A Pearson Product correlation (See Table 5, Appendix F) determined significance at the .05 level for the relationship between job and educational satisfaction for no involvement in post-industrial change ($p = .001$). A 3 x 3 chi-square analysis examined this relationship. When controlling for the variable of no involvement in post-industrial change, a contingency coefficient post hoc test ($X^2 = .38293$) showed the relationship between the two variables to be unrelated at the $p \leq .05$ level of significance, X^2 (4, $N = 49$) $p \leq .07735$. As with positive, negative, and mixed involvement categories, this finding reflects the role of post-industrial change as an intervening variable. Table 26 displays the results.

Table 26

A 3 x 3 Chi-square Analysis of Job Satisfaction (JS) and Educational Satisfaction (ES) - No Post-Industrial Change

	Low ES	Moderate ES	High ES	Row Total
Low JS	3	4	1	8 16.3
Moderate JS	5	8	6	19 38.8
High JS	2	6	14	22 44.9
Column Total	10 20.4	18 36.7	21 42.9	49* 100.0

* Not significant at $p \leq .05$

In summary, the overall relationship among job satisfaction, educational satisfaction, and involvement in post-industrial change was found to be statistically significant at the .05 level. When controlling for the different categories of involvement in post-industrial change, no statistically significant findings were observed. These findings support the role of post-industrial change as an intervening variable.

Demographic variables. The sixth research question examined job satisfaction, educational satisfaction, and involvement in post-industrial change in relation to the demographic variables of gender, age, ethnicity, master's degree program, master's degree date, undergraduate degree discipline, current job function, current industry type, current annual salary, current job tenure, and current industry tenure. Pearson Product correlation coefficients were computed to examine statistical significance at the .05 level for relationships among the independent demographic variables, the dependent variables of job satisfaction and educational satisfaction, and the intervening variable of involvement in post-industrial change. Tables 1 to 5 in Appendix F display correlation coefficient matrices.

Utilizing Pearson Product correlation coefficients, statistical significance at the .05 level was observed for the relationships between job satisfaction and ethnicity (p

= .048), current job function (p = .047), salary (p = .001), and current job tenure (p = .045). For those involved in positive post-industrial change, statistical significance was observed for the relationships between job satisfaction and age (p = .005) and job satisfaction and master's degree date (p = .043). For negative post-industrial change, statistical significance was observed for job satisfaction and current job tenure (p = .054). For mixed involvement in post-industrial change, statistical significance was observed for job satisfaction and undergraduate degree discipline (p = .012) and job satisfaction and salary (p = .011). No statistically significant relationships were observed at the .05 level for those who reported no involvement in post-industrial change.

Statistical significance at the .05 level was observed for relationships between educational satisfaction and age (p = .002), master's degree date (p = .001), salary (p = .001), and current job tenure (p = .006). For positive post-industrial change, statistical significance was observed for educational satisfaction and master's degree date (p = .23). For negative post-industrial change, statistical significance was observed for educational satisfaction and current job function (p = .047). For mixed post-industrial change, statistical significance was observed for educational satisfaction and age (p = .039) and

educational satisfaction and current job tenure (p = .20). For no involvement in post-industrial change, statistical significance was observed for educational satisfaction and ethnicity (p = .046) and educational satisfaction and salary (p = .046).

Where statistical significance was indicated, chi-square and contingency coefficient analyses were used to determine the nature and strength of those relationships. A series of contingency tables examined the independence of the variables. The relationships for which statistical significance were observed are reported as follows.

A 3 x 5 chi-square analysis examined the relationship between overall job satisfaction and current annual salary before taxes. A contingency coefficient post hoc test (X^2 = .24134) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (8, N = 296) $p \leq .01904$. Table 27 displays these results.

Table 27

A 3 X 5 Chi-square Analysis of Job Satisfaction (JS) and Current Annual Salary Before Taxes (In Thousands)

	< $30	$30 - 49.9	$50 - 74.9	$75 - 99.9	≥ $100	Row Total
Low JS	3	21	45	15	10	94 31.8
Moderate JS	9	20	39	22	17	107 36.1
High JS	2	14	30	25	24	95 32.1
Column Total	14 4.7	55 18.6	114 38.5	62 20.9	51 17.2	296* 100.0

* Significant at $p \leq .05$

Statistical significance at the .05 level was observed, as well, for the relationship between overall job satisfaction and current annual salary before taxes for males [X^2 (8, N = 227) $p \leq .01954$] and whites [X^2 (8, N = 223) $p \leq .01001$]. Extremely small cell frequencies (fewer than 5 for more than half of the total cells) precluded

meaningful analyses for females and minorities. When data were sorted by master's degree date, statistical significance at the .05 level also was observed for the relationship between overall job satisfaction and current annual salary before taxes for those respondents who graduated during academic years 1980-1981 to 1984-1985 [X^2 (8, $\underline{N}$ = 78) $\underline{p} \leq$ .01283].

A 3 x 2 chi-square analysis examined the relationship between overall job satisfaction and master's degree program. A contingency coefficient post hoc test (X^2 = .14662) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (2, N = 299) $p \leq .03745$. Table 28 displays these results. Chi-square analysis showed statistical significance as well for those involved in negative post-industrial change [contingency coefficient (X^2 = .40038), X^2 (2, N = 50) $p \leq .00846$].

Table 28

A 3 X 2 Chi-square Analysis of Job Satisfaction (JS) and Master's Degree Program

	M.B.A.	All Others	Row Total
Low JS	60	36	96 32.1
Moderate JS	53	56	109 36.5
High JS	61	33	94 31.4
Column Total	174 58.2	125 41.8	299* 100.0

*Significant at $p \leq .05$

A 3 x 5 chi-square analysis examined the relationship between educational satisfaction and current annual salary before taxes. A contingency coefficient post hoc test (X^2 = .23900) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (8, N = 299) $p \leq .02039$. Table 29 displays these results. Statistical significance at the .05 level was observed, as well, for the relationship between overall educational satisfaction and current annual salary before taxes for males [X^2 (8, N = 226) $p \leq .01195$] and whites [X^2 (8, N = 276) $p \leq .03853$]. Again, extremely small cell frequencies precluded meaningful analyses for females and minorities.

Table 29

A 3 X 5 Chi-square Analysis of Educational Satisfaction (ES) and Current Annual Salary Before Taxes (In Thousands)

	< $30	$30 - 49.9	$50 - 74.9	$75 - 99.9	≥ $100	Row Total
Low ES	9	17	51	19	10	105 35.5
Moderate Es	5	22	26	19	19	91 30.4
High ES	2	17	36	25	22	102 34.1
Column Total	16 5.4	56 18.7	113 37.8	63 21.1	51 17.1	299* 100.0

*Significant at $p \leq .05$

A 3 x 5 chi-square analysis examined the relationship between educational satisfaction and age. A contingency coefficient post hoc test (X^2 = .26099) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (8, N = 297) $p \leq .00549$. Table 30 displays the results.

Table 30

A 3 X 5 Chi-square Analysis of Educational Satisfaction (ES) and Age

	26-35	36-45	46-55	56-65	≥ 65	Row Total
Low ES	6	60	31	6		103 34.7
Moderate ES	8	28	44	9	2	91 30.6
High ES	10	33	47	10	3	103 34.7
Column Total	24 8.1	121 40.7	122 41.1	25 8.4	5 1.7	297* 100.0

*Significant at $p \leq .05$

A 3 x 4 chi-square analysis examined the relationship between educational satisfaction and master's degree date for the total sample population. A contingency coefficient post hoc test (X^2 = .29165) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (6, N = 307) $p \leq .00007$. Table 31 displays the results.

Table 31

A 3 x 4 Chi-square Analysis of Educational Satisfaction (ES) and Master's Degree Date

	1971/72-1974/75	1975/76-1979/80	1981/82-1984/85	1985/86-1989/90	Row Total
Low ES	17	18	43	30	108 35.2
Moderate ES	25	22	21	25	93 30.3
High ES	33	37	15	21	106 34.5
Column Total	75 24.4	77 25.1	79 24.8	76 24.8	307* 100.0

*Significant at $p \leq .05$

Of interest is that the number of individuals reporting low educational satisfaction increases across time (f = 17 for 1971-1972/1974-1975 to f = 30 for 1985-1986/1989-1990), while the number of individuals reporting high educational satisfaction decreases (f = 33 to f = 21 for the respective time periods). These findings could reflect a number of

influences over time, i.e., the aging process, job dissatisfaction, salary dissatisfaction, or involvement in negative post-industrial change.

Statistical significance at the .05 level was observed, as well, for the relationship between overall educational satisfaction and master's degree date for respondents who reported involvement in negative post-industrial change. A contingency coefficient post hoc test (X^2 = .40505) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (6, N = 90) $p \leq .00713$. Table 32 displays the results.

Table 32

A 3 x 4 Chi-square Analysis of Educational Satisfaction (ES) and Master's Degree Date - 1980-1981 to 1984-1985

	1971/72-1974/75	1975/76-1979/80	1981/82-1984/85	1985/86-1989/90	Row Total
Low ES	6	8	22	10	46 51.1
Moderate ES	3	9	3	7	22 24.4
High ES	7	8	2	5	22 24.4
Column Total	16 17.8	25 27.8	27 30.0	22 24.4	90* 100.0

*Significant at $p \leq .05$

A 3 x 2 chi-square analysis examined the relationship between educational satisfaction and current job function. A contingency coefficient post hoc test (X^2 = .17909) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (2, N = 295) $p \leq .00754$. Table 33 displays the results. The distribution of the frequencies clearly reflects the post-industrial shift from a productive (i.e., manufacturing) economy to a reproductive (i.e., service) economy, with 86.4% employed in the service sector as opposed to 13.6% in the manufacturing sector.

Table 33

A 3 X 2 Chi-square Analysis of Educational Satisfaction (ES) and Current Job Function

	Service	Manufacturing	Row Total
Low ES	82	23	105 35.6
Moderate ES	79	7	86 29.2
High ES	94	10	104 35.3
Column Total	255 86.4	40 13.6	295* 100.0

*Significant at $p \leq .05$

A 3 x 4 chi-square analysis examined the relationship between educational satisfaction and current industry type. A contingency coefficient post hoc test (X^2 = .20728) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (6, N = 297) $p \leq .03803$. Table 34 displays the results.

Table 34

A 3 X 4 Chi-square Analysis of Educational Satisfaction (ES) and Current Industry Type

	Private/ For Profit	Private/ Nonprofit	Public/ For Profit	Public/ Nonprofit	Row Total
Low ES	63	7	12	22	104 35.0
Moderate ES	52	9		28	89 30.0
High ES	59	7	12	26	104 35.0
Column Total	174 58.6	23 7.7	24 8.1	76 25.6	297* 100.0

*Significant at $p \leq .05$

A 4 x 4 chi-square analysis examined the relationship between involvement in post-industrial change and current industry type. A contingency coefficient post hoc test (X^2 = .23609) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (9, N = 279) $p \leq .05943$. Table 35 displays the results.

Table 35

A 4 x 4 Chi-Square Analysis of Involvement in Post-industrial Change and Current Industry Type

	Private/ For Profit	Private/ Nonprofit	Public/ For Profit	Public/ Nonprofit	Row Total
Negative Change	53	4	10	23	90 32.3
Positive Change	43	4	3	13	63 22.6
Mixed Change	46	3	5	20	74 26.5
No Change	23	9	3	17	52 18.6
Column Total	165 59.1	20 7.2	21 7.5	73 26.2	279* 100.0

*Significant at $p \leq .05$

A 4 x 4 chi-square analysis examined the relationship between involvement in post-industrial change and master's degree date. A contingency coefficient post hoc test (X^2 = .27284) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (9, N = 290) $p \leq .00551$. Table 36 displays the results.

Table 36

A 4 x 4 Chi-Square Analysis of Involvement in Post-industrial Change and Master's Degree Date

	1971/72-1974/75	1975/76-1979/80	1980/81-1984/85	1985/86-1989/90	Row Total
Negative Change	17	26	27	22	92 31.7
Positive Change	22	13	17	14	66 22.8
Mixed Change	9	20	25	20	74 25.5
No Change	22	16	5	15	58 20.0
Column Total	70 241.	75 25.9	74 25.5	71 24.5	290* 100.0

*Significant at $p \leq .05$

A 4 x 5 chi-square analysis of the relationship between involvement in post-industrial change and salary for males observed statistical significance at the .05 level. A contingency coefficient post hoc test (X^2 = .32673) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (12, N = 204) $p \leq .01805$. Table 37 displays the results.

Table 37

A 4 x 5 Chi-Square Analysis of Involvement in Post-industrial Change and Current Annual Salary Before Taxes for Males (In Thousands)

	< $30	$30 - 49.9	$50 - 74.9	$75 - 99.9	≥$100	Row Total
Negative Change	3	10	37	10	8	68 33.3
Positive Change	2	2	15	10	12	41 20.1
Mixed Change	2	13	17	12	13	57 27.9
No Change	2	13	17	12	13	38 18.6
Column Total	8 3.9	28 13.7	80 39.2	47 23.0	41 20.1	204* 100.0

*Significant at $p \leq .05$

A 4 x 6 chi-square analysis examined the relationship between involvement in post-industrial change and current job tenure. A contingency coefficient post hoc test (X^2 = .33913) showed the variables to be related at the $p \leq .05$ level of significance, X^2 (15, N = 260) $p \leq .00365$. Table 38 displays these results.

Table 38

A 4 x 6 Chi-square analysis of Involvement in Post-industrial Change and Current Job Tenure

No. of Years	≤ 1	2-5	6-10	11-20	21-30	≥ 31	Row Total
Negative Change	12	30	18	29	3		83 31.9
Positive Change	7	21	17	10	3	2	60 23.1
Mixed Change	21	26	13	5	3		68 26.2
No Change	4	11	15	11	7	1	49 18.8
Column Total	44 16.9	88 33.8	63 24.2	46 17.7	16 6.2	3 1.2	260* 100.0

*Significant at $p \leq .05$

Statistical significance at the .05 level was observed, as well, for the relationship between involvement in post-industrial change and current job tenure for males [X^2 (15, N = 230) $p \leq .00386$] and whites [X^2 (15, N = 190) $p \leq$

.00043]. Extremely small cell frequencies precluded meaningful analyses for females and minorities.

Results obtained from these chi-square analyses were confounded in many instances by small cell sizes. For this reason, the descriptive data summarized in Tables 1 to 11 in Appendix G were examined to determine patterns regarding the impact of post-industrial change on job satisfaction and educational satisfaction. Frequencies, means, and standard deviations for the measures of job and educational satisfaction were categorized in terms of types of involvement in post-industrial change and the demographic variables of interest to this study. The findings showed, on the average, the following:

1. For those involved in positive post-industrial change, higher mean scores for both job satisfaction and educational satisfaction were reported for females over males, M.B.A. graduates over other degree graduates, individuals who graduated during the 1975-1976 to 1979-1980 period, individuals employed in service as opposed to manufacturing industries, individuals employed in public/for profit businesses, individuals with current job tenure of 31 years or more, and individuals who were older than 66.

2. For those individuals who had been involved in negative post-industrial change, higher levels of both job and educational satisfaction were reported for M.B.A.

graduates over other degree graduates, individuals who graduated during the 1970-1971 to 1974-1975 period, individuals employed in service as opposed to manufacturing industries, individuals employed in public/nonprofit businesses, individuals with current job tenure of 11 to 20 years, and individuals with current industry tenure of two to five years.

3. For those individuals who had been involved in both positive and negative (i.e., mixed) post-industrial change, higher levels of job satisfaction and educational satisfaction were reported for individuals with undergraduate degrees in business or business-related disciplines, individuals employed in private/nonprofit businesses, and individuals earning current annual salaries before taxes of $100,000 or more.

4. For those who reported no involvement in post-industrial change, higher levels of both job satisfaction and educational satisfaction were reported for females over males, individuals employed in service over manufacturing industries, individuals employed in public/for profit businesses, individuals with current job tenure of 31 years or more, individuals earning annual salaries before taxes of $100,000 or more, individuals with current industry tenure of 21 to 30 years, and individuals who were 56 to 65 years of age.

For involvement in both positive and negative post-industrial change, as well as for no involvement, individuals with undergraduate degrees in disciplines other than business reported higher measures of job satisfaction. This finding is interesting in light of the liberal arts/ vocationalism dichotomy which has been a recurrent theme in the orientation of graduate business curriculum.

When considering the differences in mean scores for both job satisfaction and educational satisfaction for those involved in positive and negative post-industrial change, there is a clear, consistent pattern of higher mean scores reported for those individuals involved in positive post-industrial change over those involved in negative post-industrial change. A series of independent samples t-tests were computed to test the statistical significance of the difference of these mean scores. The results, which are summarized in Tables 1 to 11 in Appendix H, provide strong support for post-industrial change as an intervening variable in terms of its relationship to job satisfaction and educational satisfaction.

In 34 of the 80 (42.5%) independent samples t-tests computed, statistical difference was observed at the .05 level of significance. When discounting those comparisons with extremely low frequencies (fewer than 10 in each pair of comparisons), the pattern appears even stronger, with

statistical significance observed in 31 out of 56 (55.4%) instances. Furthermore, statistical significance is observed in the difference of mean job satisfaction and mean educational satisfaction scores for each demographic variable (See Tables 1 to 11, Appendix H).

Hypotheses

The first hypothesis stated: There is no significant relationship among levels of overall job satisfaction, educational satisfaction, and involvement in post-industrial change. Three measures were used to test the hypothesis: the MSQ's sum-of-facets measure of current job satisfaction, a sum-of-facets measure of overall educational satisfaction derived from questions developed by the investigator, and an investigator-developed question to categorize respondents in terms of positive, negative, mixed, or no involvement in post-industrial change. Pearson Product correlation coefficients, chi-square, and contingency coefficient analyses showed the variables to be related at the $p \leq .05$ level of significance, thus allowing the null hypothesis to be rejected in favor of an alternative hypothesis that the three variables are related statistically.

The second hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-

industrial change, and gender. Chi-square and contingency coefficient analyses showed statistical significance at the .05 level (1) for the relationship between job satisfaction and current annual salary before taxes for males; (2) for the relationship between educational satisfaction and salary for males; and (3) for the relationship between involvement in post-industrial change and salary for males. Independent samples t-tests showed statistically significant differences at the .05 level between mean job satisfaction scores and mean educational satisfaction scores for males and females when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternative hypothesis that job satisfaction, educational satisfaction, post-industrial change, and gender are related statistically.

The third hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and age. Pearson Product correlation coefficients determined statistical significance at the .05 level for relationships between job satisfaction and age and educational satisfaction and age. Chi-square and contingency coefficient analyses showed the relationship between educational satisfaction and age for the total sample population, and educational satisfaction and age for

those involved in negative post-industrial change, to be related at the $p \leq .05$ level of significance. Independent samples t-tests showed statistically significant differences at the .05 level between mean educational satisfaction scores for 36 to 45 year olds and between mean job satisfaction scores for 46 to 55 year olds when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternative hypothesis that job satisfaction, educational satisfaction, post-industrial change, and age are related statistically.

The fourth hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and ethnicity. Pearson Product correlation coefficients determined statistical significance at the .05 level for relationships between job satisfaction and ethnicity and between educational satisfaction and ethnicity for those not involved in post-industrial change. Chi-square and contingency coefficient analyses showed statistical significance at the .05 level for the relationships between (1) job satisfaction and current annual salary before taxes for whites; (2) educational satisfaction and salary for whites; and (3) involvement in post-industrial change and salary for whites. Independent

samples t-tests showed statistically significant differences at the .05 level between mean job satisfaction scores for both minority and nonminority respondents and between mean educational satisfaction scores for nonminority respondents when considering positive and negative post-industrial change. These findings allowed the researcher to reject the null hypothesis in favor of an alternative hypothesis that job satisfaction, educational satisfaction, post-industrial change, and ethnicity are related statistically.

The fifth hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and master's degree program. Chi-square and contingency coefficient analyses showed the relationship between job satisfaction and master's degree program to be related at the $p \leq .05$ level of significance. Independent samples t-tests showed statistically significant differences at the .05 level between mean job satisfaction and mean educational satisfaction scores for M.B.A. graduates when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternative hypothesis that job satisfaction, educational satisfaction, post-industrial change, and master's degree program are related statistically.

The sixth hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and master's degree date. Pearson Product correlation coefficients determined statistical significance at the .05 level for relationships between educational satisfaction and master's degree date, and between both job and educational satisfaction and master's degree date for those involved in positive post-industrial change. Chi-square and contingency coefficient analyses showed the relationship between educational satisfaction and master's degree date for the total sample population, and educational satisfaction and master's degree date for those involved in negative post-industrial change, to be related at the $p \leq .05$ level of significance. Statistical significance was observed, as well, for involvement in post-industrial change, and for job satisfaction and salary for respondents who graduated during the 1980-1981 to 1984-1985 period. Independent samples t-tests showed statistically significant differences at the .05 level between mean job satisfaction scores for graduates of the 1975-1976 to 1979-1980 period and between both mean job satisfaction and mean educational satisfaction scores for graduates of the 1980-1981 to 1984-1985 period when considering positive and negative post-industrial change. These findings allowed the

investigator to reject the null hypothesis in favor of an alternative hypothesis that educational satisfaction, job satisfaction, post-involvement change, and master's degree date are related statistically.

The seventh hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and undergraduate degree discipline. Pearson Product correlation coefficients determined statistical significance at the .05 level for the relationship between job satisfaction and undergraduate degree discipline for those involved in mixed post-industrial change. Independent samples *t*-tests showed statistically significant differences at the .05 level between the mean job satisfaction and mean educational satisfaction scores for business or business-related undergraduate degree disciplines and for mean job satisfaction scores for all other undergraduate degree disciplines when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternative hypothesis that job satisfaction, educational satisfaction, post-industrial change, and undergraduate degree discipline are related statistically.

The eighth hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current job function. Pearson Product correlation coefficients determined statistical significance at the .05 level for the relationship between educational satisfaction and current job function. Chi-square and contingency coefficient analyses showed the relationship between job satisfaction and current job function to be related at the $p \leq .05$ level of significance. Independent samples t-tests showed statistically significant differences at the .05 level in the mean job satisfaction and mean educational satisfaction scores for those employed in service-oriented positions and between the mean job satisfaction scores for those employed in manufacturing positions when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternative hypothesis that job satisfaction, educational satisfaction, post-industrial change, and current job function are related statistically.

The ninth hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current industry type. Chi-square

and contingency coefficient analyses showed statistical significance at the $p \leq .05$ level of significance for current industry type with educational satisfaction and involvement in post-industrial change. Independent samples *t*-tests showed statistically significant differences at the .05 level in the mean job satisfaction and mean educational satisfaction scores for those employed in the private/for profit sector and between mean job satisfaction scores for those employed in the public/for profit sector when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternate hypothesis that job satisfaction, educational satisfaction, post-industrial change, and current industry type are related.

The tenth hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current annual salary before taxes. Pearson Product correlation coefficients determined statistical significance at the .05 level for relationships between job satisfaction and salary and educational satisfaction and salary. Chi-square and contingency coefficient analyses showed job satisfaction and educational satisfaction related to salary at the $p \leq .05$ level of significance. Furthermore, when data were sorted by gender,

job satisfaction, educational satisfaction, and involvement in post-industrial change were all shown to be statistically related to salary for males. When data were sorted by ethnicity, job satisfaction and educational satisfaction were shown to be statistically related to salary for whites. Finally, when sorted by degree date, the relationship between job satisfaction and salary were shown to be statistically significant for graduates from the 1980-1981 to 1984-1985 period. Independent samples *t*-tests showed statistically significant differences at the .05 level between the mean job satisfaction scores for those earning $30,000 to $49,999 a year before taxes, between the mean educational satisfaction scores for those earning $50,000 to $74,999 a year before taxes, and for those earning $100,000 or more a year before taxes when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternative hypothesis that job satisfaction, educational satisfaction, post-industrial change, and salary are related statistically.

The eleventh hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current job tenure. Pearson Product correlation coefficients determined statistical significance

at the .05 level for relationships among job satisfaction and current job tenure and educational satisfaction and current job tenure. Chi-square and contingency coefficient analyses showed that educational satisfaction, involvement in post-industrial change, and current job tenure were related at the $p \leq .05$ level of significance. When data were sorted by gender and ethnicity, post-industrial change and current job tenure were related for males and whites. Independent samples *t*-tests showed statistically significant differences at the .05 level in mean job satisfaction scores and mean educational satisfaction scores for current job tenure of 2 to 5 years and between mean educational satisfaction scores for current job tenure of 6 to 10 years when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternate hypothesis that job satisfaction, educational satisfaction, post-industrial change, and current job tenure are related statistically.

The twelfth hypothesis stated: There is no significant relationship among levels of overall current job satisfaction, educational satisfaction, involvement in post-industrial change, and current industry tenure. Independent samples *t*-tests showed statistically significant differences at the .05 level in the mean job satisfaction scores and educational satisfaction scores for current industry tenure

of 11 to 20 years and 21 to 30 years when considering positive and negative post-industrial change. These findings allowed the investigator to reject the null hypothesis in favor of an alternative hypothesis that job satisfaction, educational satisfaction, post-industrial change, and current industry tenure are related statistically.

Summary

This chapter reported the results and findings of the study. The first sections provided the survey responses and descriptions of the survey respondents. The next sections addressed the research questions and hypotheses for the study. Chapter V will conclude the study with a discussion of the findings, interpretation of the results, and recommendations for further study.

Chapter V

CONCLUSIONS AND RECOMMENDATIONS

Summary of the Purpose of the Study

The purpose of this study was to examine educational satisfaction in relation to job satisfaction and post-industrial change. Specifically, the study examined the factors influencing current job satisfaction for a stratified, random sample of graduates of master's degree programs in business at one university for the academic years 1970-71 through 1989-1990. Furthermore, the study examined the relationship among current job satisfaction, satisfaction with the decision to obtain a master's degree in business (i.e., educational satisfaction), and involvement in post-industrial change during the first two decades of the post-industrial period.

Summary of the Research Procedures

A survey design was used to examine the relationship among job satisfaction, educational satisfaction, and involvement in post-industrial change. Three hundred fourteen graduates of master's degree programs in business

at Virginia Commonwealth University (1970-1971 through 1989-1990) participated in the study, from an adjusted sample population of 975, resulting in a 32.2% response rate. Each respondent completed a mailed survey instrument which included the 1967 long-form Minnesota Satisfaction Questionnaire (MSQ) and questions developed by the investigator to obtain demographic information and a measure of educational satisfaction.

Six research questions and related hypotheses guided the study. The first question dealt with overall current job satisfaction as measured by the MSQ, a sum-of-facet satisfaction measure which was then compared to previously-normed data for a 1967 occupational group of managers.

The second research question attempted to determine which of the 20 MSQ subscales related to the overall current job satisfaction of the respondents. The mean scores of the 20 subscales were compared to the mean scores of previously-normed data for the 1967 occupational group of managers.

The third research question dealt with overall educational satisfaction as measured by five questions developed by the investigator. An overall measure of educational satisfaction was obtained by summing individual scores for each question.

The fourth question dealt with involvement in post-industrial change. The nature of involvement was assessed

according to four classifications determined by the investigator: positive, negative, mixed, or none.

The fifth question attempted to determine the relationship among job satisfaction, educational satisfaction, and involvement in post-industrial change.

The sixth question attempted to determine the relationship among job satisfaction, educational satisfaction, involvement in post-industrial change, and the demographic variables of interest to the study.

Data gathered by this study enabled the investigator to determine the overall level of current job satisfaction for the sample population of graduates of master's degree programs in business, to identify the most satisfying and least satisfying job satisfaction factors, to determine an overall level of educational satisfaction, to determine the nature of post-industrial change involvement, and to determine the relationship among job satisfaction, educational satisfaction, involvement in post-industrial change, and the demographic variables of interest to the study.

Summary of the findings

This study asked six research questions:

1. Overall, were graduates of master's degree programs in business satisfied with their current jobs as measured by

the 1967 long-form Minnesota Satisfaction Questionnaire? General satisfaction MSQ scores can range from 20 to 100, as was the case for the 1996 sample population. In examining the mean score of 68 (*SD* = 14.49), it was determined that graduates of master's degree programs in business were moderately satisfied with their current jobs. When the MSQ general satisfaction mean score of the 1996 sample population was compared to the mean MSQ score (82.37, *SD* = 9.34) for the 1967 MSQ normative group of managers, however, it appeared that respondents were less satisfied with their current jobs than the 1967 normative group.

2. What factors were important to the current job satisfaction of graduates of master's degree programs in business as measured by the 20 subscales of the 1967 long-form Minnesota Satisfaction Questionnaire (MSQ)? Individual job factors with the highest mean scores for the 1996 sample population were moral values, activity, responsibility, and creativity, as compared to moral values, activity, security, and creativity for the 1967 normative group. The job factors with the lowest mean scores for the 1996 sample population were compensation, supervision-technical, security, company policies and practices, and advancement, as compared to social status, recognition, company policies and practices, advancement, and compensation for the 1967 normative group.

Overall, mean scores for individual job satisfaction factors for the 1967 normative group were higher (ranging from 17.77 to 22.08) than for the 1996 sample population (ranging from 13.60 to 19.26). Both groups, however, appeared to be most satisfied with the intrinsic factors of moral values, activity, and creativity, and least satisfied with the extrinsic factors of compensation, company policies and practices, and advancement.

3. Overall, were graduates of master's degree programs in business satisfied with their master's degree education in business as measured by investigator-developed questions? The overall educational satisfaction score can range from 5 to 20. Scores for the sample population ranged from 10 to 20. In examining the mean score of 16.49 (*SD* = 2.26), it was determined that the respondents were moderately to highly satisfied. Respondents were most satisfied that their master's degree programs in business had contributed to achievement of their career goals and least satisfied with the cost of instruction. These findings support those in the literature which show general agreement, on the part of graduates, about the positive outcomes of their graduate education (Adelman, 1994; Conrad, Haworth, & Millar, 1993; Knox, Lindsay, & Kolb, 1993).

4. Had graduates of master's degree programs in business been involved in post-industrial change, and what

was the nature of that involvement (e.g., positive, negative, mixed, or none)? In examining the responses relating to involvement in post-industrial change, it was determined that 222 or 79.8% of the respondents had been involved in some type of post-industrial change as a result of organizational downsizing, restructuring, job re-engineering, relocation or elimination of industries or markets. Involvement was characterized as generally positive for 90 (32.1%) respondents, negative for 58 (20.7%) respondents, mixed for 74 (26.4%) respondents, and none for 58 (20.7%) respondents. Thirty-four (10.8%, N = 314) individuals did not respond to questions relating to post-industrial change.

5. Were current job satisfaction, educational satisfaction, and involvement in post-industrial change related for graduates of master's degree programs in business? Overall job satisfaction, educational satisfaction, and involvement in post-industrial change appeared to be related at the .05 level of significance, with levels of satisfaction varying according to the nature of the involvement.

6. How did the demographic variables of gender, age, ethnicity, master's degree program, master's degree date, undergraduate degree discipline, current job function, current industry type, current annual salary, current job

tenure, and current industry tenure relate to overall job satisfaction, educational satisfaction, and involvement in post-industrial change? Statistical significance was observed at the .05 level for overall job satisfaction, overall educational satisfaction, involvement in post-industrial change, and gender, ethnicity, age, master's degree program, master's degree date, undergraduate degree discipline, current job function, current industry type, salary, current job tenure, and current job industry.

Discussion and Interpretation of Results

The purpose of this study was to examine the two most immediate products or outcomes of the graduate educational process, i.e., educational and job satisfaction, in terms of post-industrial change as an intervening variable. As such, the findings for this sample population of graduates of master's programs in business are very reflective of post-industrial society and its paradigmatic shift from a productive to a reproductive society.

Although the sample population, as shown in the demographic data, appeared to be under-represented in terms of females and minorities, the typical respondent tended to be fairly representative of the general perception of the larger population--white males in their 40s who had completed undergraduate degrees in business, or a business-

related discipline, and an M.B.A. degree for their graduate studies. They were more likely to hold management positions in private, for profit enterprises where they have worked for fewer than five years, with their salaries placing them in the upper middle class.

The construct which has driven this study is that of the master's degree as a form of cultural capital which is subject to the same processes of valuation and devaluation as physical currency, processes which have been exacerbated by credentialism and the need for certification. When comparing the 1996 sample population to the 1967 MSQ normative population, the difference in level of education between the two groups of managers is the most obvious difference between the two groups. In 1967, none of the managers of the normative group held more than a bachelor's degree, even though their population included employees at the highest levels of management, reflecting, perhaps, that the master's degree in business has become the entry-level credential for a management position.

Apart from the credentialling issue, there is the very legitimate need to upgrade knowledge and skills to respond to the ongoing increases in occupational complexity and specialization that are occurring in post-industrial society and the shifts that are taking place in the occupational distribution of the workforce. These changes were reflected

in the demographic data in the significantly larger number of the sample population employed in service enterprises as opposed to manufacturing. This shift was seen as well in the data relating to job function, where more than twice the number of individuals in the sample were involved in information systems functions than operations and production.

Corresponding changes are occurring within business schools as they attempt to adapt curricula to the changing needs and demands of the post-industrial workplace and to the changing nature of work itself. The liberal arts/ vocationalism and generalization/specialization dichotomies are at the heart of the business curricula debates--in terms of identifying what business schools want to teach and what employees want students to learn. These issues were reflected in responses obtained from the sample population. By far, the largest number of respondents had obtained the generalist M.B.A. degree, and yet the data indicated that, for the most part, individuals with undergraduate degrees in disciplines other than business reported relatively higher levels of job and educational satisfaction.

The question, then, returns to the matter of outcomes. Are graduates of master's degree programs in business receiving an equitable return on their investments in time and money? Is a fair exchange taking place in which their

expectations about the educational process are being met? On the one hand, the strongest, and most recurrent, demographic relationship seen in the data was the relationship between job satisfaction, educational satisfaction, post-industrial change, and salary. Yet, in spite of the fact that respondents indicated that they were more satisfied with intrinsic job satisfaction factors, monetary compensation was a very important component of their overall job satisfaction--or dissatisfaction. This was reflected in levels of educational satisfaction as well, with cost of instruction observed as the least satisfying component of the respondents' overall satisfaction with their education.

In terms of overall job satisfaction, the 1996 sample population appeared to be generally satisfied with their current jobs and with the educational process which helped them achieve that level of job satisfaction. When compared to the 1967 normative group of managers, however, they appeared to be less satisfied with their current jobs.

The relationships among job satisfaction, educational satisfaction, and involvement in post-industrial change were found to be statistically significant at the .05 level. Additionally, statistically significant relationships were observed for the three primary variables with each of the demographic variables of interest to the study. In general,

it was found that individuals who had been involved in positive post-industrial change reported higher levels of job satisfaction and educational satisfaction; that those who had experienced negative post-industrial change reported lower levels of job satisfaction and educational satisfaction; and that these relationships tended to vary over time.

The study's findings suggest that, while respondents were moderately to highly satisfied with their master's degree education in business and their current jobs in relation to their own cohort, they were less satisfied than the 1967 normative group of managers. Differences in levels of satisfaction for the 1996 sample population reflected post-industrial influences and possible dissatisfaction with general conditions of downward mobility, decreasing job security, and increasing organizational uncertainties associated with post-industrial changes. It is possible, then, to infer that the results of such influences are being reflected in the uncertainty surrounding the outcomes of the educational process and that this dissatisfaction has resulted in a devaluation of the master's degree in business, i.e., the cultural capital of education, and that this devaluation has manifested itself in declining application and enrollment trends.

Conclusions

The study's findings suggested several conclusions:

1. Graduates of master's degree programs in business are moderately satisfied with their current jobs.

2. Graduates of master's degree programs in business are most satisfied with the intrinsic factors of moral values, activity, responsibility, creativity, and achievement and least satisfied with the extrinsic factors of compensation, supervision-technical, security, company policies and practices, and advancement. These findings support Herzberg's two-factor theory of motivation.

3. Although graduates of master's degree programs in business appear to be less satisfied with their jobs than the 1967 MSQ normative occupational group of managers, both groups are more satisfied with intrinsic factors than extrinsic factors.

4. Graduates of master's degree programs in business appear to be moderately to highly satisfied with their master's degree education in business. These findings are supported by the literature on the educational satisfaction of graduates of master's level programs.

5. Graduates of master's degree programs in business appear to have been involved to a high degree in some form of post-industrial change. This finding is supported by the literature on post-industrialism, changing organizational

structures, and the changing role of the manager in post-industrial organizations.

6. Job satisfaction, educational satisfaction, and involvement in post-industrial change for graduates of master's degree programs in business appear to be highly related. The nature of the post-industrial involvement appears to be somewhat predictive of levels of job and educational satisfaction for graduates of master's degree programs in business.

7. Significance at the .05 level was observed for job satisfaction, educational satisfaction, involvement in post-industrial change, and the demographic variables of gender, ethnicity, age, master's degree program, undergraduate degree discipline, master's degree date, current job function, current industry type, current salary before taxes, current job tenure, and current industry tenure.

Recommendations for Further Study

The problem driving this study focused on the fact that major organizational changes, coupled with recent criticisms of graduates of master's degree programs in business and declining applications, have become matters of concern for all relevant stakeholders in the education experience--prospective and enrolled students, alumni, employers, faculty, and higher education administration. Of particular

concern is that the criticisms and decreases are being experienced after years of significant growth and in light of stability and moderate growth in graduate education overall and growth in disciplines other than business (Boyatzis et al., 1995). The challenge was to determine which, if any, other factors may be influencing application and enrollment trends in graduate business education and the valuation of that education, especially in terms of its relationship to the post-industrial workplace.

While the literature provided evidence of thousands of job satisfaction studies and numerous assessments of educational satisfaction, no study was found which related job satisfaction, educational satisfaction, and involvement in post-industrial change, with involvement in post-industrial change as an intervening variable for graduates of master's degree programs. This study presents baseline data against which subsequent data might be compared.

Replication of this study on a larger scale might provide more generalizable results. A national study that better represents the total population of graduates of U.S. master's degree programs in business would allow the investigator to examine in a more meaningful way demographic variables such as gender and ethnicity. A larger study also would allow the investigator to take into account types and reputations of institutions and master's in business degree

programs (e.g., public/private, landgrant/urban/Ivy League, master's/comprehensive/doctoral, traditional M.B.A. programs/innovative executive programs, etc.).

A longitudinal study which examines job satisfaction, educational satisfaction, and post-industrial change over a period of time (e.g., every five years for a 20-year period) might relate changes in levels of job and educational satisfaction more directly to the ongoing changes which are occurring in post-industrial society and their affects on the post-industrial workplace. A longitudinal study also might show how satisfaction with individual job facets (e.g., ability utilization, achievement, activity, etc.) change over time as well.

Replication of these studies for other disciplines (e.g., sciences, arts and humanities, education, etc.) and for different degree levels (e.g., baccalaureate, master's, doctoral, professional) might provide important feedback for academe as it deals with questions of curricula development and outcome assessment. A comparative study of college graduates and high school graduates could provide insight, as well, into the major changes which are taking place in post-industrial society in organizational roles and structures, especially in terms of role integration and alienation.

The results of this study and others currently using the MSQ will be used to update the normative data which now appears in the Manual for the Minnesota Satisfaction Questionnaire (Weiss et. al, 1967). This will be extremely important for subsequent use of this instrument, since the instrument is nearly 30 years old, and the normative data are very outdated. The instrument needs to be revised to reflect post-industrial influences, especially in terms of the dramatic changes which have occurred during the last three decades in levels of education, technology, and organizational structures.

In any replication of this study, use of the short-form MSQ could be considered. The short-form questionnaire, composed of 20 questions as compared to the 100 questions in the long-form MSQ, might enhance the response rate and, concomitantly, the results of any study.

Concluding Remarks

Post-industrial society in the United States is characterized by a knowledge explosion which has been accompanied by an increase in occupational complexity and specialization and the ongoing need to upgrade knowledge and skills. While research supports a consensus about the positive outcomes of master's education in general (Conrad et al., 1993), conflicting data exist regarding master's

degree programs in business, both in terms of applicant and employer stakeholders.

Graduate schools of business are concerned with criticisms of their graduates, as well as with declines in application, enrollment, and graduation that are occurring after years of significant growth and in light of stability and moderate growth in other disciplines. Of particular concern to graduates of master's degree programs in business are the major organizational changes which are occurring in the workplace as post-industrial society moves from a goods-producing to an information- or knowledge-producing society.

This study provided baseline data regarding the involvement in post-industrial change of graduates of master's degree programs in business and the relationship of that involvement to job satisfaction and satisfaction with the decision to obtain a master's degree in business. Insight was provided into the efficacy of that decision as individuals assessed the value of their educational experiences in relation to their experiences in the post-industrial workplace. Feedback was provided, as well, for academe as it faces fundamental questions about graduate business curricula development and delivery systems in and for a post-industrial society in which the very nature of knowledge, work, and organizations has changed and continues to change.

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Appendix A

QUESTIONS DEVELOPED BY RESEARCHER

Thank you for taking time to participate in this study.

Please read the questions carefully and answer all that you can. The survey is printed on both sides of the page, so be sure to fill out all pages. Your answers and all other information you provide as part of this survey will be held in the strictest confidence. Return the completed questionnaire using the accompanying reply envelope or mail to:

Survey Research Laboratory
901 W. Franklin Street
Box 843016
Richmond, VA 23284-3016

The following information concerns your master's degree.

1. Which master's degree program did you complete?

- ☐[1] Mester of Accountancy
- ☐[2] Master of Arts in Economics
- ☐[3] Master of Business Administration
- ☐[4] Master of Science in Business
- ☐[5] Master of Taxation

2. When did you complete your master's degree in businesa:
(check the appropriate box for month and write in the year)

- ☐[1] May
- ☐[2] August 19_____
- ☐[3] December

3. Please indicate the discipline of your undergraduate degree:

- ☐[1] Business or business-related discipline [skip to question 4]
- ☐[2] Other [please answer question 3a]

3a. If other, please indicate the discipline that best describes your undergraduate discipline.

- ☐[1] Arts
- ☐[2] Education
- ☐[3] Engineering or Architecture
- ☐[4] Health Professions
- ☐[5] Humanities and Social Sciences
- ☐[6] Physical and Life Sciences
- ☐[7] Social Work
- ☐[8] Other (please specify)_____

4. In what industry do you currently work?_____

5. Which of the following best describes the industry in which you currently work?

- ☐[1] Private Sector/For Profit
- ☐[2] Private Sector/Non-Profit
- ☐[3] Public Sector/For Profit
- ☐[4] Public Sector/Non-Profit

6. Which of the following **best** describes your current job function? (please check only one)

- ☐[1] Accounting
- ☐[2] Finance
- ☐[3] Consumer Banking
- ☐[4] Consulting
- ☐[5] Corporate Planning
- ☐[6] Information Systems
- ☐[7] Management
- ☐[8] Marketing
- ☐[9] Operations/Production
- ☐[10] Real Estate
- ☐[11] Teaching
- ☐[12] Other (please specify)_____

7. Which of the following best describes the nature of your current job function?

- ☐[1] Service
- ☐[2] Manufacturing

8. Which of the following best describes how satisfied you are with the **cost** of obtaining a master's degree in business?

- ☐[1] Very Satisfied
- ☐[2] Satisfied
- ☐[3] Dissatisfied
- ☐[4] Very Dissatisfied

9. Which of the following best describes how satisfied you are with the **content of instruction** you received as part of your master's degree program in business?

- ☐[1] Very Satisfied
- ☐[2] Satisfied
- ☐[3] Dissatisfied
- ☐[4] Very Dissatisfied

10. Which of the following best describes how satisfied you are with the **quality of instruction** you received as part of your master's degree program in business?

- ☐[1] Very Satisfied
- ☐[2] Satisfied
- ☐[3] Dissatisfied
- ☐[4] Very Dissatisfied

11. Which of the following best describes how satisfied you are that your master's degree in business contributed, or is contributing, to the achievement of your career goals?

- ☐[1] Very Satisfied
- ☐[2] Satisfied
- ☐[3] Dissatisfied
- ☐[4] Very Dissatisfied

12. Which of the following best describes how satisfied you are with the usefulness (i.e., relevance, applicability) of your master's degree education in business in the workplace?

- ☐[1] Very Satisfied
- ☐[2] Satisfied
- ☐[3] Dissatisfied
- ☐[4] Very Dissatisfied

13. Since you obtained your master's degree, which of the following have you experienced **as a result of** organizational downsizing, restructuring, job re-engineering, relocation or elimination of industries or markets? (Please check all that apply)

- ☐[1] Temporary lay-off and/or permanent job loss
- ☐[2] Demotion and/or decrease in pay or benefits
- ☐[3] Mandatory relocation requiring moving to another city or state
- ☐[4] Mandatory change in job function or task for which your master's degree education in business prepared you.
- ☐[5] Mandatory change in job function or task for which your master's degree education in business did not prepare you.
- ☐[6] Expanded workload and/or increased level of responsibility without a corresponding promotion or increase in salary.
- ☐[7] Mandatory retirement or work transition buy-out
- ☐[8] Promotion and/or increase in pay or benefits directly related to your master's degree education in business.
- ☐[9] Promotion and/or increase in pay or benefits unrelated to your master's degree education in business.
- ☐[10] Voluntary relocation requiring moving to another city or state.
- ☐[11] Voluntary change in job function or task for which your master's degree education in business prepared you.
- ☐[12] Voluntary change in job function or task for which your master's degree education in business did not prepare you.
- ☐[13] Voluntary retirement or work transition buy-out.
- ☐[14] None of the above.
- ☐[15] Other (please specify)_____

_____

14. Have you observed promotions and/or increases in salary given to colleagues less educationally qualified than yourself?

- ☐[1] Yes
- ☐[2] No

15. Which areas of study did you find to be most useful in your master's degree program?

- ☐[1] Accounting
- ☐[2] Economics
- ☐[3] Finance
- ☐[4] Information Systems
- ☐[5] Law
- ☐[6] Management
- ☐[7] Marketing
- ☐[8] Operations Research
- ☐[9] Organizational Behavior
- ☐[10] Policy
- ☐[11] Statistics
- ☐[12] Other (please specify)_____

16. Please indicate areas of study which you feel should be added to the master's degree in business curriculum.

_____

_____

_____

17. Please indicate areas of study which you feel **should be eliminated** from the master's degree in business curriculum.

_____

_____

_____

18. Which of the following best describes your racial background? (Please check only one.)

- ☐ 1 Black/African-American, Non-Hispanic
- ☐ 2 Asian/Oriental or Pacific Islander
- ☐ 3 American Indian or Alaskan Native
- ☐ 4 Hispanic
- ☐ 5 White, Non-Hispanic
- ☐ 6 Other

19. What is your current annual salary before taxes?

- ☐ 1 Less than $30,000
- ☐ 2 $30,000 - $49,999
- ☐ 3 $50,000 - $74,999
- ☐ 4 $75,000 - $99,999
- ☐ 5 $100,000 or more

PLEASE CONTINUE TO THE NEXT SECTION OF THE SURVEY.

Appendix B

MINNESOTA SATISFACTION QUESTIONNAIRE

LONG-FORM

Minnesota Satisfaction Questionnaire

Long-form

David J. Weiss, Rene V. Dawis, George W. England,

and Lloyd H. Lofquist

Appendix C

LETTER FOR INITIAL MAILING

VCU

Virginia Commonwealth University

School of Graduate Studies

[redacted]

March 1, 1996

XXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXX

Dear XXXXXXXXXXX:

The enclosed survey is part of a research study on the job satisfaction levels of graduates of master's degree programs in business from Virginia Commonwealth University between 1971 and 1990. The information obtained from this study will be used as part of a doctoral dissertation on job satisfaction and educational satisfaction within a context of post-industrial change. The study also will assist us in the School of Business with our ongoing assessment of the outcomes and quality of our master's degree programs.

Your participation will be particularly important to the accuracy of the results, and we hope that you will be able to assist us with the study. For your convenience, a stamped, addressed return envelope is included in this mailing. Please return your questionnaire in this envelope. As the instructions indicate, you should read a question, go to your first response, and continue on to the next question, without going back to previous questions. In this manner, you should be able to complete the survey in only 15 to 20 minutes.

Please know that your responses to this survey will be treated with the strictest confidentiality. The questionnaires are coded for record-keeping purposes only. There is no need to supply your name. If you would be interested in obtaining a summary of the results of this survey, please contact Ms. Sandkam at [redacted] Results should be available sometime in the late spring or early summer.

We are certain that you are aware that any research undertaken reflects the efforts of many people. The completion of this study, as well as the doctoral dissertation, cannot be accomplished without your assistance. We thank you in advance for your cooperation.

Sincerely,

[redacted]

Howard P. Tuckman, B.S., M.A., Ph.D.
Dean, School of Business

[redacted]

Edward L. Millner, Ph.D.
Associate Dean for Graduate Studies
School of Business

[redacted]

Sherry T. Sandkam, B.A., M.B.A.
Assistant Dean, School of Graduate Studies
Ph.D. Degree Candidate

Enclosures

Appendix D

FOLLOW-UP POSTCARD

Follow-up Postcard

Dear Alumni:

Recently you should have received a survey concerning the job satisfaction levels of graduates of master's degree programs in business from Virginia Commonwealth University. The information obtained from this study will be used as part of a doctoral dissertation on job satisfaction and educational satisfaction within a context of post-industrial change and will assist the School of Business with its ongoing assessment of the outcomes and quality of its master's degree programs.

If you have not had a chance to complete your survey, I urge you to take some time today to do so. Your response is very important for the success of this project. If you have already completed and returned your survey, please accept my sincere thanks.

If you have misplaced your questionnaire or have any other questions about the survey, please call Dr. Bonnie Schneiders at [redacted].

Thank you,

Sherry T. Sandkam, M.B.A.
Assistant Dean,
School of Graduate Studies
Ph.D. Degree Candidate

Appendix E

LETTERS FOR THIRD MAILING

VCU

Virginia Commonwealth University

School of Graduate Studies

[redacted]

March 25, 1996

XXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXX

Dear XXXXXXXXXXX:

A few weeks ago you should have received a survey regarding the job satisfaction levels of graduates of master's degree programs in business from Virginia Commonwealth University between 1971 and 1990. The information obtained from this study will be used as part of a doctoral dissertation on job satisfaction and educational satisfaction within a context of post-industrial change. The study also will assist us in the School of Business with our ongoing assessment of the outcomes and quality of our master's degree programs.

As of today, our records indicate that we have not yet received your survey. It is possible that your response was sent after this reminder mailing was prepared. If so, please accept our thanks for participating in the study. If you have not yet responded, please take a few minutes now to complete this survey. We have enclosed an additional copy of the questionnaire for your convenience. Your participation is particularly important to the accuracy of the results.

Please know that your responses to this survey will be treated with the strictest confidentiality. The questionnaires are coded for record-keeping purposes only. There is no need to supply your name. If you would be interested in obtaining a summary of the results of this survey, please contact Ms. Sandkam at [redacted]. Results should be available sometime in the late spring or early summer.

We are certain that you are aware that any research undertaken reflects the efforts of many people. The completion of this study, as well as the doctoral dissertation, cannot be accomplished without your assistance. We thank you in advance for your cooperation.

Sincerely,

[redacted]

Howard P. Tuckman, B.S., M.A., Ph.D.
Dean, School of Business

[redacted]

Edward L. Millner, Ph.D.
Associate Dean for Graduate Studies
School of Business

[redacted]

Sherry T. Sandkam, B.A., M.B.A.
Assistant Dean, School of Graduate Studies
Ph.D. Degree Candidate

Enclosures

VCU

Virginia Commonwealth University

SCHOOL OF GRADUATE STUDIES

[redacted]

March 25, 1996

XXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXX

Dear XXXXXXXXXX:

A few weeks ago you should have received a survey regarding the job satisfaction levels of graduates of master's degree programs in business from Virginia Commonwealth University between 1971 and 1990. The information obtained from this study will be used as part of a doctoral dissertation on job satisfaction and educational satisfaction within a context of post-industrial change. The study also will assist us in the School of Business with our ongoing assessment of the outcomes and quality of our master's degree programs.

As of today, our records indicate that we have only received part of your survey. In order for your information to be of use in this study we need to have your responses on both questionnaires. It is possible that your packet did not contain the entire survey or part of the survey was misplaced. If so, please accept our apologies. We have enclosed an additional copy of the questionnaire which we have not received from you. Your participation is particularly important to the accuracy of the results, and so we would appreciate your quick response.

Please know that your responses to this survey will be treated with the strictest confidentiality. The questionnaires are coded for record-keeping purposes only. There is no need to supply your name. If you would be interested in obtaining a summary of the results of this survey, please contact Ms. Sandkam at [redacted]. Results should be available sometime in the late spring or early summer.

We are certain that you are aware that any research undertaken reflects the efforts of many people. The completion of this study, as well as the doctoral dissertation, cannot be accomplished without your assistance. We thank you in advance for your cooperation.

Sincerely,

[redacted]

Howard P. Tuckman, B.S., M.A., Ph.D.
Dean, School of Business

[redacted]

Edward L. Millner, Ph.D.
Associate Dean for Graduate Studies
School of Business

[redacted]

Sherry T. Sandkam, B.A., M.B.A.
Assistant Dean, School of Graduate Studies
Ph.D. Degree Candidate

Enclosures

Appendix F

SUMMARY TABLES:

PEARSON PRODUCT CORRELATION COEFFICIENTS

Table F1

Pearson Product Correlation Coefficients

	Job Satisfaction (MSQ)	Educational Satisfaction (ES)	Involvement in Post-Industrial Change
Gender	.474	.751	.641
Ethnicity	.048	.942	.163
Age	.083	.002	.901
Degree Program	.805	.508	.181
Degree Date	.420	.001	.163
Undergraduate Discipline	.901	.138	.240
Job Function	.047	.006	.437
Industry Sector	.332	.666	.328
Salary	.001	.001	.364
Job Tenure	.045	.006	.419
Industry Tenure	.487	.195	.754
MSQ	-	.001	.014
ES	.001	-	.002
Change	.014	.002	-

Table F2

Pearson Product Correlation Coefficients - Positive Change

	Job Satisfaction (MSQ)	Educational Satisfaction (ES)	Involvement in Post-Industrial Change
Gender	.315	.836	-
Ethnicity	.581	.778	-
Age	.005	.228	-
Degree Program	.960	.329	-
Degree Date	.043	.023	-
Undergraduate Discipline	.880	.795	-
Job Function	.612	.248	-
Industry Sector	.319	.739	-
Salary	.304	.101	-
Job Tenure	.181	.472	-
Industry Tenure	.466	.103	-
MSQ	-	.034	-
ES	.034	-	-
Change	-	-	-

Table F3

Pearson Product Correlation Coefficients - Negative Change

	Job Satisfaction (MSQ)	Educational Satisfaction (ES)	Involvement in Post-Industrial Change
Gender	.483	.465	-
Ethnicity	.243	.529	-
Age	.157	.128	-
Degree Program	.405	.218	-
Degree Date	.691	.176	-
Undergraduate Discipline	.384	.345	-
Job Function	.364	.047	-
Industry Sector	.275	.302	-
Salary	.187	.143	-
Job Tenure	.054	.254	-
Industry Tenure	.562	.143	-
MSQ	-	.001	-
ES	.001	-	-
Change	-	-	-

Table F4

Pearson Product Correlation Coefficients - Mixed Change

	Job Satisfaction (MSQ)	Educational Satisfaction (ES)	Involvement in Post-Industrial Change
Gender	.978	.547	-
Ethnicity	.236	.075	-
Age	.809	.039	-
Degree Program	.833	.541	-
Degree Date	.508	.148	-
Undergraduate Discipline	.012	.332	-
Job Function	.333	.756	-
Industry Sector	.859	.865	-
Salary	.011	.137	-
Job Tenure	.754	.020	-
Industry Tenure	.694	.363	-
MSQ	-	.026	-
ES	.026	-	-
Change	-	-	-

Table F5

Pearson Product Correlation Coefficients - No Change

	Job Satisfaction (MSQ)	Educational Satisfaction (ES)	Involvement in Post-Industrial Change
Gender	.446	.990	-
Ethnicity	.271	.046	-
Age	.842	.800	-
Degree Program	.156	.815	-
Degree Date	.907	.109	-
Undergraduate Discipline	.194	.791	-
Job Function	.549	.113	-
Industry Sector	.708	.835	-
Salary	.167	.046	-
Job Tenure	.179	.730	-
Industry Tenure	.744	.286	-
MSQ	-	.001	-
ES	.001	-	-
Change	-	-	-

Appendix G

SUMMARY TABLES:

MEAN JOB SATISFACTION AND

MEAN EDUCATIONAL SATISFACTION SCORES

Table G1

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Gender

Change				MSQ		ES	
		f	%	M	SD	M	SD
Positive	Male	48	.77	71.13	12.28	17.11	2.01
n = 62							
(4 missing)	Female	14	.23	76.23	13.02	17.36	2.24
Negative	Male	71	.78	63.49	14.70	15.99	2.36
n = 91							
(1 missing)	Female	20	.22	66.05	12.05	15.50	2.09
Mixed	Male	58	.79	66.19	16.24	16.11	2.17
n = 73							
(1 missing)	Female	15	.21	66.07	11.35	16.47	1.55
None	Male	41	.72	71.92	14.87	17.33	2.19
n = 57							
(1 missing)	Female	16	.28	75.82	14.63	17.33	2.10

Table G2

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Ethnicity

Change				MSQ		ES	
		f	%	M	SD	M	SD
Positive n = 66	White	62	.06	71.77	14.40	17.16	2.05
	Other	4	.94	76.67	10.70	17.00	2.16
Negative n = 92	White	87	.95	64.48	14.52	15.78	2.40
	Other	5	.05	56.80	3.70	16.40	1.82
Mixed n = 74	White	65	.88	67.14	14.50	16.02	2.06
	Other	9	.12	60.67	20.00	17.38	1.51
None n = 58	White	52	.90	66.17	19.07	15.67	3.01
	Other	6	.10	73.32	14.20	17.50	1.96

Table G3

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Age

Change				MSQ		ES	
		f	%	M	SD	M	SD
Positive	26-35	6	.10	71.83	13.32	16.83	2.71
n = 62	36-45	18	.29	62.33	8.63	16.94	2.04
(4 missing)	46-55	28	.45	74.68	12.87	17.07	1.98
	56-65	7	.11	69.50	16.96	17.57	1.81
	≥ 66	3	.05	88.00	12.73	18.00	2.83
Negative	26-35	4	.04	71.00	13.88	16.75	1.27
n = 90	36-45	39	.43	60.82	12.81	15.08	2.16
(2 missing)	46-55	37	.41	65.08	15.60	16.71	2.31
	56-65	10	.11	71.44	12.79	16.00	2.16
	≥ 66	0	.00	0.00	0.00	0.00	0.00
Mixed	26-35	6	.09	63.17	23.61	15.67	2.58
n = 70	36-45	35	.54	69.29	14.03	15.71	2.07
(4 missing)	46-55	23	.33	65.91	11.95	16.96	1.71
	56-65	3	.04	66.00	4.36	16.67	2.08
	≥ 66	0	.00	0.00	0.00	0.00	0.00
None	26-35	5	.09	74.80	10.71	18.50	1.73
n = 57	36-45	18	.32	72.81	17.93	17.06	2.46
(1 missing)	46-55	26	.46	70.65	13.78	17.00	2.02
	56-65	6	.11	82.76	12.50	19.20	1.30
	≥ 66	2	.04	72.00	0.00	17.00	1.41

Table G4

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Master's Degree Program

Change				MSQ		ES	
		f	%	M	SD	M	SD
Positive n = 65 (1 missing)	M.B.A.	36	.55	73.49	12.29	17.36	2.14
	Other	29	.45	69.82	12.44	16.90	1.92
Negative n = 92	M.B.A.	57	.62	62.84	15.56	15.57	.33
	Other	35	.38	65.97	11.85	16.21	2.16
Mixed n = 74	M.B.A.	49	.66	66.08	14.78	16.27	2.06
	Other	25	.34	66.88	16.50	15.96	2.03
None n = 58	M.B.A.	27	.47	75.44	17.82	17.23	2.03
	Other	31	.53	69.48	10.54	17.37	2.27

Table G5

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Degree Date

Change	Period*	f	%	MSQ M	MSQ SD	ES M	ES SD
Positive	1	22	.33	70.95	14.75	17.50	2.13
n = 66	2	13	.20	78.39	11.78	18.00	1.83
	3	17	.26	69.24	10.75	16.41	1.81
	4	14	.21	70.86	9.92	16.69	2.14
Negative	1	17	.19	68.00	17.34	16.81	2.69
n = 92	2	26	.28	62.88	15.60	16.40	2.42
	3	27	.29	60.65	11.90	14.41	1.89
	4	22	.24	66.36	12.25	16.14	1.94
Mixed	1	9	.12	62.89	13.82	16.67	2.45
n = 74	2	20	.27	65.45	11.10	16.60	1.98
	3	25	.34	68.08	18.69	15.92	1.89
	4	20	.27	66.65	15.52	15.80	2.12
None	1	22	.38	73.12	11.15	17.67	1.83
n = 58	2	16	.28	73.47	17.54	17.75	2.15
	3	5	.09	60.25	21.27	16.00	2.35
	4	15	.26	74.07	13.64	16.71	2.40

*Period 1: 1970-1971 to 1974-1975
Period 2: 1975-1976 to 1979-1980
Period 3: 1980-1981 to 1984-1985
Period 4: 1985-1986 to 1989-1990

Table G6

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Undergraduate Degree Discipline

Change				MSQ		ES	
		f	%	M	SD	M	SD
Positive	Business	37	.56	70.77	13.55	14.30	2.09
n = 66	Other	29	.44	73.54	10.62	16.97	1.99
Negative	Business	55	.63	63.76	13.74	16.04	2.41
n = 66	Other	33	.38	67.00	13.51	15.55	2.41
Mixed	Business	50	.68	69.44	12.86	16.28	2.01
n = 73 (1 missing)	Other	23	.31	59.78	18.40	15.77	2.07
None	Business	39	.67	70.84	14.79	17.41	1.92
n =56 (2 missing)	Other	17	.29	76.81	14.81	17.24	2.66

Table G7

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Current Industry Orientation

Change				MSQ		ES	
		f	%	M	SD	M	SD
Positive	Service	55	.87	71.89	12.69	17.32	2.12
n = 63 (3 missing)	Mfg.*	8	.13	70.88	9.57	16.50	1.60
Negative	Service	76	.85	64.32	14.47	16.03	2.42
n = 89 (3 missing)	Mfg.	13	.15	60.39	13.59	14.54	1.85
Mixed	Service	61	.84	67.80	14.46	16.13	2.05
n = 73 (1 missing)	Mfg.	12	.16	63.50	10.91	16.33	2.10
None	Service	46	.92	73.23	15.50	17.56	2.11
n = 50 (8 missing)	Mfg.	4	.08	68.50	7.36	15.75	2.63

*Mfg. = Manufacturing

Table G8

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Current Industry Sector

Change	Sector*	f	%	MSQ M	MSQ SD	ES M	ES SD
Positive	1	43	.68	70.36	12.32	17.16	2.20
n = 63	2	4	.06	75.50	8.51	17.50	2.38
(3 missing)	3	3	.05	78.67	17.04	17.67	2.52
	4	13	.21	73.54	12.39	17.17	1.53
Negative	1	53	.59	63.32	14.74	15.71	2.08
n = 90	2	4	.04	63.67	9.29	14.50	3.11
(2 missing)	3	10	.11	64.00	6.96	15.60	2.76
	4	23	.26	66.57	16.09	16.48	2.70
Mixed	1	46	.62	65.59	17.26	16.04	1.89
n = 74	2	3	.04	76.00	9.17	17.67	1.53
	3	5	.07	69.60	7.60	16.80	2.49
	4	20	.27	65.85	12.27	16.05	2.33
None	1	23	.44	73.91	15.14	17.46	2.24
n = 52	2	9	.17	68.33	19.46	16.78	1.86
(6 missing)	3	3	.06	82.67	7.64	20.00	0.00
	4	17	.33	70.88	12.15	17.06	2.14

*Sector 1: Private/For Profit
Sector 2: Private/Nonprofit
Sector 3: Public/For Profit
Sector 4: Public/Nonprofit

Table G9

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Current Industry Salary

Change	Thousands	f	%	MSQ M	MSQ SD	ES M	ES SD
Positive	< 30	4	.06	67.00	3.56	15.50	1.73
n = 66	30-49.9	9	.14	76.57	13.76	17.00	2.69
	50-74.9	22	.33	68.09	12.01	17.19	1.75
	75-99.9	16	.24	73.56	11.72	17.00	2.22
	≥ 100	15	.23	75.50	13.45	17.80	1.82
Negative	< 30	5	.06	68.25	15.46	13.80	2.28
n = 91	30-49.9	16	.17	61.69	12.72	15.73	2.12
(1 missing)	50-74.9	47	.52	62.13	13.51	15.78	2.45
	75-99.9	13	.14	65.54	20.32	16.62	1.98
	≥ 100	10	.11	72.10	8.39	15.60	2.41
Mixed	< 30	3	.04	46.33	30.67	14.50	.71
n = 73	30-49.9	20	.27	61.20	11.77	15.95	2.19
(1 missing)	50-74.9	24	.33	69.17	12.05	16.04	2.16
	75-99.9	13	.18	71.15	18.90	16.15	2.44
	≥ 100	13	.18	69.92	13.93	16.85	1.07
None	< 30	4	.08	71.00	0.00	16.33	.58
n = 52	30-49.9	7	.13	74.14	13.52	17.29	1.98
(6 missing)	50-74.9	17	.33	67.82	16.06	16.47	2.55
	75-99.9	16	.31	75.60	13.44	18.19	1.94
	≥ 100	8	.15	79.75	11.93	18.27	1.38

Table G10

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Length of Time in Current Job

Change	Years	f	%	MSQ M	MSQ SD	ES M	ES SD
Positive	≤ 1	7	.12	69.57	12.65	16.57	2.76
n = 60	2-5	21	.25	73.29	13.25	17.14	1.82
(6 missing)	6-10	17	.28	72.18	11.91	17.59	2.03
	11-20	10	.17	72.20	10.16	16.76	1.79
	21-30	3	.05	73.00	14.53	16.00	2.00
	≥ 31	2	.03	75.00	31.11	19.50	.71
Negative	≤ 1	12	.14	59.83	10.24	15.55	2.02
n = 83	2-5	30	.36	61.20	16.71	15.80	2.20
(9 missing)	6-10	18	.22	66.33	11.39	16.06	2.10
	11-20	20	.24	70.75	13.50	16.75	2.79
	21-30	3	.04	52.00	6.93	14.67	2.31
	≥ 31	0	.00	0.00	0.00	0.00	0.00
Mixed	≤ 1	21	.31	65.29	14.73	15.14	2.61
n = 68	2-5	26	.38	64.65	18.15	16.64	1.52
(6 missing)	6-10	13	.19	64.92	12.99	16.62	2.06
	11-20	5	.07	68.80	11.39	16.40	1.34
	21-30	3	.04	66.67	9.29	17.67	1.16
	≥ 31	0	.00	0.00	0.00	0.00	0.00
None	≤ 1	4	.08	85.50	17.94	18.00	4.00
n = 49	2-5	11	.23	75.60	13.67	17.30	2.45
(9 missing)	6-10	15	.31	69.79	17.69	17.53	2.00
	11-20	11	.23	68.73	14.73	16.55	1.64
	21-30	7	.14	73.00	8.94	18.14	2.12
	≥ 31	1	.02	72.00	0.00	16.00	0.00

Table G11

Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores and Standard Deviations by Involvement in Post-Industrial Change and Length of Time in Current Industry

Change	Years	f	%	MSQ M	MSQ SD	ES M	ES SD
Positive	≤ 1	2	.03	79.00	11.31	15.50	4.95
n = 63	2-5	6	.10	75.83	5.60	17.50	2.17
(3 missing)	6-10	11	.17	64.09	5.58	16.91	2.07
	11-20	24	.38	73.50	12.50	17.04	1.92
	21-30	17	.27	73.63	14.06	17.75	1.98
	≥ 31	3	.05	68.67	24.95	17.33	2.52
Negative	≤ 1	1	.01	45.00	0.00	13.00	0.00
n = 87	2-5	5	.08	71.20	14.79	17.40	2.70
(5 missing)	6-10	8	.09	59.63	14.90	17.13	2.36
	11-20	47	.54	65.85	13.97	15.91	2.15
	21-30	25	.29	61.42	15.42	15.58	2.36
	≥ 31	1	.01	64.00	0.00	14.00	0.00
Mixed	≤ 1	3	.04	46.67	21.73	15.00	3.61
n = 74	2-5	8	.11	68.13	15.09	16.63	2.07
	6-10	13	.18	70.15	11.39	15.62	2.47
	11-20	37	.50	65.95	13.39	16.22	1.86
	21-30	10	.14	72.70	13.78	16.50	1.72
	≥ 31	3	.04	48.67	32.01	17.00	2.83
None	≤ 1	1	.02	66.00	0.00	0.00	0.00
n = 49	2-5	11	.22	71.70	23.00	17.09	2.47
(9 missing)	6-10	18	.37	73.56	11.55	17.17	2.46
	11-20	17	.35	72.18	14.05	17.35	1.66
	21-30	2	.04	76.50	10.61	20.00	0.00
	≥ 31	0	.00	0.00	0.00	0.00	0.00

Appendix H

SUMMARY TABLES:

INDEPENDENT SAMPLES T-TESTS

Table H1

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Gender

Group	N	M	SD	t	p
Male - MSQ					
Positive	47	71.13	12.28		
Negative	70	63.49	14.74	-2.93	.004*
Male - ES					
Positive	47	17.11	2.01		
Negative	69	15.99	2.36	-2.66	.009*
Female - MSQ					
Positive	13	76.23	13.02		
Negative	20	66.05	12.46	-2.25	.031*
Female - ES					
Positive	14	17.36	2.24		
Negative	20	15.50	2.09	-2.48	.019*

* Significant at $p \leq .05$

Table H2

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Ethnicity

Group	N	M	SD	t	p
Nonminority - MSQ					
Positive	59	71.64	12.50		
Negative	83	64.45	14.61	-3.07	.003*
Nonminority - ES					
Positive	59	17.22	2.06		
Negative	83	15.87	2.34	-3.57	.001*
Minority - MSQ					
Positive	3	76.67	10.69		
Negative	5	56.80	3.70	-3.96	.007*
Minority - ES					
Positive	3	16.00	1.00		
Negative	5	16.40	1.82	.34	.742

* Significant at $p \leq .05$

Table H3

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Age

Group	N	M	SD	t	p
26-35 years - MSQ					
Positive	6	71.83	13.32		
Negative	4	71.00	13.88	-.10	.926
26-35 years - ES					
Positive	6	16.83	2.71		
Negative	4	16.75	1.26	-.06	.956
36-45 years - MSQ					
Positive	18	67.33	8.63		
Negative	39	60.82	12.81	-1.96	.055
36-45 years - ES					
Positive	18	16.94	2.04		
Negative	39	15.08	2.16	-3.09	.003*

* Significant at $p \leq .05$

Table H3 continued

46-55 years - MSQ					
Positive	28	74.68	12.87		
Negative	35	65.03	15.86	-2.60	.012*
46-55 years - ES					
Positive	28	17.07	1.98		
Negative	35	16.71	2.31	-.65	.519
56-65 years - MSQ					
Positive	6	69.50	16.96		
Negative	9	71.44	12.79	.25	.804
56-65 years - ES					
Positive	6	17.17	1.60		
Negative	9	16.22	2.17	-.91	.379
≥ 66 years - MSQ					
Positive	1	97.00	0.00		
Negative	0	-	-	-	-
≥ 66 years - ES					
Positive	1	20.00	0.00		
Negative	0	-	-	-	-

* Significant at $p \leq .05$

Table H4

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Master's Degree Program

Group	N	M	SD	t	p
M.B.A. - MSQ					
Positive	35	73.49	12.29		
Negative	54	62.59	15.60	-3.49	.001*
M.B.A. - ES					
Positive	35	17.43	2.13		
Negative	54	15.70	2.39	-3.46	.001*
All other degree programs - MSQ					
Positive	27	69.82	12.44		
Negative	34	66.27	11.90	-1.13	.261
All other degree programs - ES					
Positive	27	16.82	1.88		
Negative	34	16.21	2.16	-1.16	.252

* Significant at $p \leq .05$

Table H5

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Master's Degree Date

Group	N	M	SD	t	p
1970-1971 to 1974-1975 - MSQ					
Positive	19	70.95	14.75		
Negative	16	68.75	17.62	-.40	.690
1970-1971 to 1974-1975 - ES					
Positive	19	17.58	2.12		
Negative	16	16.81	2.69	-.94	.352
1975-1976 to 1979-1980 - MSQ					
Positive	13	78.39	11.78		
Negative	24	62.33	15.68	-3.22	.003*
1975-1976 to 1979-1980 - ES					
Positive	13	18.00	1.83		
Negative	24	16.50	2.41	-1.95	.059

* Significant at $p \leq .05$

Table H5 continued

1980-1981 to 1984-1985 - MSQ					
Positive	17	69.24	10.75		
Negative	26	60.65	11.90	-2.40	.021*
1980-1981 to 1984-1985 - ES					
Positive	17	16.41	1.81		
Negative	26	14.58	1.70	-3.38	.002*
1985-1986 to 1989-1990 - MSQ					
Positive	13	70.23	10.04		
Negative	22	66.37	12.25	-.96	.343
1985-1986 to 1989-1990 - ES					
Positive	13	16.69	2.14		
Negative	22	16.14	1.94	-.79	.435

* Significant at $p \leq .05$

Table H6

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Undergraduate Degree Discipline

Group	N	M	SD	t	p
Business or business-related - MSQ					
Positive	35	70.77	13.55		
Negative	52	63.67	13.85	-2.36	.020*
Business or business-related - ES					
Positive	35	17.29	2.07		
Negative	52	16.08	2.42	-2.42	.018*
All other disciplines - MSQ					
Positive	27	73.33	10.76		
Negative	32	67.00	13.51	-1.97	.054
All other disciplines - ES					
Positive	27	17.00	2.02		
Negative	32	15.72	2.23	-2.29	.026*

* Significant at $p \leq .05$

Table H7

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Current Industry Orientation

Group	N	M	SD	t	p
Service - MSQ					
Positive	53	71.76	12.77		
Negative	73	64.44	14.54	-2.93	.004*
Service - ES					
Positive	53	17.26	2.10		
Negative	73	16.14	2.34	-2.79	.006*
Manufacturing - MSQ					
Positive	8	70.88	9.57		
Negative	13	60.39	13.60	-1.90	.072
Manufacturing - ES					
Positive	8	16.50	1.60		
Negative	13	14.54	1.85	-2.47	.023*

* Significant at $p \leq .05$

Table H8

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Current Industry Sector

Group	N	M	SD	t	p
Private/For Profit - MSQ					
Positive	42	70.36	12.32		
Negative	51	63.22	14.89	-2.49	.015*
Private/For Profit - ES					
Positive	42	17.10	2.18		
Negative	51	15.71	2.08	-3.13	.002*
Private/Nonprofit - MSQ					
Positive	4	75.50	8.51		
Negative	3	63.67	9.29	-1.76	.140
Private/Nonprofit - ES					
Positive	4	17.50	2.38		
Negative	3	16.00	1.00	-1.01	.360

* Significant at $p \leq .05$

Table H8 continued

Public/For Profit - MSQ					
Positive	3	78.67	17.04		
Negative	9	64.00	6.96	-2.24	.049*
Public/For Profit - ES					
Positive	3	17.67	2.52		
Negative	9	15.78	2.86	-1.01	.335
Public/Nonprofit - MSQ					
Positive	12	73.08	12.82		
Negative	23	66.57	16.09	-1.21	.233
Public/Nonprofit - ES					
Positive	12	17.17	1.53		
Negative	23	16.48	2.70	-.82	.421

* Significant at $p \leq .05$

Table H9

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Current Annual Salary Before Taxes (In Thousands)

Group	N	M	SD	t	p
< $30 - MSQ					
Positive	4	67.00	3.56		
Negative	4	68.25	15.46	.16	.880
< $30 - ES					
Positive	4	15.50	1.73		
Negative	4	14.75	.96	-.76	.477
$30-49.9 - MSQ					
Positive	7	76.57	13.76		
Negative	15	60.73	12.56	-2.68	.015*
$30-49.9 - ES					
Positive	7	16.86	2.73		
Negative	15	15.73	2.12	-1.06	.303

* Significant at $p \leq .05$

Table H9 continued

$50-74.9 - MSQ					
Positive	21	67.57	12.05		
Negative	45	62.27	13.64	-1.53	.132
$50-74.9 - ES					
Positive	21	17.19	1.75		
Negative	45	15.82	2.46	-2.29	.025*
$75-99.9 - MSQ					
Positive	16	73.56	11.72		
Negative	13	65.54	20.32	-1.33	.194
$75-99.9 - ES					
Positive	16	17.00	2.22		
Negative	13	16.62	1.98	-.49	.631
≥ $100 - MSQ					
Positive	14	75.50	13.45		
Negative	10	72.10	8.39	-.71	.488
≥ $100 - ES					
Positive	14	17.93	1.82		
Negative	10	15.60	2.41	-2.70	.013*

* Significant at $p \leq .05$

Table H10

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Current Job Tenure

Group	N	M	SD	t	p
≤ 1 year - MSQ					
Positive	7	69.57	12.65		
Negative	11	60.18	10.67	-1.70	.109
≤ 1 year - ES					
Positive	7	16.57	2.76		
Negative	11	15.55	2.02	-.91	.375
2-5 years - MSQ					
Positive	21	73.29	13.25		
Negative	30	61.20	16.71	-2.76	.008*
2-5 years - ES					
Positive	21	17.14	1.82		
Negative	30	15.80	2.20	-2.29	.026*

* Significant at $p \leq .05$

Table H10 continued

6-10 years - MSQ					
Positive	17	72.18	11.91		
Negative	18	66.33	11.39	-1.48	.147
6-10 years - ES					
Positive	17	17.59	2.03		
Negative	18	16.06	2.10	-2.19	.036*
11-20 years - MSQ					
Positive	9	71.44	10.48		
Negative	20	70.75	13.50	-.14	.892
11-20 years - ES					
Positive	9	16.78	1.79		
Negative	20	16.75	2.79	-.03	.978
21-30 years - MSQ					
Positive	3	73.00	14.53		
Negative	3	52.00	6.93	-2.26	.087
21-30 years - ES					
Positive	3	16.00	2.00		
Negative	3	14.67	2.31	-.76	.492

* Significant at $p \leq .05$

Table H10 continued

≥ 31 years - MSQ					
Positive	2	75.00	31.11		
Negative	0	-	-	-	-
≥ 31 years - ES					
Positive	2	19.50	.71		
Negative	0	-	-	-	-

* Significant at $p \leq .05$

Table H11

Independent Samples t-Tests of the Difference of Job Satisfaction (MSQ) and Educational Satisfaction (ES) Mean Scores for Positive and Negative Post-Industrial Change - Current Industry Tenure

Group	N	M	SD	t	p
≤ 1 year - MSQ					
Positive	2	79.00	11.31		
Negative	1	45.00	0.00	-2.45	.246
≤ 1 year - ES					
Positive	2	15.50	4.95		
Negative	1	13.00	0.00	-.41	.751
2-5 years - MSQ					
Positive	6	75.83	5.60		
Negative	5	71.20	14.79	-.71	.493
2-5 years - ES					
Positive	6	17.50	2.17		
Negative	5	17.40	2.70	-.07	.947

* Significant at $p \leq .05$

Table H11 continued

6-10 years - MSQ					
Positive	11	64.09	5.58		
Negative	8	59.63	14.90	-.92	.372
6-10 years - ES					
Positive	11	16.91	2.07		
Negative	8	17.13	2.36	.21	.835
11-20 years - MSQ					
Positive	24	73.50	12.50		
Negative	46	65.63	14.05	-2.31	.024*
11-20 years - ES					
Positive	24	17.04	1.92		
Negative	46	15.91	2.15	-2.16	.034*
21-30 years - MSQ					
Positive	15	73.27	14.47		
Negative	23	61.65	15.72	-2.29	.028*
21-30 years - ES					
Positive	15	17.60	1.96		
Negative	23	15.65	2.39	-2.63	.012*

* Significant at $p \leq .05$

Table H11 continued

≥ 31 years - MSQ					
Positive	3	68.67	24.95		
Negative	1	64.00	0.00	-.16	.886
≥ 31 years - ES					
Positive	3	17.33	2.52		
Negative	1	14.00	0.00	-1.15	.370

* Significant at $p \leq .05$

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