

CORRELATES OF MOTIVATIONAL ORIENTATIONS IN EMPLOYER FUNDED EDUCATION

by

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Abstract

People who participate in adult education do so for a variety of reasons. The British Columbia Telephone Company (B.C. Tel) reimburses employees who take courses, and does so because it is assumed that employees participate in education for job-related reasons. The purpose of this study was to examine the extent to which employees utilizing B.C. Tel's "Financial Assistance Plan" take courses for "job" or "non job" reasons and to determine the extent to which different "motivational types" (derived from contrasting job with non job motivational orientation scores) possessed different socio-demographic characteristics. Boshier's Education Participation Scale (EPS), along with Helmreich and Spence's Work and Family Orientation Questionnaire (WOFO), were assembled in a questionnaire that also measured the socio-demographic characteristics of employees utilizing the B.C. Tel Financial Assistance Plan in 1985. EPS items were subjected to a judging process that identified those deemed to be "job" and those deemed to be "non job" oriented. Of the 250 questionnaires distributed through B.C. Tel's internal mail system, 159 useable ones were returned. A total EPS "job" score was derived by calculating the mean over the relevant items, a total "non job" score was derived using the same method for items in this category. Respondents with the highest "job" scores (ie. most likely enrolled for job-related reasons) were younger employees, those with shorter periods of employment with B.C. Tel, and union employees. Those with the highest "non job" scores were older employees, respondents with children, and management employees in staff positions. Although the first phase of the analysis revealed significant relationships between socio-demographic and EPS variables,

Abstract (continued)

a multivariate analysis which simultaneously considered both "job" and "non job" scores was needed because many participants were enrolled for both reasons. Job motivation is not the opposite of, or does not exclude, non job motivation. Thus, a discriminant analysis was performed where the dependent variables were four motivational types. TYPE I respondents were high job/high non job motivated, TYPE II were high job/low non job motivated, TYPE III were low job/low non job motivated, and TYPE IV were low job/high non job motivated. It was concluded that predicting participant type was possible using only two socio-demographic variables, age and employment function. TYPE I participants were younger than TYPE III and IV, and were more likely to be union employees. TYPE II participants were similar in age to TYPE I, but were more likely to be in management. TYPE III participants were mostly management and were older than TYPE I and II. TYPE IV were similar in age to TYPE III, but were evenly split between union and management. Further research is needed concerning the application of the EPS in a business setting. The judging process used to determine "job" and "non job" scores is worthy of further examination in a larger context. As well, it would be useful to examine if other categories exist. Finally, construct validation of the typology of participants developed in this study through in-depth interviews conducted with representative respondents of a similar sample could ratify or refine the classifications used in this thesis.

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x

Dedication

To my father,

S. Ll. Williams, M.D., F.R.C.P.S..
(1904-1986)

A lifelong learner.

CHAPTER ONE

INTRODUCTION

Background

The Adult Education Committee of the British Ministry of Reconstruction concluded that adult education was almost entirely concerned with non-vocational matters. Despite their exhortations and impact on educational policy in Britain and her satellites, adult learners continued to participate for a variety of vocational and non-vocational reasons. Sometimes human psychology defies even the most determined attempts of politicians and administrators to shape educational policy. Today, educational broadcasters are often perplexed about how to deal with "pirate" listeners or viewers who watch job-related courses associated with educational broadcasts for "hobby" reasons. Some want to "come down hard" and catch interlopers; others are delighted that "non-participants" insist on participating despite their "motivations". All this simply goes to show that despite the best efforts of educational planners, human beings behave in a holistic fashion and do not segment themselves according to vocational and non-vocational directives. Japanese organizations recognize this, and in that part of the world, the corporation is far more inclined to involve itself in the psyche of it's employees than is the case in the West.

Since the late 1950's adult educators have become very interested in the motives, reasons, or "motivational orientations" that appear to explain why people participate in adult education. Those who sponsor it (governments, employers and community organizations) often have particular objectives in mind. But the learners themselves participate for a variety of reasons, only some of which fit the stated or

underlying objectives of the sponsoring agency. For example, in many business settings, participants in job-related educational activities are motivated by "hygiene" factors (extrinsic rewards) but, according to Herzberg (1966), have become significantly more influenced by "motivator" factors in recent decades. Money "motivates", but so does the opportunity for self-development.

This divergence between the motivational orientations of sponsors and learners became the centrepiece of arguments about whether people undertaking employer sponsored education should be forced to undertake educational activities directly relevant to their job. Some evidence (O.E.C.D., 1976) suggests it is the provision of educational opportunity that makes a difference. Whether an engineer studies computerized switching technology or develops skills as a photographer does not seem to matter. Although employers want their employees to undertake "relevant" studies, it appears that post-educational employee productivity or performance also improves if they pursue non job-related studies.

These issues provide a backdrop to the situation at the British Columbia Telephone Company (B.C. Tel), where employees wishing to undertake educational activities on their own time can apply for financial assistance to do so. B.C. Tel's Financial Assistance Program reimburses an employee for the cost of tuition, books and relevant materials upon the successful completion of a pre-approved course or program of courses. The architects of the Financial Assistance Program assumed that employees availing themselves of the program would undertake "job-related" studies and primarily be motivated by "job-related" concerns.

The primary purpose of this study was to examine the characteristics of employees utilising the program and their reasons for doing so. Specifically, this study examined whether participating employees are motivated by "job" or "non-job" reasons. A secondary purpose was to examine the extent to which types of employees (identified by sex, age, marital status, number of children, educational level, length of service, and employment function) differed with respect to the extent to which they were motivated by "job" and "non job" related reasons.

Justification for the Present Study

Investments

From a company's point of view, employees are it's most critical asset. Thus it is important to have an adequate supply of workers with the qualifications and skills to carry out the business objectives of the corporation. Employee ability and motivation are two major factors in productivity (Pinder, 1984). As a result, corporations invest more in people than in any other component.

Employers facing unsatisfied labour demands can bid for desired workers, lower their standards of employment or offer more training to certain employees. The response companies choose will affect both their profitability and society's inflation and productivity growth. Offering higher wages or lowering job standards might produce short term profits for the corporation, but the long term effects of these approaches will cost the company through reduced profitability as a result of reduced quality of output. While this could appear to be good short-term decision making, it can lead to undesirable social outcomes through inflationary pressure and deteriorating productivity growth (Medoff,

1983).

Individuals within the company who undertake educational commitments will be concerned about their individual needs for education. If they want the company to recognize their desire to do a better job, or want better pay, they will question whether their efforts are recognized. Employees expect a return on their investment in an educational experience. Potential returns include access to opportunities for career advancement, increased wages (Herzberg's "hygiene" factor), the acquisition of new skills or the maintenance of existing ones, job security in a shrinking job market, and better potential to adjust to social and technological change. In addition, feelings of self-worth (Herzberg's "motivator" factor), the social opportunities offered by participation in learning experiences, the satisfaction of general interest, and cognitive stimulation are recognized as factors that lead people to participate in education (Boshier, 1977). Such a wide range of potential returns to the individual raises questions about the degree to which different types of employees who take advantage of financial assistance programs conform to the employer's criteria or participate for a variety of more personal reasons.

Situation Analysis

Most major corporations train existing employees and thus try to avoid the pitfalls of bidding for new employees or lowering standards. As a result, training of all levels of personnel, especially in vigorous and growing industries, is receiving much more attention in this decade (Wolansky, 1984).

B.C. Tel has a major commitment to employee training and retraining. Rapid technological change, the reduction and eventual elimination of B.C. Tel's monopolistic position as a regulated telecommunications supplier, and the increasing sophistication of the market in which it operates, has increased the importance ascribed to training and retraining by the company and the Telecommunications Workers' Union which represents the company's bargaining unit employees (Gerber, 1987).

The company maintains and staffs a major training facility (the B.C. Tel Education Centre) which provides internal courses designed to develop skills essential to company operations. In addition, there are management and self-development courses designed to make employees more adaptable, better decision-makers, and more aware of the culture of the organization. Although of a general nature, the latter are an important component of employee development. As an adjunct to Education Centre courses, the company provides financial assistance (the Financial Assistance Plan) to employees who successfully complete approved courses at other institutions.

Recently it has been suggested that the company's Financial Assistance Plan had not fully realized its potential to satisfy some employee retraining needs. An unresearched opinion suggests that, were it administered differently, the Financial Assistance Plan could provide a valuable external supplement to the company's Education Centre programs. Long range activities which have been considered regarding changes to the administration of the financial assistance program include 1) the identification of external courses which offer skill development in areas particularly needed by the organization, 2) the

establishment of a counseling function to direct employees toward participation in courses that prepare them for job opportunities and skills needed either now or in the foreseeable future, and 3) the potential for joint-venture arrangements with institutions such as U.B.C., S.F.U and B.C.I.T to provide courses that meet B.C. Tel's specific needs as well as those of a more public nature. These changes would have implications for policy and decision making at B.C. Tel and other agencies.

Current theories of career development have acknowledged that motivation is affected by management practices (eg. Schein, 1971), socio-demographic variables (Farmer, 1985; Gottfredson, 1981), and career expectations (Hill & Roselle, 1985). However, much research remains to be done on external influences on motivation and the impact they have on careers. Multiple career paths, the increase of the labour force due to the major influx of women into the workplace, increased unemployment, more available leisure time, and technological change make it imperative to understand environmental influences that help individuals negotiate and renegotiate their careers. Of particular interest to this study are factors that lead employees to participate in post-secondary education through employer sponsored programs. Financial assistance and it's related criteria should have a major impact on motivation for participation.

Most studies have concerned themselves with the adult "learner at large". In this study, because of the human capital orientation of the criteria associated with reimbursement, learners were directed to job-related educational activities. Thus it was expected that job-related motivational orientations would outweigh other

orientations. Recognizing the holistic nature of human beings, it was expected that participants would enroll in "job-related" courses, but not necessarily for "job-related" reasons. Indeed, given the diversity of types of B.C. Tel employees, diverse reasons for participation were expected. In addition, attitudes toward work and the work environment should determine whether Herzberg's "hygiene" factor was the main psychological reason for undertaking educational activities, or whether "motivator" factors were more important.

Research Questions

Specific questions to be explored were:

1. What is the relationship between motivation for participation in courses supported by the Financial Assistance Plan and socio-demographic variables that prior research has found to be correlates of motives for participation in adult education programs; ie. does motivation for participation vary in relation to gender, age, marital status, number of children, educational level, length of service, and employment function when directed toward job-related courses?
2. Are the employer's criteria for "job-related" courses reflected in the motivational influences cited by participants? Specifically, what is the relative strength of "job-related" influences to "non job-related" and other influences on employees decisions to participate?

CHAPTER TWO

LITERATURE REVIEW

Given the business environment in which this study was conducted, it was desirable to consider the economic background of financial assistance programs from the points of view of both employer and employee. As well, participants in employer funded adult education must adhere to some degree to employer-set criteria for enrolment. It was therefore important to examine the motivational orientations of participants within this framework. Finally, employees are likely to participate in educational activities to achieve job diversity/career advancement goals. Therefore, an investigation of the goal orientations of participating employees was necessary.

Thus, the literature review begins with an examination of human capital theory, primarily the work of Schultz (1961, 1962, 1967) and Becker (1962, 1964), because it pertains to why firms offer financial assistance programs and employees participate in them. This is followed by an overview of educational research on the motivational orientations of adult learners, which focused on Miller's (1967) "force-field" analysis of job motivation and Boshier's (1971, 1973, 1977, 1985) examination of Houle's (1961) tripartite typology. Finally, literature discussing the sociology of job motivation was reviewed, beginning with Maslow (1970) and culminating in concepts of job motivation proposed by Herzberg (1966) and career motivation as discussed by Schein (1971).

Background to Financial Assistance Plans

Human Capital Theory

Human capital theory is basically an attempt to measure the money value of a human being. In its most primitive form, it was used by Sir William Petty in his estimate of the national wealth of England in 1691. To Petty, labour was the "father of wealth" which led him to place a money value on labourers. It is surely ironic that the developments springing from this early concept to what has been described as Schultz's "exciting work on measurement of the return on investments in human capital" (Heller, 1975), was via the work of Dublin and Lotka (1882) on behalf of the life insurance business.

Human capital theory is best understood as an outgrowth of neoclassical economics, which is based on free market systems operating in conditions of perfect competition. The role of the public sector in neoclassical economics is to ensure the efficiency of markets operating under these conditions. Since free markets cannot satisfy all preferences and, in practice, are unlikely to be perfect, the neoclassical economist views the public sector role to be one in which overall economic efficiency is achieved by the use of cost benefit analysis as an analogue to profits.

Labour as a factor of production did not receive much attention in modern growth theory until the mid-1950's, when an increased interest in empirical research on production (eg. Solow, 1957) produced perplexing results concerning the relative share of various production factors (ie., labour and capital) in the total economic growth rate. Researchers began to look for alternative solutions. In addition,

radical technological change created demands for educational investments to meet the need for well-educated manpower (Rubenson, 1980). All this reawakened interest in human capital theory.

The Schultz Perspective

Recent human capital theorists, beginning with Schultz (1961) consider education to be an investment that contributes to immediate efficiency and future growth in a free market system. Schultz argued that education should not be viewed as mere consumption. Education is also a form of investment that improves occupational choices available to the individual and provides businesses and the state with the educated labor force essential to industrial development and economic growth. He also hypothesised that changes in investments in human capital are the basic factors that reduce inequalities in the distribution of personal income (Schultz, 1962).

This proposal engendered excitement since it provided for the evaluation of the relative worth of resources allocated to educational activities as compared to alternative capital investment opportunities. In addition it provided the basis for an explanation of the "missing" factor that spurred the explosive growth in production of the post-World War II years (Denison, 1962). Finally, it appeared to address the social issue of perceived inequities of employment to the disadvantaged. Schultz's new application of this theoretical framework provided the basis for a considerable dialogue on educational policy and research.

The Becker Perspective

Becker (1962) cited eight empirical phenomena that had either baffled investigators or been given ad hoc explanations. These he was certain could be explained by human capital theory. In the pursuit of an explanation for these phenomena, Becker became the major proponent and most prolific writer on the subject of human capital and its application to modern economic practice. His book "Human Capital" (1964) is considered the classic conceptual analysis of investment in human capital.

Becker acknowledges the basic idea of human capital theory; that "raw labor" through training becomes an agent of enhanced productive capacity. Because the benefits derived from the training period are not immediately realizable, the value of the resources used in training may be considered as investment, and the benefits derived over time (increased productivity, wages, etc.) as yield. In addition, investment in training will be more profitable, and is more likely to be undertaken, the longer the period of time over which returns from the investment can accrue. Thus, it is important to good investment decision-making to know what kind of training to utilize if decision making is to be effective.

The major strength of Becker's argument was the innovative approach he took to this problem by making a distinction between general and specific training. General training makes the worker useful to more than one employer. Thus, Becker argued that an employer has a stronger incentive to invest in specific training useful only to his firm; this reduces the opportunities for employee job mobility.

In discussing the incentive to invest in training, Becker (1962) argued that incentive to invest in skills increases with the size of the market. Unfortunately, he did not consider that investment in training may also increase with the number of tasks to be learned as well as the complexity of any one of them. In addition, technical change is a factor that affects human capital (Schultz, 1967); different training given to various age cohorts makes them akin to machines of a different vintage.

While for the most part Becker takes a micro-economic approach, he does not ignore social productivity gains. This he views as the external effect on output of the increase of knowledge associated with an increase in the number of post secondary trained persons. However it is possible that there is a partially offsetting excess of private over social returns. This relates to the question of whether the earning advantage of post secondary graduates over others reflects enhanced productivity or the prejudices of employers in favour of post-secondary graduates (Rees, 1965).

Becker assumed that the learning needs of the individual are subsumed to those of profit and society. Second, there is no indication that he considered the continued learning process, in both formal and non-formal settings, that many individuals pursue. Third, he assumed that attendance at educational institutions constitutes learning. The credentials gained by this attendance are treated as the attainment of competency, and will lead to increased productivity. Finally, he implied that the grading system of educational institutions serves as a screening process for a hierarchical workplace.

Outgrowths of Becker's research are the models of human capital accumulation used to explain why individuals proceed through a series of stages in the educational process, from formal education with no employment to employment with on-the-job training and finally to full employment (Rosen, 1972; Polachek, 1975). This endogenous approach to human capital has been partially responsible for the burgeoning literature on continuing and lifelong education.

Summary

Human capital theory has a major failing that stems from its lack of a philosophical basis and its separation of the arts and sciences. As a result, it provides a mechanistic and pragmatic basis for dealing with human beings inconsistent with the philosophical tenets held by the human resource department of most major firms today.

Still, the human capital concept is useful, both as a theoretical framework and a phenomenon that stimulated the educational system. It also explains the economic reasons for the investments by both individuals and corporations of both time and money in various types of training. In the current study, it will be used to explain economic motivations that lead employees to participate in adult education activities of a job-related nature, and the employer's willingness to fund those activities, provided they are activities specific to the needs of the employer.

Motivation, then, from an economic perspective is attributed to the desire of individuals and corporations to gain skills that will provide for long term needs. Individuals are motivated, consciously or

unconsciously, by relinquishing short term gains for longer term, higher gains. Employers are motivated by the reduction of the costs of turnover, the development of required skills in the workforce, better quality of workmanship, and long term gains in productivity.

Participation in Education

Adult education literature provides a conceptual and theoretical framework for motivational factors which influence participation. Much of this began with the theoretical framework developed by Houle (1961). Most of the ensuing literature on this subject focused on the relationship between socio-economic variables and motivational orientations (Boshier, 1977). Of particular interest to this study is Boshier's development of Houle's (1961) tripartite typology of "goal", "activity", and "learning" orientations.

The parsimony of Houle's typology attracted attention. Despite the fact it was developed using qualitative analysis and never subjected by Houle to empirical testing, much of the motivational literature of the ensuing 25 years has been based on it. While many studies of motivational orientations exist, such as those by Burgess (1971), and Haag (1976), this review concentrated on Miller's (1967) "force-field" and Boshier's research on motivational orientations. This is in the interest of parsimony as well as in the expectation that an examination of these two authors will advance the argument of this thesis.

Miller's Force-field Analysis

Miller (1967) proposed that people participate in four types of educational activity designed to foster vocational competence, personal

and family competence, citizenship competence, and self-development and used Lewin's (1947) "force-field" to examine reasons for participation. Lewin developed his method to examine "such high level abstractions that exist between 'production', 'consumption' and 'participation' as an equilibrium that results from the innumerable decisions of large numbers of individuals" (p. 2). Miller's adaptation of Lewin's method was based on three assumptions. First, the willingness of an individual to undertake an activity demonstrated some personal need. Second, personal needs were "shaped, conditioned and channelled by the social structures and forces of society" (p. 3), therefore the social forces in society which stimulate or inhibit the operation of personal needs for the growth possibilities offered by education must be considered. Finally, the interaction between personal needs and social forces would result in four possible states. 1) the congruence of strong social forces and strong personal need for a particular educational objective would result in a high level of participation in programs relative to that objective, 2) strong personal need with no supporting social force would lead to low participation generally, but erratically high participation sporadically, 3) weak personal need with strong social forces would cause high participation initially but with a later high dropout rate and 4) conflict between personal need and social forces would create tension within the program, with participation level dependent on the strength of the social force that exists.

Miller based his concept of social forces on Maslow's (1970) "needs hierarchy", but provided a perspective that incorporates educational and economic needs as well as Maslow's socio-psychological needs. Thus, for Miller, Maslow's survival and safety needs were redefined. Survival

in industrial societies depends on gaining marketable skills. The domination of adult education by job training programs is thus a direct result of the rapid shift in skill demands due to rapid technological development. Similarly, safety reinforces this domination since in today's society, the greatest perceived deprivation is an economic one and the most general threat is job loss.

Higher order needs (for recognition, achievement and self-realization) tend to be dependent on socio-structural variables such as status, educational level, and age. Recognition is important to the middle class, whose fundamental needs are largely satisfied through stable family structures and active organizational lives. In fact, belonging needs support the middle class desire for career and advancement. The middle class tends to participate to advance their career, while the lower class participate to prepare for job entry.

Miller also proposed a relationship between participation and achievement needs. He suggested a linkage between several personal factors associated with level of education. Higher levels of education were associated with setting distal as opposed to proximal goals which in turn is associated with high levels of achievement need. On the other hand, he associated self-realization with age level. The preconditions of the satisfaction of fundamental needs and life situation permits and encourages need seeking at a particular level. Thus self-realization needs should increase with the advance of the life cycle. Self-realization is a drive that leads to "never-ending attempts at perfection" (p. 6).

Maslow's need hierarchy is central to Miller's thesis and, in his

opinion, included the socio-economic imperatives that act on individuals who participate in adult education. To sum up with Miller's (1967) own words:

The needs hierarchy, then, appears to fit very well the immediate realities of the participation pattern of adult education, with major participation in programs aiming at the satisfaction of lower need levels, tapering off at the higher levels; it matches the social class differentiations that we know of. It also shows an interesting congruence with age and the life cycle. It is reasonable to argue, for example, that the early stages of adulthood are primarily concerned with satisfaction of the three lower stages - getting established in a decent, stable job and beginning a family. As the cycle proceeds, the older person begins to devote energy to achieving status (a rough generalization which I shall later modify), and to achievement in his field of work (the highest level of productivity is not reached until the forties and fifties). It is the rare person who begins to think about the meaning of his own life and the value of selfhood before he reaches his forties. (p. 7).

The interaction between personal needs and social variables that Miller proposed was significant to the current study. His analysis focused on "social class values", with "technological change" and "associational structures" as subsidiary factors that affect participation. Class values are not considered independent and immutable, but depend to a great extent on the structure of opportunities available to a given social class.

While Miller concentrated on social class values, the structure of opportunity inherent in the environment of the present study shifts the emphasis to technological change. This is due to the fact the population and time of the study deals with a stable work force of largely middle class values subject to accelerating and ever-present technological change. Yet this is not incongruent with Miller's notion, since technological change has equally powerful, if different, impacts

on both the working and middle class.

The working class see education from a pragmatic point of view; the payoff need not be immediate, but there must be some promise of a practical reward such as higher pay or a better job. In addition, technological change poses a threat to which education provides a solution. Miller (1967) said this of the technological forces that have an impact on the working class:

One of the most powerful forces in the educational picture...results from the congruence of the working class safety need with the extraordinarily strong social drive toward technological change and development. On the industrial scene these two are in conflict, as unions resist change in order to safeguard jobs, but to the extent that workers and some unions recognize the inevitability of technological advance, safety becomes congruent with educational opportunity. (p. 10).

Similarly, the middle class needs for mobility and status are well served by the educational system as well as the structure of opportunity within which they operate. The middle class are thoroughly at home in a future oriented society. Lower-middles use technological change as an opportunity for advancement of familial status. Upper-middles (the professional or executive level) propose and implement the technological change that provides opportunity to the middle class and confusion to the lower class. Miller (1967)said of the upper-middles:

As for participation in continuing education, the sustaining forces in both [professional and executive] groups are clear and strong. The upper-middles create and implement the technological shifts which provide either trouble or opportunity for other social class levels, education is a comfortable and familiar tool for "keeping up with the field" and improving skills, and the corporation and firm pays for it. All of this is congruent with the driving force of development in both fields of knowledge and business

organizational life. (pg. 13).

Motivational Orientations

Since 1970, participation studies have been conducted which focus on motivational rather than sociological variables which influence participation. Representative of these are Boshier (1973), Morstain & Smart (1974) and Haag (1976). These studies all used Boshier's (1982) Education Participation Scale (EPS). Boshier and Collins (1985) identified six orientations related to participation; "Social Contact", "Social Stimulation", "Professional Advancement", "Community Service", "External Expectations", and "Cognitive Interest" influences.

Boshier (1977) used the terms "life-chance" and "life-space" as synonyms for deficiency and growth motivation.

Growth or life-space oriented people participate in adult education for expression rather than in an attempt to cope with some aspect of their life. Life-chance oriented people participate because of the need to survive and acquire utilitarian knowledge, attitudes or skills. ...life chance motivated participants are largely attempting to satisfy the lower order needs on Maslow's hierarchy; life-space motivated participants have largely satisfied lower order needs and are primarily enrolled to expand their life-space. Persons seeking to satisfy the lower order needs are, in the long term, seeking to expand social and vocational horizons - aspects of their life-space - but in the short-term are primarily trying to improve their life-chances (which are usually psychological or vocational). Life-chance and life-space motivations are at opposite ends of a single continuum. The continuum is a psychological dimension which underlies reasons for participation. Future research may show that life-chance/life-space motivation cuts across reasons for participation in a more orthogonal manner. But, for present purposes, it is assumed to lie in an oblique or linear relationship with reasons (orientations) for participation. (pp. 92-93).

The strength of Boshier's argument lies in his understanding of the effect of social order on the psychological conditions that underly the

social order. The belief that environmental influences only have an effect on social class ignores the many psychological attributes that occupy Maslow's concept. Thus it is important to consider the psychological as well as the social variables that influence participation. Haag's (1976) study appeared to support the notion that motivational orientations are related to psychological states which resemble Maslow's description of deficiency and growth motivation. Haag correlated EPS factor scores with neuroticism and self actualization scores; high levels of neuroticism were assumed to be one manifestation of life-chance motivation and high levels of self actualization were assumed to be one manifestation of life-space motivation. He found that high "Social Welfare" and high "Escape/Stimulation" (the equivalent of Boshier and Collins' (1985) "Social Stimulation") scores were associated with high neuroticism and low self actualization scores. The association between life-chance motivation and low self actualization suggested a link between deficiency/growth motivation and reasons for participation.

Boshier (1977) found that young participants were more influenced by External Expectations and less influenced by Cognitive interest than older participants. Married participants were more likely to enrol for Professional Advancement reasons than unmarrieds, however, unmarried participants were also more influenced by External Expectations than married participants. He also noted that participants with the lowest formal educational qualifications were more influenced by Professional Advancement and External Expectations than were well educated participants. Finally, participants influenced by Professional Advancement were more likely to be of low socio-economic status than

those less influenced by Professional Advancement reasons for participation.

Since the Boshier (1977) study, Boshier and Collins (1983) created a file containing EPS, socio-demographic, and other data on more than 12,000 respondents and calculated mean EPS factor scores by sex, age, and other variables. Because of the large size of this data set, the mean scores of socio-demographic groups (ie. men and women) on each of the factors were significantly different. But, in general, socio-demographic variables accounted for little of the variance in motivational orientations. For example, sex accounted for less than one percent of the variance in Social Contact, Social Stimulation, Professional Advancement, and Community Service. Sex accounted for 1.01% of the variance in External Expectations (men were significantly more likely to to be influenced by this factor than women) and 2.25% in Cognitive Interest (women were significantly more likely to be influenced by this factor than men).

Age accounted for 2.25% of the variance in Social Contact, 3.24% in Social Stimulation, 4.84% in Professional Advancement, 1.44% in Community Service, and 3.24% in External Expectations. In all these factors, older respondents were less likely to be influenced by these factors than younger respondents. Age accounted for 2.56% of the variance in Cognitive Interest, but in this case, older respondents were more influenced by this factor than younger respondents.

Marital status accounted for 2.29% of the variance in Social Contact and 1.04% in Social Stimulation (single participants were more influenced by these factors than marrieds). Marital status accounted

for less than one percent in the other four factors. Number of children accounted for less than one percent in all factors.

Level of education accounted for 1.89% of the variance in Social Contact, 1.47% in Social Stimulation, 2.21% in Professional Advancement, and 1.55% in External Expectations (those with lower levels of education were more influenced by these factors than participants with higher levels of education). Education level accounted for less than one percent of the variance in Community Service and Cognitive Interest.

Occupation accounted for 6.51% of the variance in Social Contact, 6.53% in Social Stimulation, 5.34% in Professional Advancement, 5.34% in Community Service, 5.53% in External Expectations, and 3.15% in Cognitive Interest. Unemployed respondents were more influenced by most of the factors than other groups. Exceptions were the Professional Advancement factor, where students and the technical/educational/professional category were more influenced than other categories, and Cognitive Interest, where housewives and the technical/educational/professional category were more influenced than others.

This benchmark study suggests that caution is necessary when examining socio-demographic correlates of motivational orientations. In this large data set, occupational status was a more powerful predictor of motivational orientations than other socio-demographic variables. The small amounts of variance accounted for suggest that caution is needed when ascribing motivational orientation variance to socio-demographic variables. Some of the effects may have been masked or "smoothed"

because Boshier and Collins created such a large data set from so many different countries, settings, and participant groups. Nevertheless, in many respects, this large-scale study must be given more weight than Boshier's (1977) study which was conducted with only 242 respondents in one location (Richmond, B.C.).

Summary

Motivational orientations appear to be moderately related to social, psychological, and other variables. Socio-structural variables appear to influence reasons for participation over a continuum that ranges from "life-chance" to "life-space" motivations. At the lower end of the social order, deficiency is the operand that leads to the satisfaction of survival and safety needs. Advancing through the continuum, growth needs are met by educational activities ranging from status-seeking to self-actualization. Demographic variables partially determine the strength of the motivational influences felt by the individual.

From an environmental point of view, technological change is the driving force that prevents the entire process from reaching stasis, resulting in the domination of adult education by job-related programs.

Job-related motivation for individuals is therefore related to expectations of career advancement, better pay, and increased security, as well as social and psychological factors such as survival, status, and self esteem. Of these, career advancement and better pay are consistent with the economic perspective. The interrelatedness of these two perspectives, while fairly obvious, are an important construct in the development of this thesis.

Sociology of Job Motivation

One of the most influential theories about human needs was developed by Maslow (1970) who grouped needs into five basic categories arranged in a hierarchical order. Lower order needs dominate behaviour until satisfied; only then do higher order needs receive attention. His ideas on human motivation have had an enormous influence on the thinking of behavioural scientists, educators, and sociologists.

Using the conceptual framework of need established by Maslow (1970), adult educators such as Knowles (1974), Knox (1968) and Monette (1977) described relationships between individual needs and those of social organizations; the needs of social organizations can and do influence the acquisition of individual needs. For example, the need of an organization for skilled workers could lead employees to participate in educational activities that develop such skills. This relationship between the needs of the social organization (the employer) and the needs of the individual (the employee) is of particular interest to the present study. Miller (1967) dealt more specifically with the industrial setting. He posited that individual learning needs could be stimulated by both the "technological" needs of the workplace as well as by its "promotional" needs to advance and develop employees within the organizational hierarchy.

Building on Maslow's unassessable (Alderfer, 1972; Schneider & Alderfer, 1973) theory, McGregor (1960) claimed that the perspective or theory a manager holds about other people determines how others will respond. McGregor posited that most managers had as their main

perspective what he called "Theory X". This perspective of employees was a dismal one; workers are egocentric, passive, and lazy, lack ambition, resist change, and are followers, not leaders. The result of this theory or perspective led to self-fulfilling prophecy - employees treated like children responded like children. McGregor challenged this view. Knowledge from behavioural science suggested what McGregor called "Theory Y".

Theory Y accepted that managers needed to manage, but the task of management was redefined. Recognizing the appropriateness of Maslow's needs hierarchy, McGregor proposed that management's job is to arrange operations in such a way that there is minimum conflict between the aims of the organization and the needs of employees. This dramatic (then) suggestion of a shift away from the external control of workers to the provision of an atmosphere that allowed employees to exercise self-control and direction is still evident in many management practices today.

Herzberg (1966) examined conflict between people and the organization, and reduced Maslow's five factor hierarchy to two motivational levels that affect job satisfaction. One level of the motivators/demotivators included Maslow's lower order needs - psychological, safety, and belongingness. This he called the "hygiene factor", a producer of job dissatisfaction. The higher order needs of self esteem and self-actualization he labeled the "motivator factor".

According to Herzberg, the motivator factor is the appropriate way to stimulate employee productivity. Hygiene factors are the work environment, while motivator factors deal with the work itself. He

argued that attempts to motivate employees through extrinsic means (the hygiene factors) such as more pay, better benefits, and better work environments are all based on what he called the "KITA" approach. Producing acceptable behaviour in an employee by a "kick in the a**" may work but, once employed, loses its effectiveness as a motivator. The appropriate motivator in Herzberg's view is job enrichment. Giving an individual authority and accountability will have a continuing motivational effect, providing more challenge to an employee to utilize inherent or acquired skills.

Job redesign to provide enrichment has enjoyed considerable popularity over the last decade, and the implementation of Herzberg's motivator factors is likely to continue, leading to a gradual reduction in the percentage of jobs that lack challenge, primarily through the automation of those dull and routine jobs better performed by robots. But job enrichment is not the panacea for all the ills of the workplace. As Bohlman and Deal (1984) point out:

...there are significant barriers to the progress of job enlargement, and dull jobs will not entirely disappear in the future. One source of resistance is the philosophy of "technological determinism" - the belief that jobs should be organized on the basis of technical imperatives, and people then trained to perform the jobs correctly. Another barrier is the durability of Theory X. Right or wrong, many managers continue to believe that their workers will be most productive in a Theory X environment. A third barrier is economic. Many jobs cannot be altered without major investments in the redesign of physical plant and machinery. The barriers will slow the movement toward job enrichment, but they are not likely to stop it. (p. 86).

At the organizational level, reliance on the application of technology has resulted in creation of a more specialized work force. This applies in particular to firms with a high requirement for automation. In such

firms, a large proportion of employees are developed into specialists with an extensive educational background in the technology to be applied. Similarly, many managers in industrial concerns have often enjoyed a liberal education followed by graduate training.

Zalesnik et al. (1970) proposed that individuals make career choices based on needs for intrinsic or extrinsic rewards. His categorization of career paths into two types (Specialists and Managers), contains parallels to theories of adult education that clearly demonstrate the sociological roots of both.

The "Specialist" is described thus:

By choosing intrinsic rewards and foregoing extrinsic ones, the ... Specialists appear committed primarily to the pursuit of knowledge for its own sake. It was as though external recognition was threatening to the dedicated pursuit of knowledge. A sense of pride in careful, thorough workmanship and the satisfaction of realizing valued ideals presumably compensated for the lesser emphasis on external rewards.... (Zalesnik, 1970, pp. 73-74).

The "Manager", on the other hand, saw as more legitimate and acceptable goals those of higher status and salary. In addition, "Managers" seemed to presume that challenge comes from the ability to perform a task considered vital to the functioning of the corporation. Above all, specialists seemed to be motivated by intrinsic rewards, while managers seemed to consider extrinsic rewards such as money and status more appropriate objects of pursuit.

Sedge (1985) summed up the difficulties of the "technical specialist" thus:

First, the motivations or reward system for an individual in management may be in direct conflict with those for an

individual in engineering or science. For example, an individual with a high need for autonomy or independence might find working as a scientist or an engineer very fulfilling but not find satisfaction working as a manager. In contrast, a person with high leadership needs might find the management role more satisfying than working as a scientist or engineer.

Second, some individuals experience difficulty relinquishing the technical role as they move into management. Bayton and Chapman saw each step up the management hierarchy as requiring less technical expertise and more interpersonal/administrative skills. Technical managers were described as oriented more toward the maintenance of their technical skills than they were toward the acquisition of organizational role skills.

Third, there may be an interpersonal or organizational skill deficiency for some technical personnel making the transition into management. The engineer, performing a role with a 'thing' or 'data' orientation, may have never acquired the necessary interpersonal skills to operate in a 'people'-oriented role. Bayton and Chapman (1977) concluded that most management training fails to meet the needs of those in transition, and they recommend improved selection and training procedures to smooth the transition process. (p. 57).

Schein (1971) echoed Zalesnik's concerns. For Zalesnik, the fundamental issue was the correspondence between the interests of the organization and the demands of the occupational role. Schein focused on the "structural variables" (the organization, the individual, the career) which he considered to be more or less stable, and the interaction between the organization and the individual. The resulting "career dynamics" of this interplay consisted of a sequence of career decisions that Schein called "boundary passages". An employee can progress upwards through promotion within the management hierarchy, laterally within a department, or from department to department within the organization. In the case of Zalesnik's technical specialist, this movement is usually upward. It is the interests of the organization that are served by this progression or passage. The concerns of the

individual are not always taken into account other than by providing opportunities for this progression. Social, peer, and career pressure, either real or perceived, often leads the individual to accept this progression only in the concept of company and career, with little thought given to the individual's own needs, desires, or concerns. In a later article Schein (1978) sums up the dilemma of organizations thus:

Any human resource planning and development system must attempt to match the needs of the organization with those of the individual. If such a system is to work, much more effort must be devoted to understanding the needs and characteristics of the individual. Those needs derive not only from the individual's working life, but also from the interaction within the total "life-space" of issues of work, family, and self-development. One of the weaknesses of traditional employee and management development systems has been the tendency to assume that employees can be conceived as leaving family and self at home when they come to work and that, therefore, the organization need worry only about creating opportunities for work-oriented development activities. As the study of adult development progresses, it is becoming more and more clear that work, family, and self-concerns interact strongly within people throughout their lives. This interaction simply cannot any longer be ignored. (p. 17).

As a result, many major corporations have instituted dual career paths for their employees (Feuer, 1986). Technical experts and other task oriented employees such as high-performing salespeople, accountants, and lawyers, often fail when promoted to management ranks. These are people who make valuable contributions in their areas of expertise, but lack the interest and/or ability to do budgeting, coaching, recruiting, and other management tasks. In an attempt to retain such people and to promote technical and professional excellence, many organizations have set up separate but equal career ladders for non-management employees. These ladders have status levels, pay scales, and other perquisites that correspond to those of the management hierarchy.

As noted in the literature, companies in the high-technology arena are driven to increasing specialization within their employee groups in order to keep pace with accelerating technological change. This is particularly true of B.C. Tel. As Bohlman and Deal (1984) point out:

...the telephone company is trying to survive changes of magnitude unparalleled in human experience...what we are witnessing now is just the tip of what the future holds. Revolutions in technology and in information production and the accelerating pace of change will transform most sectors of work radically. As in the past, the form and function of human organization will struggle to keep up, but they will lag well behind the other changes. And unless leaders (or leading managers) arise to help us close the gap, to create complex organizations to equal complex technologies, productivity and morale will sag. Work for many people will lose it's meaning. (p. 295).

Summary

Organizational development is largely concerned with trying to match the needs of individuals and organizations. Based on Maslow's needs hierarchy, researchers in this tradition have focused on how organizations can motivate employees in an effective and continuing manner that minimizes conflict between the requirements of employees, and what Schein calls "the 'life-space' of issues of work, family, and self-development" of the individual.

Good arguments exist for solutions that use "intrinsic" motivation, such as job-enrichment, participative management, and employee involvement as a replacement for more traditional "extrinsic" motivators. Yet clearly there are still those who view extrinsic motivators such as better salaries, benefits, and status that comes from promotion as important.

As mentioned in earlier sections of this study, the "form and function of human organization" is essential to the provision of the structural variables (Schein, 1971) that attempt to meet the needs of individuals within organizations. Needs of the individuals within the corporate and societal framework are considered in the theoretical frameworks developed by researchers in the fields of organizational development, career development, and social behaviour.

In hierarchical organizations, rewards for high achieving employees are usually provided by promotion into the managerial ranks. Not all good technical specialists make good managers, nor do they necessarily want management jobs. They may prefer to remain in their areas of specialization. As a result, the notion of dual career paths has developed credence in some organizations (Feuer, 1986), providing an opportunity for the extrinsic motivation of both managers and specialists, thus meeting two types of needs and reducing conflict between individual needs and corporate needs.

Conclusions

Much of the upset and irritation currently being experienced by employees affected by technological and economic change arises from insecurity concerning their ability to compete for jobs and careers in a changing work environment. Training and educational credentials are presumed to enhance qualifications. The nature of work and the requirements of the workforce and workplace are undergoing rapid change, and the expectations of workers and employers have reached different levels. One of the many avenues available to the worker is to gain skills that provide either a better opportunity for career

advancement or to increase their capabilities in their present job. This study examines the effect of socio-demographic, motivational, and achievement orientation variables on employee reasons for participation.

Socio-demographic correlates of motivation for participation are discussed in the literature. Most studies have concerned themselves with the adult "learner at large". In this case, because of the human capital orientation of the criteria associated with reimbursement, learners are directed toward job-related activities. Thus, it was reasonable to presume that participants would be more motivated by "job" than "non job" reasons for participation.

Motivation as cited by economic, educational, and organizational development literature provide a common ground for this study. From the economic perspective, education and training should change skills or behaviour. If not, it only adds a new coat of paint to an old piece of machinery. Motivation from an economic perspective is attributed to the desire of both individuals and corporations to gain skills that will enhance long term yields. Individuals are motivated, consciously or unconsciously, by giving up short term, smaller gains for longer term higher gains. Employers are motivated by reduced costs through lower turnover, better utilization of developed skills, and longer term gains through improved productivity and better quality workmanship.

From an educational perspective, participants in educational activities are motivated for a variety of reasons. Many are for what Herzberg (1966) called "hygiene" factors, though "motivator" factors are likely to be of equal importance, particularly in the last two decades. Of

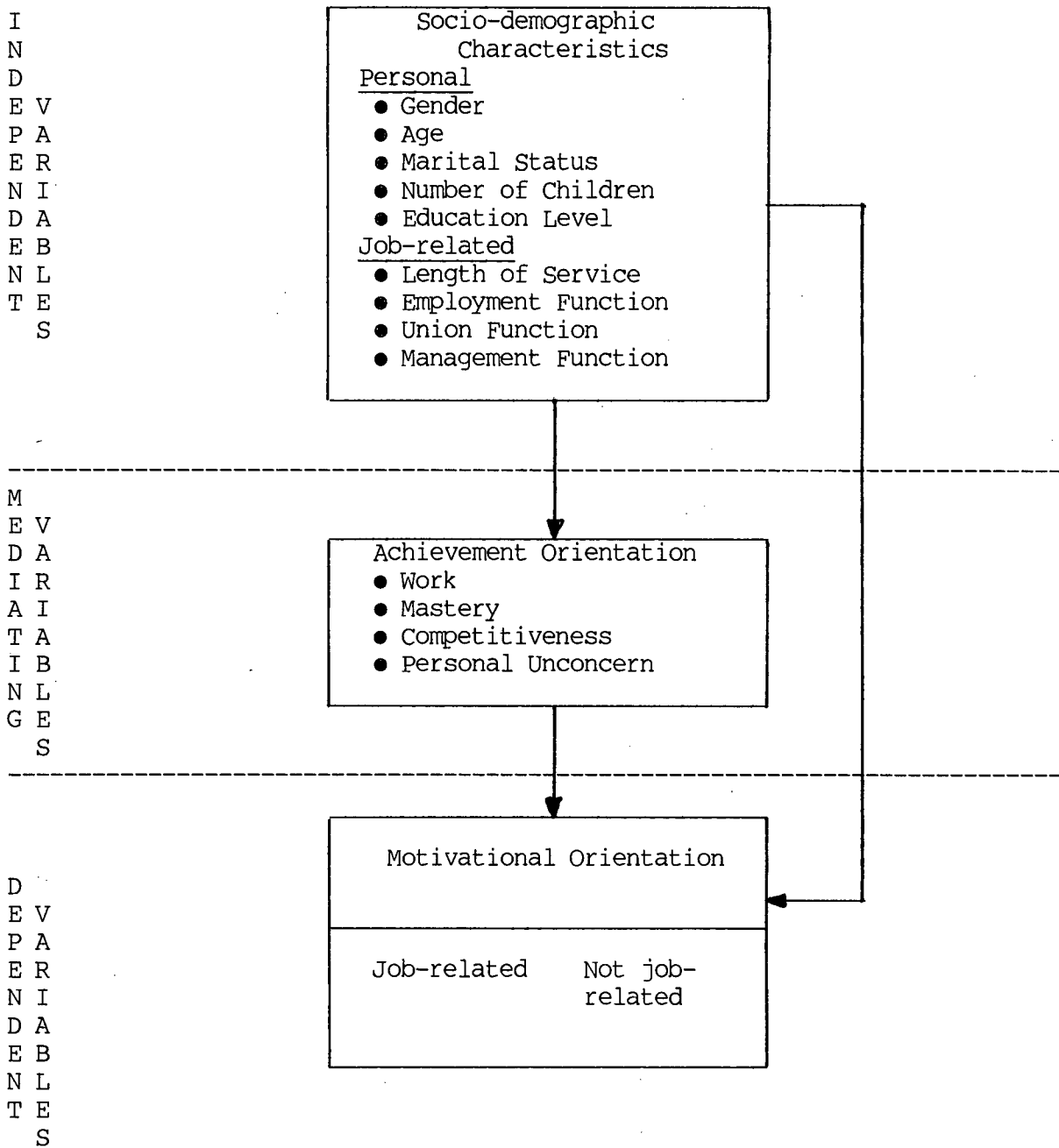
these, career advancement and employer expectation are consistent with economic motivations while those of status and self-actualization are consistent with those of the sociological perspective.

Organizations provide educational and career opportunities in an attempt to reduce conflict between the needs of employees and those of the corporation. In addition, motivation of employees to provide an effective and productive workforce is an important component of human resource programs and policy. The need for increasing specialization to meet the needs of rapidly changing technology has caused new pressures to be applied in developing areas of career choice of importance to both the individual and the company. The needs for training felt by both employee and employer are consistent with the economic perspective, while the social and psychological reasons for individual participation are consistent with the educational perspective.

The interactions between demographic, motivational, and achievement orientation variables employed in this study are depicted in Figure 1. Socio-demographic variables can influence motivational orientations either directly, or indirectly through mediating variables such as achievement orientations. For example, the literature suggests that older participants are less influenced by life-chance motivations than younger participants. Thus, assuming that achievement orientations of employees are neutral, older employees should be less influenced by job-related reasons than younger employees. However, an older employee's motivational orientation may be mediated by a high competitiveness achievement orientation. This may lead to an older employee citing job-related influences as highly as younger employees.

Similarly, participation in education may present "life-chance" opportunities for job security for the union employee, while to a

Figure 1 Diagrammatic portrayal of independent variables and their hypothesised association with dependent variables employed in this study



management employee it is a "life-space" opportunity for self development. Thus, the union employee would be more influenced by job-related reasons for participation, while the manager would indicate non job-related reasons. Achievement orientations could lead union employees with desire for intellectual challenge to cite non job-related reasons for participation where the literature suggests job-related reasons would be of more influence. The hypotheses that result reflect relationships expected from the interaction of variables shown in Figure 1.

Hypotheses

Hypothesis 1.

Demographic characteristics will be associated with motivational orientations for participation. Specifically:

- males will be more influenced by job-related motivational orientations for participation than females.
- younger participants will be more influenced by job-related motivational orientations than older participants.
- single participants will be more influenced by job-related motivational orientations than married participants.
- respondents without children will be more influenced by job-related motivational orientations than those with children.
- the longer the term of employment, the less likely that job-related motivational orientations will be an influence in decisions to participate.

- participants with higher educational level will be less influenced by job-related motivational orientations than those of lower levels of education.
- union employees will be more influenced by job-related motivational orientations than management employees.

Hypothesis 2.

Job-related will be more influential than non job-related motivational orientations for participation.

Hypothesis 3.

Men and women will differ in their achievement orientations.

- Males will rate intellectual challenge and desire to succeed in a competitive environment higher than females.
- Females will rate desire to work hard and not be afraid of success higher than males.

CHAPTER THREE

INSTRUMENTATION

This study involved the collection of demographic data and the measurement of the "motivational" and "achievement" orientations of participants (Table 1). This data was collected via a questionnaire (Appendix A) developed by the researcher that incorporated questions related to socio-demographic characteristics of participants, Boshier's (1982) "Education Participation Scale" to determine motivational

Table 1

Description of Independent and Dependent Variables and Their Associated Scale Values

Variable	Type	Scale
Sex	Independent	1=male, 2=female
Age	Independent	actual age
Marital Status	Independent	1=never married, 2=married or common-law, 3=separated, divorced, widowed, live alone, 4=separated, divorced, widowed, live with someone
Children	Independent	0=none, 1=one child, 2=two children, 3=three or more children
Educational Level	Independent	1=grade 12, 2=post-secondary certificate, 3=part of a degree, 4=degree, 5=degree plus certificate
Length of service	Independent	actual period of employment
Employment Function	Independent	1=union, 2=exempt, 3=management
Union Function	Independent	1=clerical, 2=traffic, 3=plant
Management Function	Independent	1=line, 2=staff, 3=Human Resources, 4=MIS, 5=other
Job-related Motivation for participation	Dependent	1=no influence, 2=little influence, 3=moderate influence, 4=much influence
Non Job-related Motivation for participation	Dependent	1=no influence, 2=little influence, 3=moderate influence, 4=much influence
Achievement Orientation	Dependent	5 point scale, 0 to 4, ranging from strongly agree to strongly disagree

orientations, and Helmreich and Spence's (1978) "Work and Family Orientation Questionnaire" to assess components of achievement orientation. As described above, socio-demographic data related to sex, age, marital status, number of children, educational level, length of service, employment function (union or management), union function (clerical, operator, or installation and repair), and management function (line, staff, or other) were gathered. In addition, data on course type, institution attended, reimbursement, number of course taken in the last five years, and degree/diploma/certificate aspiration or attainment were also collected. The latter were used only for descriptive purposes and hence are not included in Table 1.

Motivation for Participation

This study used the Education Participation Scale (Boshier, 1982). The instrument contains 40 items rated on a four point Likert-like scale ranging from 1 to 4, where a rating of one indicates "no influence" and four indicates "much influence". The Education Participation Scale (EPS) consists of six factors (Boshier & Collins, 1985). These are "Social Contact", "Social Stimulation", "Professional Advancement", "Community Service", "External Expectations", and "Cognitive Interest". Scale scores are derived by summing over items that comprise each factor.

The EPS has test-retest item reliabilities significant at the .001 level ranging from .44 to 1.00 with an average of .81 (Boshier, 1971). Typically, this instrument has been used in adult education settings in an educational institution or community environment.

The current research was done in an industrial setting. Participants apply in advance for financial assistance for the course or courses they wish to take. Approval is based on two criteria; the course taken should bear a relationship to the employer's business and be taken at an "approved" institution such as the B.C. Institute of Technology (BCIT), the University of British Columbia (UBC), or Simon Fraser University (SFU). As a result, participants in the current study were directed toward courses considered job-related by the company. After successfully completing the course, the participant is reimbursed for costs incurred for tuition and books. This study involved the creation of a typology that contrasted the relative influence of "job" and "non job" reasons for participation in education. Thus, the EPS was scored as follows.

Thirty B.C. Tel. supervisors in a variety of disciplines that reflected the employment function categories used in this study were asked to rate the 40 questions of the Education Participation Scale, using the scale shown in Appendix B. Respondents were first asked to rate each question, assuming a positive response, as "definitely job-related, definitely not job-related or can't decide". The second step applied only to those questions rated as definitely job-related. Respondents were asked to distinguish between items related to "career advancement", or a "desire to do a current job better" (Table 2). Follow up interviews of all 30 respondents were conducted by the researcher to clarify any potential misunderstandings. In only one case did this change the ratings. Ratings of 25 and above in any of the categories were considered sufficient justification for inclusion in that category. This resulted in 18 questions being categorized as job-

Table 2

EPS Breakdown by "Job-related", "Not Job-related", "Undetermined",
"Career Advancement", and "Improved Performance"

Item Number	Step One			Step Two	
	Job Related	Not Job Related	Undetermined	Career Advancement	Improved Performance
1	--	30	--	--	--
2	--	30	--	--	--
3	30	--	--	30	--
4	--	5	25	--	--
5	--	28	2	--	--
6	29	1	--	27	28
7	2	3	25	1	1
8	--	29	1	--	--
9	26	2	2	--	26
10	30	--	--	30	--
11	25	3	2	--	25
12	--	29	1	--	--
13	28	2	--	28	--
14	--	29	1	--	--
15	30	--	--	2	28
16	28	1	1	28	--
17	--	29	1	--	--
18	30	--	--	--	30
19	1	28	1	--	1
20	30	--	--	30	--
21	--	30	--	--	--
22	--	27	3	--	--
23	29	1	--	--	29
24	--	28	2	--	--
25	--	29	1	--	--
26	--	30	--	--	--
27	1	27	2	--	1
28	--	30	--	--	--
29	3	--	27	--	3
30	30	--	--	3	27
31	27	2	1	27	--
32	30	--	--	30	--
33	27	3	--	27	--
34	--	30	--	--	--
35	25	5	--	23	20
36	28	1	1	1	27
37	--	30	--	--	--
38	--	30	--	--	--
39	--	29	1	--	--
40	29	1	--	--	29

related, 19 not job-related, and 3 undetermined. Of the 18 job-related questions, 9 were judged to reflect a desire for career advancement and 9 for improved performance in a current job (the distinction between "career advancement" and "improved performance" and the part of the analysis for which it was intended, was later abandoned).

As can be seen in Table 3, items 3, 10, 15, 18, 20, 30, and 32 were rated "job-related" by 30 respondents while items 6, 23, and 40 were deemed "job-related" by 29 of the 30 respondents. Items 11 and 35 were scored as "job-related" by 25 of the 30 respondents, 28 respondents rated items 13, 16, and 36 as "job-related".

Table 3

EPS Items Sorted into "Job-related, Not Job-related, and Undetermined"
Categories

Job-related	Not Job-related	Undetermined
3, 6, 9, 10, 11, 13, 15, 16, 18, 20, 23, 30, 31, 32, 33, 35, 36, 40.	1, 2, 5, 8, 12, 14, 17, 19, 21, 22, 24, 25, 26, 27, 28, 34, 37, 38, 39.	4, 7, 9

Items 1, 2, 8, 12, 14, 17, 21, 25, 26, 28, 34, 37, 38, and 39 were rated as "non job-related" by a minimum of 29 respondents, while items 5, 19, 22, 24, and 27 were scored thus by at least 25 of them. These usually comprise the Cognitive Interest, Social Contact, Social Stimulation, and other "social" factors. Three items were rated "undetermined". Only 25 respondents considered that items 4 and 7 belonged in this category; 27 respondents believed this to be true of item 29. Due to the paucity of items in this category, it was dropped from further analysis.

Achievement Orientation

The Work and Family Orientation Questionnaire (WOFO) was developed to assess achievement orientation and attitudes toward family and career (Helmreich & Spence, 1978). The inventory asks respondents to rate 32 items that describe values related to family, work, and career on a five point Likert-type scale ranging from 0 to 4. The 23 items related to achievement orientation yield scores on four subscales; Work, Mastery, Competitiveness, and Personal Unconcern. "Work" is described by the authors as desire to work hard, "Mastery", desire for intellectual challenge, "Competitiveness", desire to succeed in competitive, interpersonal situations, and "Personal Unconcern" as a measure of attitudes about the possible negative interpersonal consequences of achievement. The remaining eight items relate to career, education, marriage, children, and family orientations.

The authors found that males scored higher on Mastery and Competitiveness, while females scored higher on Work and Personal Unconcern. A high score in this last subscale indicated a lack of concern with the negative reactions of others to personal achievement, while in the previous three, high scores indicated high desire for hard work, intellectual challenge, and success in competitive environments.

Reliabilities, as expressed in Alpha coefficients, are satisfactory for scales of this length, ranging from lows of .50 in both sexes on Personal Unconcern to .76 and .72 for Competitiveness in males and females respectively.

For this study, only 24 of the 32 questions were used. In addition to

the 23 items that constitute the achievement orientation scales (six for Work, eight for Mastery, five for Competition, and four for Personal Unconcern), item 24 was included in the present study since it reflects the importance of a desire for promotion and better pay. The remaining eight questions were not used since they are directed towards family attitudes, which were not relevant to this study. Since these eight questions are descriptive only, their omission did not affect the scoring.

Scale Reliability Analysis

Education Participation Scale

To ensure the dependability of findings developed from the Education Participation Scale (EPS), an analysis of the internal reliability of the job-related and non job-related scales (Table 4) was conducted using data gathered from the 159 B.C. Tel employees participating in this study. Reliabilities as expressed in Alpha Coefficients were found to be satisfactory. The Alpha coefficient for the EPS was .91. Alpha for both job-related and non job-related scores was .86.

Table 4

Reliability Analysis of the Education Participation Scale

Scale	Scale Mean	F	Cronbach's Alpha
Education Participation Scale	73.61	104.64	.91
Job-related	38.00	86.80	.86
Non job-related	29.22	92.27	.86

Work and Family Orientation Scales

An analysis of the internal reliability of WOFO Mastery, Work, Competitiveness, and Personal Unconcern scales was also conducted ($n = 159$). Reliabilities as expressed in Alpha Coefficients were found to be satisfactory, ranging from .47 for Personal Unconcern to .63 for Mastery. Table 5 shows the results of this reliability analysis over the 24 questions of the WOFO using data gathered from the 159 B.C. Tel employees participating in this study.

Table 5

Reliability Analysis of the Work and Family Orientation Questionnaire:

Scale	Scale Mean	F	Cronbach's Alpha
Mastery	23.37	249.51	.63
Work	21.35	563.51	.55
Competitiveness	12.69	274.54	.61
Personal Unconcern	11.38	297.12	.47

CHAPTER FOUR - METHODOLOGY

Population

The population for this study was defined as B.C. Tel employees who, on their own time, participated in educational activities financed by their employer. These employees could be in management or the union. The criteria applied by the company for financial assistance included at a minimum 1) the course taken should bear a relationship to B.C. Tel's business, 2) should be taken at an approved post-secondary institution, and 3) should be successfully completed by the employee.

Sample

Participants in this study were B.C. Tel employees whose Employee Development Record indicated that they had taken outside courses in 1985 (as noted later, this led to certain difficulties in the returns received). Management and bargaining unit employees of both sexes were included in the sample. The sample excluded employees from outside the lower mainland of Vancouver and those who had taken First Aid courses via the Worker's Compensation Board (First Aid courses provided by other institutions were retained). The former were excluded for two reasons; one, out-of-town employees would be difficult to follow up and two, the relative lack of courses outside the Vancouver area made their inclusion less interesting for this type of research. The latter were excluded mainly because motivation for participation in such a course was fairly obvious; employees are directed by the company to take First Aid Certificates, primarily to meet the requirements of the

Canada Labour Code, Part IV. Twenty-five percent the employees who reported taking a course in 1985 fell into this category. The researcher decided to exclude these participants since their participation was mandatory.

The number of employees who voluntarily took courses in 1985 was 1,487 (excluding employees as described above). To reduce this to a manageable size, employees were selected who met the sample criteria through assignment by random number. This provided any employee who had indicated in their Employee Development Record that they had taken a course in 1985, other than those who had taken First Aid via the Worker's Compensation Board or an out-of-town participant, with an equal opportunity to participate in the study

Sampling Procedure

A questionnaire was developed that incorporated Boshier's (1982) Education Participation Scale (EPS), Helmreich and Spence's (1978) Work and Family Orientation Questionnaire (WFOF) and questions related to socio-demographic variables. As well, a coding schedule (Appendix C) was prepared.

The questionnaire was sent via inter-departmental mail to 250 randomly selected employees from the population described above who had indicated they had taken courses in 1985. It was anticipated that this would produce a sample size of (approximately) $N = 212$ based on an anticipated response rate of 85%. The researcher encountered unanticipated difficulties with this, described in Chapter Five. A covering letter (see Appendix A) explained the purpose and anticipated

benefits of the study, procedures for completing and returning the questionnaire, and assured participants that their rights to confidentiality and refusal to participate would be respected.

Design and Statistical Analysis

Socio-demographic Variables

For certain statistical procedures "age" and "length of service" data were recoded. Frequency counts, crosstabulation procedures, and one-way analysis of variance breakdowns would have been cumbersome had this not been done. These recodes recategorized age as under 25, 26 to 30, 31 to 35, 36 to 40, 41 to 45, 46 to 50, and over 50; length of service to 5 years or less, 6 to 10 years, 11 to 15 years, 16 to 20 years, and more than 20 years. A recode of employment function was also required; category 2 (exempt) consisted of only two respondents. Data for these two employees were recoded to include them as union employees. An optional recode for "type of course" was defined, which summarized the 12 course types into three; management courses, technical courses, and "other" courses.

Education Participation Scale

An analysis of the internal consistency of the job-related and non job-related scales was conducted. Reliabilities as expressed in Alpha Coefficients were found to be .86 for the job-related scale and .86 for the non job-related scale. Results of this analysis can be found in Chapter Three under "Scale Reliability Analysis" (p. 43).

Thereafter, each respondent's mean on the job-related and non job-related scale was calculated by using the "compute" statement of SPSS^X. The items in the EPS used were: 1) job-related, 18 items (3, 6,

9, 10, 11, 13, 15, 16, 18, 20, 23, 30, 31, 32, 33, 35, 36, and 40). 2) non job-related, 19 items (1, 2, 8, 12, 14, 17, 21, 25, 26, 28, 34, 37, 38, and 39). The mean for each subject was calculated for each category using responses to the four point item scale on the EPS: 1 = little influence, 2 = some influence, 3 = moderate influence, and 4 = much influence.

Work and Family Orientation

An analysis of the internal consistency of the four WOFO scales (Work, Mastery, Competitiveness, and Personal Unconcern) was conducted. Reliabilities as expressed in Alpha Coefficients ranged from .47 for Personal Unconcern to .63 for Mastery. Results of this analysis can be found in Chapter Three under "Scale Reliability Analysis" (p. 44).

The means of the four Work and Family Orientation (WOFO) scales (Mastery, Competitiveness, Work, and Personal Unconcern) were calculated on a five-point scale ranging from 0 to 4 for each participant in the study using the compute statement of SPSS^X. The mean of question 24 of the WOFO, which gives a general indication of the "Ambition" orientation of respondents, was calculated using the same method.

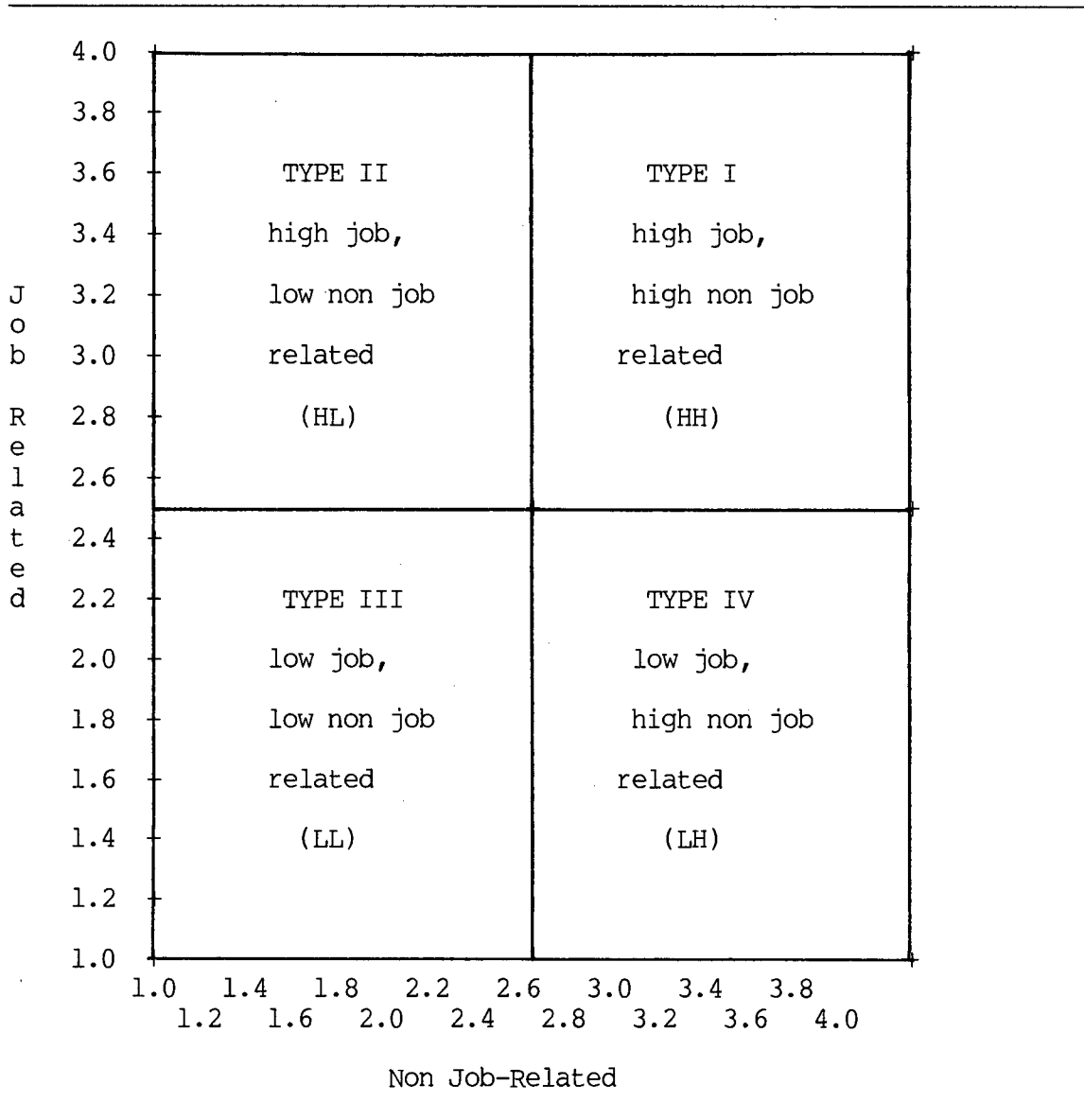
Participant Typology

Part of this study involved the analysis of the socio-demographic characteristics of employees who participated for job-related as compared to non job-related reasons. To determine this, a typology of participant types was constructed. Based on the mean scores of all participants, those with high job-related participation and high non job-related participation (ie. above the overall means for both job and

non job-related) were labeled TYPE I (HH), with high job-related and low non job-related participation TYPE II (HL), with low job-related and low non job-related participation TYPE III (LL), and with low job-related and high non job-related participation TYPE IV (HL). This typology is depicted in Figure 2. "Marital status" and "number of children" were recoded into dichotomous variables of "domestic status" (living alone or living with someone) and "child status" (with or without children) to increase the robustness of the analysis.

A scattergram of job-related participation by non job-related participation was plotted to determine if sufficient spread in the sample would make this step worthwhile. Those participants clustered about the intersection of the job-related and non job-related means would be difficult to classify. Therefore, an exclusion zone was established at .1 away from each mean. Thereafter, sex, age, domestic status (live alone or live with someone), child status (with or without children), education level, length of service, employment function (union or management), union function (clerical, operator, or installation-repair), and management function (line, staff, or other) were used to classify respondents into the four motivational types. Discriminant function analysis is designed to predict group membership (in this thesis, TYPE I, TYPE II, TYPE III, and TYPE IV as described above). The data consisted of "discriminating" (independent) variables which measured the characteristics on which the groups were expected to differ. Based on these variables, the discriminant function analysis would determine if the groups differed, and weight and linearly combine the discriminating variables to force groups to be as statistically

Figure 2. Typology of participants by job-related and non job-related motivation for participation in adult education activities.



distinct as possible. Thus, variables were simultaneously analyzed to determine which configuration or combination best distinguished between high job/high non job, high job/low non job, low job/low non job, and low job/high non job-related motivational orientations.

Descriptive Objectives

Frequency counts of the data from the survey instrument produced histograms and related statistics which satisfied the descriptive objectives of this research. Broadly stated, these were 1) who participates? 2) in what courses? 3) at which institution? 4) as part of a degree, diploma, or certificate program? Results of this analysis are described in Chapter Five - Results.

Hypothesis Testing

In addition to the descriptive objectives discussed above, the purpose of this research was to test three operational hypotheses:

1. Demographic characteristics will be associated with motivation for participation.
2. Job-related will be more influential than non job-related motivational orientations for participation.
3. Men and women will differ in their achievement orientations.

Hypothesis 1.

To examine both the degree of association between socio-demographic independent variables such as sex, age, domestic status (live alone or live with someone), child status (with or without children), education level, length of service, employment function (union or management), union function (clerical, operator, or installation-repair), and management function (line, staff, or other) and the dependent variables "job-related" and "non job-related" motivational orientations, and also to determine the ability to generalize the associations found in the

sample to the population as a whole, scatterplots and their related statistics were produced. For most of the independent variables, Pearson's r was deemed sufficient. In the case of gender and employment function a t -test was considered appropriate. Union and management function required analysis of variance since more than two groups were involved.

Hypothesis 2.

Mean job and non job scores were compared to test whether job-related reasons were as influential as non job-related reasons. Pearson's r was calculated to determine if the mean scores differed significantly.

Hypothesis 3.

Two and three way analyses of variance were used to examine relationships between achievement orientations and gender.

To achieve the study's purpose, hypotheses were tested at the $\alpha = .05$ level of statistical significance. Although research hypotheses suggest the use of directional tests, evidence in the literature was insufficient to justify the use of one-tailed tests. Given the nature of this study, two-tailed tests were considered appropriate. The statistical procedures shown in Table 6 were employed to test the various hypotheses.

Table 6

Hypothesis Testing Procedure by Variable Type and Statistical Test.

Variable 1	Statistical Type	Variable 2	Statistical Type	Procedure
<u>Hypothesis 1 - Socio-demographic Variables by Motivational Orientations.</u>				
Gender	Nominal	Motivational Orientation	Interval	T-Test
Age	Ordinal	"	"	Pearson's r
Domestic Status	Ordinal	"	"	"
Child Status	Ordinal	"	"	"
Length of Service	Ordinal	"	"	"
Education Level	Ordinal	"	"	"
Employment Function	Nominal	"	"	T-Test
Union Function	"	"	"	ANOVA
Management Function	"	"	"	"

Hypothesis 2 - Job-related by Non Job-related Participation

Job-related	Interval	Motivational Orientation	Interval	Frequency Counts
Non Job-related	"	"	"	and Pearson's r

Hypothesis 3 - Achievement Orientation by Gender

Mastery & Competitiveness	Interval	Gender	Nominal	ANOVA
Work & Personal Unconcern	Interval	Gender	Nominal	"

CHAPTER FIVE

RESULTS 1

This chapter reports the results of the data analysis. The initial section describes data collection. Following this the socio-demographic characteristics of the sample are outlined. The third section reports results pertaining to main and subsidiary hypotheses as they relate to each of the areas considered in the study (namely, socio-demographics, the Education Participation Scale, and the Work and Family Orientation Scale). Research hypotheses are restated and results outlined. The chapter concludes with a summary of the hypotheses examined and their acceptance or rejection.

Data Collection Procedures

Two hundred and fifty questionnaires were distributed to a random sample of employees of B.C. Tel who reported courses taken in 1985. This resulted in 159 valid questionnaires being returned. Returned questionnaires were coded onto Fortran sheets (Appendix A) and entered into a file after data entry and verification.

Sample and Sampling Procedure Problems

Sample

Three problems were encountered in the sample. First, Employee Development Records did not accurately reflect participation in a course or courses in 1985. In 1984 (and thereafter on a regular basis) a bulletin was sent to all employees requesting an update of the records of B.C. Tel's Human Resources department to reflect courses

taken but not recorded. As a result, four participants indicated they had taken no courses in 1985. In addition this led to respondents indicating degrees, diplomas and certificates gained that did not reflect participation in the Financial Assistance Program. Fortunately, the numbers were small (four employees in the entire sample) and did not affect the results of the survey. Second, due to technological change and the normal movement of employees, some reassignment of employees had occurred. As a result, two employees responded with socio-demographic information related to employment function that reflected both their current job and the one they held when they took the reported course. In these cases, the participant's 1985 employment function was used. Third, some difficulty was encountered in determining bargaining unit level; again, as a result of technological change, 292 employees were declared surplus. These employees, who were primarily "plant", were assigned to clerical or traffic jobs. Socio-demographic data was assigned on the basis of their bargaining unit function at the time they took the course.

Sampling Procedure Problems

Four sampling procedure problems were encountered. First, interdepartmental envelopes were of the reusable type. When an envelope is received, the recipient crosses off the addressing information and reuses it by putting new address information in the next box. Despite all attempts by the researcher to ensure that only the address of the participant was on the envelope, some went astray. Since no name was on the questionnaire, some were returned to the researcher, others were never seen again. Second, some negative reactions to the research were experienced. Five complaints were lodged with B.C. Tel's Human

Resources Department. Four of these related to invasion of privacy; it was considered inappropriate that the researcher was given access to names of employees who had participated in outside courses. The fifth concerned the confidentiality of the survey. Third, the survey was conducted at a time when employees of the company were particularly sensitive to research of any kind. This was due to two factors; first, technological change and the ensuing displacement of some employees had raised suspicions about the potential use of research data against the interest of employees, and second, a consultant, Scientific Management Corporation (SMC) was in the process of making recommendations to the company that led to further dislocation and staff reductions. An indication of the effect that this had was an Employee Opinion Survey circulated to the bargaining unit by Tower and Perrins in early 1986. While response rate to a similar survey of management employees in 1984 yielded a response rate of 86%, that of the bargaining unit was 26%. In fact, in this instance the union advised its members not to respond, citing as one of the reasons possible involvement by Scientific Management Corporation. Evidence of a similar attitude was experienced by this researcher in questionnaires returned blank, with the tracking number removed, or with major sections of data missing. This resulted in 8% of all returned questionnaires being rejected as unusable. In addition, employee and union executive reaction to some of the above factors may have skewed results, especially in the number of union employees in the final sample. Fourth, the response rate was unexpectedly low. Instead of the 85% return anticipated, a response rate of 72% was the final outcome. This was partly due to the factors mentioned above and an encroaching holiday season. The first wave of

100 questionnaires, sent on May 21st, resulted in a 90% response rate. The second wave, 50 questionnaires sent on June 2nd, provided a return rate of 70%. The return rate for the third wave, 100 questionnaires sent on June 9th, dropped to 30%. Increasing excitement over Expo '86 and the beginnings of summer holidays may have been factors here. As a result of the above and those questionnaires that had to be rejected for one reason or another, the final sample size was 159, representing 64% of the total number of questionnaires distributed.

Characteristics of Respondents

Socio-Demographic Variables

Personal

Of the 159 employees who responded to the questionnaire, 88 were men and 71 were women. They ranged in age from 23 to 57 years, with an average age of 35 years ($SD = 7.23$). The 26 to 35 age group represented over half the sample (54.8%). The next largest block was 36 to 45 years old (33.2%) while under 25 and over 45 year olds were 2.5% and 9.6% respectively. Most of the sample were married or living common-law (66.7%), 22.6% were single and the remainder (10.6%) were separated, divorced or widowed. Fifty percent (50.3) had no children, slightly less than 6% had three or more children, and the remainder (44.1%) had one or two children.

A minority (22.7%) of respondents had a degree as their highest educational qualification while slightly over 32% had a Grade 12 level of education. The balance (45.3%) either had or were working on a post-secondary certificate. Of these, 18.9% reported they had part of a degree.

The average length of employment with B.C. Tel was 12 years (SD = 6.97). Almost three quarters of the sample (74.5%) had worked for the company for 15 years or less. Over 56% of respondents were management employees, 42.8% were in the union (the missing .6% was due to one of the questionnaires being returned without this information). Of the 42.8% union employees, 1.3% (2 employees) were "exempt", that is, union employees who because of the nature of their job are considered quasi-management. Because of the small size of this group, they were considered union employees in this research.

Union employees participating were split equally between men and women, with 34 in each group. Of the 68 union employees, 57.6% were in the clerical division, 7.6% were traffic operators, and the remainder (34.8%) "plant" (installation and repair) employees. In the management group, 57 were men and 37 were women. Management employees (n = 88) were for the most part from staff groups. Of these, headquarters staff accounted for 47.8% of the sub-sample, Management Information Systems employees (MIS), Human Resources, and other staff groups made up an additional 25.5%. Only 26.7% of the sample were line management employees. Table 7 describes in detail a breakdown of "personal" variables.

Educational

Course type

Broadly speaking, most participants took "management" courses (39.9%). "Technical" courses represented the lowest percentage of courses taken (27.8%), while "other" courses represented 32.2% of the total. Business administration courses were more highly favoured than any other (22.2%)

Table 7

"Personal" Characteristics of B.C. Tel Employees in Adult Education
Activities Financed by the Company - 1985 (n = 159)

Variable	n	mean	% of sample
Sex		NA	
Male	88		56.1
Female	69		43.9
Age		35.86	
Less than 25	4		2.5
26-30	35		22.3
31-35	51		32.5
36-40	26		16.6
41-45	26		16.6
46-50	8		5.1
Over 50	7		4.5
Marital status			
Never married	36		22.9
Married + spouse	106		66.9
Separated, divorced, widowed, live alone	11		7.0
Separated, divorced, widowed, live with someone	5		3.2
Number of children		0.83	
No children	80		51.0
One child	33		21.0
Two children	35		22.3
Three or more children	9		5.7
Work experience		12.04	
5 years and less	32		20.1
6 to 10 years	43		27.0
11 to 15 years	44		27.7
16 to 20 years	26		16.4
21 years and over	14		8.8
Education		NA	
Grade 12	50		31.8
Post-secondary certificate	42		26.8
Part of a degree	29		18.5
Degree	20		12.7
Degree plus certificate	16		10.2
Employment Function		NA	
Management	88		56.1
Union	68		43.3

data processing and management courses accounted for 17.1% and 17.7% respectively, 11.4% reported self-development courses, and sales courses were 10.1%. Other courses taken included electronics (8.9%), academic (4.4%), drafting (1.3%), and secretarial and engineering courses at 0.6% each. Just over five percent of courses could not be included in the above categories (Table 8).

Institution

Most respondents chose to take courses at BCIT (56.3%), school boards (mainly correspondence) were the choice of 11.4% of respondents, while those attending the universities (UBC and SFU) represented 7.0% and 5.1% respectively. Commercial institutions provided 9.5% of the participants with courses, while community colleges provided 7.0%. Unclassified institutions accounted for the remaining 3.8% of courses taken by participants.

Reimbursement

Given the nature of the study, it was no surprise that 98.1% of respondents reported reimbursement by the company. The balance included two temporary employees who do not receive this benefit and one employee who was unaware of the Financial Assistance Program.

Number of courses

Respondents were asked to report the number of courses taken through the Financial Assistance Program in the last five years. With a mean of 5.40 ($SD = 4.73$) this should have indicated an average of approximately one course per year for each participant. As the standard deviation

Table 8

Number of Respondents by Course Type, Institution, Reimbursement Category, Number of Courses, and Degree Interest/Attainment - 1985
(n = 159)

Variable	n	% of sample
Course Type		
Management	63	39.9
Technical	44	27.8
Other	52	32.2
Institution		
UBC	11	6.9
SFU	8	5.0
BCIT	89	56.0
School Board	18	11.3
Other (college)	11	6.9
Other (commercial)	15	9.4
Other (unclassified)	6	3.8
Reimbursement		
Yes	155	98.1
No	3	1.9
Number of Courses (five years)		
One to five	98	62.4
Six to ten	37	23.6
11 to 15	17	10.8
16 or more	5	3.2
Degree Interest/Attainment		
Working toward	79	50.3
Not working toward	78	49.7
Completed	34	21.7
Not completed	123	78.3

indicates, the mean in this case is not an appropriate measure. Over 35% had taken two courses or less, while one individual reported 24 courses taken in the last five years!

Programs of study

Slightly more than half of the participants were working towards a degree, certificate, or diploma (50.3%). Business Administration

certificates, B. Comm's and MBA's accounted for 12.3%, 3.9%, and 2.6% respectively. Almost 22% reported having completed a degree, diploma, or certificate via the Financial Assistance Plan.

Education Participation Scale Scoring

Socio-demographic correlates

The mean job and non job-related Education Participation Scale (EPS) scores for people in each of the socio-demographic groups was calculated to determine whether gender, age, marital status, number of children, length of service, educational level, employment function, union function, and management function had any relationship to motivation for participation. Pearson product-moment correlations indicated that older employees were less influenced by job-related motivation than younger employees ($r = -.25$, $p < .01$), that the longer the period of employment, the less job-related motivation was an influence to participate ($r = -.19$, $p < .05$), and that union employees were more influenced by job-related reasons to participate than management employees ($t = 3.27$, $p < .01$). There were no significant differences in the EPS scores of people in different gender, marital status, number of children, educational level, union function, and management function groups.

Job-related Participation

It was decided that a score of 2.50 on the four-point EPS scale, where 1 denotes "no" and 4 denotes "much" influence, constituted a "critical" mean. Thus, 2.5 is midway between "little" and "moderate" influence for participation.

It was assumed that scores above this "critical" mean indicated that the participant was influenced by the reason encompassed in the item. Thus, an item with a mean at or above 2.5 would indicate at least moderate influence on participation, while those below would not. Depending on the "job" or "non job" rating by B.C. Tel managers of an item, it should be possible to determine which EPS items were most influential in the motivational orientations of participants, and whether the item reflected job-related or non job-related reasons for participation. Table 9 indicates in summary form the level of influence, in ranked order by means, of the items of the EPS as scored by respondents.

Table 9

EPS Ranking of Means by Item, Standard Deviation, and Level of
Influence on Participation

Item Number	Question	Participation Type	Mean	std. dev.	level of influence
3	To secure professional advancement	JR	3.30	.83	much
18	To increase my job competence	JR	3.07	.96	much
1	To seek knowledge for it's own sake	NJR	2.96	.91	moderate
20	To help me earn a degree, diploma or certificate	JR	2.95	1.24	moderate
7	To satisfy an inquiring mind	UND	2.89	.87	moderate
10	To give me higher status in my job	JR	2.67	1.03	moderate
13	To acquire knowledge to help with other courses	JR	2.54	.99	moderate
15	To keep up with competition	JR	2.48	1.04	little
25	To learn just for the joy of learning	NJR	2.29	.98	little
32	To meet formal requirements	JR	2.28	1.18	little

Table 9 (continued)

EPS Ranking of Means by Item, Standard Deviation, and Level of
Influence on Participation

Item Number	Question	Participation Type	Mean	std. dev.	level of influence
37	To learn just for the sake of learning	NJR	2.25	1.02	little
11	To supplement a narrow previous education	JR	2.10	1.02	little
16	To escape the intellectual narrowness of my occupation	JR	2.05	1.07	little
30	To keep up with others	JR	2.04	.91	little
4	To become more effective as a citizen	UND	1.92	.89	little
23	To gain insight into human relations	JR	1.78	.97	little
35	To provide a contrast with my previous education	JR	1.73	.88	little
12	To stop myself from becoming a vegetable	NJR	1.67	.94	little
31	To improve my social standing	JR	1.65	.81	little
6	To carry out the recommendation of some authority	JR	1.63	.87	little
33	To maintain or improve my social standing	JR	1.62	.84	little
29	To improve my ability to serve mankind	UND	1.58	.82	little
17	To participate in group activity	NJR	1.57	.83	little
36	To comply with the suggestions of someone else	JR	1.55	.83	little
5	To get relief from boredom	NJR	1.49	.79	no
14	To fulfill a need for personal association and friendships	NJR	1.49	.71	no
27	To provide a contrast to the rest of my life	NJR	1.46	.71	no
28	To get a break in the routine of home or work	NJR	1.42	.74	no

Table 9 (continued)

EPS Ranking of Means by Item, Standard Deviation, and Level of
Influence on Participation

Item Number	Question	Participation Type	Mean	std. dev.	level of influence
26	To become acquainted with congenial people	NJR	1.40	.63	no
40	To comply with instructions from someone else	JR	1.39	.73	no
8	To over come the frustration of day to day living	NJR	1.38	.68	no
2	To share a common interest with my spouse or friend	NJR	1.34	.68	no
38	To make new friends	NJR	1.33	.61	no
39	To improve my ability to do community work	NJR	1.31	.65	no
22	To prepare for community service	NJR	1.26	.54	no
9	To be accepted by others	JR	1.24	.52	no
19	to gain insight into my personal problems	NJR	1.23	.50	no
21	To escape television	NJR	1.18	.44	no
24	to have a few hours away from responsibilities	NJR	1.14	.38	no
34	To escape an unhappy relationship	NJR	1.04	.21	no

JR = job-related

NJR = non job-related

UND = undetermined

As can be seen in Table 9, of the seven items rated above the critical mean of 2.5, five were job-related. One non job-related and one "undetermined" item was above the critical mean. Note however that these items both reflect cognitive influence ("To seek knowledge for it's own sake" and "To satisfy an inquiring mind").

Work and Family Orientation Scoring

Socio-demographic Correlates

An examination of Work and Family Orientation (WOFO) scores by socio-demographic characteristics was conducted to determine whether gender, age, marital status, number of children, length of service, education level, employment function, union function, and management function had any relationship to achievement orientation. None of these independent variables accounted for significant amounts of variance in desire for intellectual challenge (Mastery) scores. However, women indicated a greater desire to work hard (Work) than men ($F = 4.60$, $p < .05$), men were more inclined to desire success in competitive, interpersonal situations (Competitiveness) than women ($F = 4.93$, $p < .05$), and line managers appeared more concerned about the possible negative interpersonal consequences of achievement (Personal Unconcern) than were staff managers ($F = 2.77$, $p < .05$). Older employees were less concerned than younger employees ($r = -.21$, $p < .01$) about "opportunities for advancement and better pay". Plant employees considered opportunity for promotion and advancement less important than did clerical or traffic employees ($F = 2.98$, $p < .05$). Cochran's C was significant in this case. This may reflect the small numbers of traffic employees ($n = 5$) that participated in this study. No other significant relationships were found.

Relationship Between Motivational Orientation and Achievement Orientation

Job-related

An examination of the interaction between job-related motivational

orientation (EPS) and achievement orientation (WOFO) scores indicated that participants that rated job-related influences highly were also high in achievement orientation. Participants influenced by job-related reasons also indicated Mastery ($r = .20$, $p < .05$), Competitiveness ($r = .26$, $p < .01$) and Personal Unconcern ($r = -.16$, $p < .05$) were key components of their achievement orientation. In other words, employees more influenced by job reasons for participation also rated high in desire for intellectual challenge, desire to succeed in competitive, interpersonal environments, and less likely to fear the negative consequences of personal success than those less influenced by job-related reasons. No statistically significant relationship was found between job-related motivation for participation and Work (desire to work hard).

Homogeneity of Variance

One of the assumptions underlying the use of analysis of variance tests is that the variances of the dependent-variable scores for each of the populations sampled are equal. Significant differences in the variance of unequally sized groups can affect the alpha level and (if the variance in the smaller group is greater than that in the larger group) increase the chances of making a Type 1 error (i.e., rejecting the null hypothesis when it should be retained).

In the present study, the size of various sub-groups tended to be different. This was particularly apparent in some subsets of demographic variables. For example, the size of groupings for age ranged between $n = 4$ (under 25 years old) and $n = 49$ (31 to 35 years old).

To test for significant differences in group variance, the homogeneity of variance (one way) sub-program of SPSS^X was applied to the data. Ten significant differences in group variance were reported for job-related scores. Of these, four were found for age, three for length of service, and three for employment function. Results for the WOFO showed there to be six significant differences in the variance among independent-variable groups. Of these, three were found for sex, two for age, and one for management function.

Homogeneity of variance assumptions are not satisfied in those cases where statistically significant findings were reported. Assumptions of homogeneity of variance are quite robust and can stand some degree of violation. Nonetheless, caution is necessary in interpreting results that relate to items reported of significance related to age, length of service, and employment function. In particular, EPS questions 9, 30, and 40 appear to be suspect, since two items of significant differences in variance were reported in each. In question 9, both age ($\underline{C} = .46$, $\underline{p} < .001$) and length of service ($\underline{C} = .37$, $\underline{p} < .01$) showed significant difference. In question 30, age gave a \underline{C} value of .35 ($\underline{p} < .001$) and employment function was .63 ($\underline{p} < .05$), while in question 40 $\underline{C} = .29$ ($\underline{p} < .01$) for age and $\underline{C} = .34$ ($\underline{p} < .05$) for length of service.

Hypothesis Testing

The first research hypothesis examined with regard to motivational orientation was as follows:

Hypothesis 1.

Demographic characteristics will be associated with motivational

orientations for participation. Specifically:

Gender

- males will be more influenced by job-related reasons for participation than females.

The mean score for men (2.14) was not significantly higher than the mean score for women (2.07). Thus, the hypothesis was rejected.

Age

- younger participants will be more influenced by job-related reasons to participate than older participants.

Younger employees were more influenced by job-related motivation to participate than older employees ($r = -.25$, $p < .01$). The hypothesis was accepted.

Marital Status

- single participants will be more influenced by job-related reasons than married participants.
- respondents without children will be more influenced by job-related reasons than those with children.

While the mean job-related motivational orientation score of single participants was higher than that of any other group, there was no statistically significant difference between the mean EPS "job" scores of single, married, or other groups of respondents. The hypothesis was rejected. While participants with no children exhibited a slightly higher EPS job score than those with children, the difference was not statistically significant. The hypothesis was rejected.

Educational Level

- participants with higher educational level will be less influenced by job-related reasons than those with lower levels of education.

While respondents with higher levels of education had slightly lower mean scores than those with less education, the difference was not statistically significant. The hypothesis was rejected.

Length of service

- the longer the term of employment, the less likely that job-related reasons will be an influence in decisions to participate.

Employees with more years of employment by the company were less influenced by job-related reasons to participate than younger employees ($r = -.19$, $p < .01$). The hypothesis was accepted.

Employment function

- union employees will be more influenced by job-related motivations than management employees.

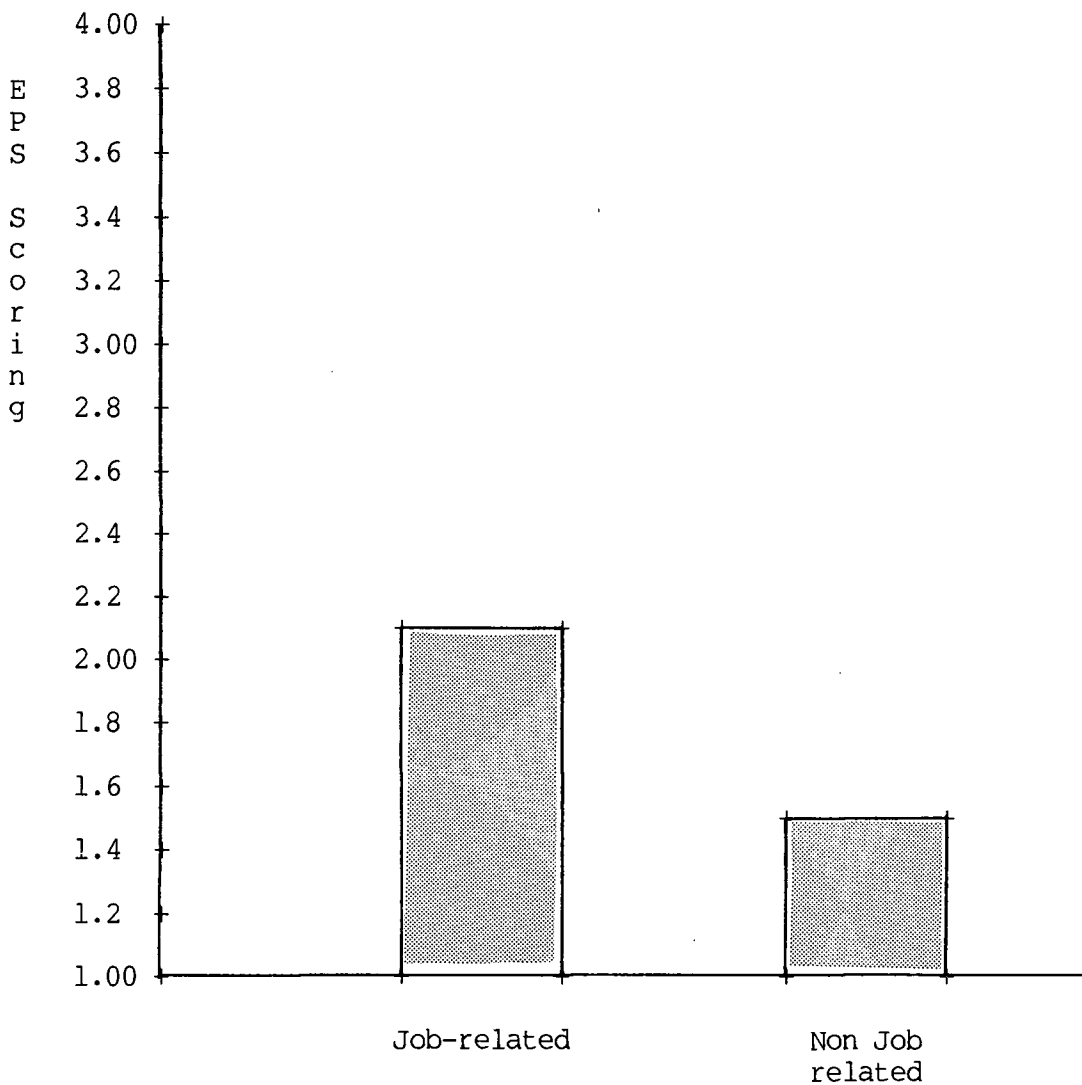
Union employees were more influenced by job-related reasons for participation than management employees ($t = 3.27$, $p < .01$). The hypothesis was accepted.

Hypothesis 2.

Job related will be more influential than non job-related reasons for participation.

The mean score for job-related motivational orientation was 2.11, calculated by summing over eighteen items, while the mean for non job-related motivational orientations was 1.54 over nineteen questions. These means are represented graphically in Figure 3.

Figure 3. Means of job-related and non job-related motivational orientations for participation in adult education activities.



Job-related motivational orientations were significantly more "influential" than non job-related motivational orientations ($r = .50$, $p < .001$). The hypothesis was accepted.

Hypothesis 3.

Hypothesis 3.

Men and women will differ in their achievement orientations

- Males will rate intellectual challenge and desire to succeed in a competitive environment higher than females.
- Females will rate desire to work hard and not be afraid of success higher than males.

While men reported a greater desire to succeed in competitive environments than women ($F = 4.93$, $p < .05$), there was no statistically significant difference between men and women in desire for intellectual challenge. The sub-hypothesis was rejected.

Women reported a greater desire to work hard ($F = 4.60$, $p < .05$) than men but were not significantly different from men in their lack of concern over the possible negative consequences of personal success. The sub-hypothesis was rejected.

Summary of Hypotheses

Ten hypotheses were tested. Each is listed in Table 10, followed by its corresponding statistical finding.

Table 10
Acceptance and Rejection of Ten Hypotheses Concerning Motivational and
 Achievement Orientations of B.C. Tel Employees

Hypothesis	Accept	Reject
Males will be more influenced by job-related reasons for participation than females.		X
Younger participants will be more influenced by job-related reasons for participation than older participants.	X	
Single participants will be more influenced by job-related reasons than married participants.		X
Respondents without children will be more influenced by job-related reasons than those with children.		X
Participants with higher educational level will be less influenced by job-related reasons than those of lower levels of education.		X
The longer the term of employment, the less likely that job-related reasons will be an influence in decisions to participate.	X	
Union employees will be more influenced by job-related reasons than management employees.	X	
Job related reasons will as influential as non job-related reasons for participation.	X	
Males will rate intellectual challenge and desire to succeed in a competitive environment higher than females.		X
Females will rate desire to work hard and not be afraid of success higher than males.		X

Summary

Thus far, the focus of the data analysis has been on bivariate relationships; between EPS job-related scores, WOFO scores, and each of the socio-demographic (independent) variables or between WOFO scores and each of the dependent variables. Four hypotheses were accepted and six rejected. However, at the outset, it was noted that this research concerned both "job" and "non job" motivational orientations. Thus, the next chapter reports results of a discriminant function analysis which attempted to classify respondents into motivational "types" which used interactions between socio-demographic variables to explain differences between them.

CHAPTER SIX

RESULTS 2

Participant Typology

In the introduction to this thesis, it was noted that participants enrol for a variety of job and non job-related reasons. A "job" motivational orientation is not necessarily the converse of a "non job" motivational orientation. There are people who participate for both high job and non job reasons, others for high job and low non job reasons, and still others who participate for low job and high non job reasons. A fourth category consists of participants with low scores in both job and non job-related motivational orientations. In the earlier sections of this thesis the focus has been on relationships between job-related EPS scores, socio-demographic variables, and WOFO scores. Until now, non job-related scores have not been considered.

Given the difference in means (2.11 for job-related, 1.54 for non job-related), an examination of job and non job-related motivation by socio-demographic characteristics was considered essential. Pearson product moment correlations were calculated for sex, age, domestic status (living alone or living with someone), child status (with or without children), education level, length of service, employment function (management or union), union function, and management function (Table 11).

Table 11

Correlation Between Job and Non Job-related Motivation and Nine
Socio-demographic Characteristics.

Variable	Job-related			Non Job-related		
	n	r	p	n	r	p
Sex	156	-.07		156	.13	
Age	156	-.25	.001 ***	156	-.22	.01 **
Domestic Status	156	-.13		156	-.14	
Child Status	156	-.11		156	-.19	.02 *
Education level	156	-.10		156	.02	
Length of service	156	-.20	.01 **	156	-.10	
Emplymnt. function	156	-.24	.001 ***	156	-.29	.001 ***
Union function	67	.01		67	-.17	
Mgmt. function	89	-.16		89	-.23	.03 *

* $\underline{p} < .05$

** $\underline{p} < .01$

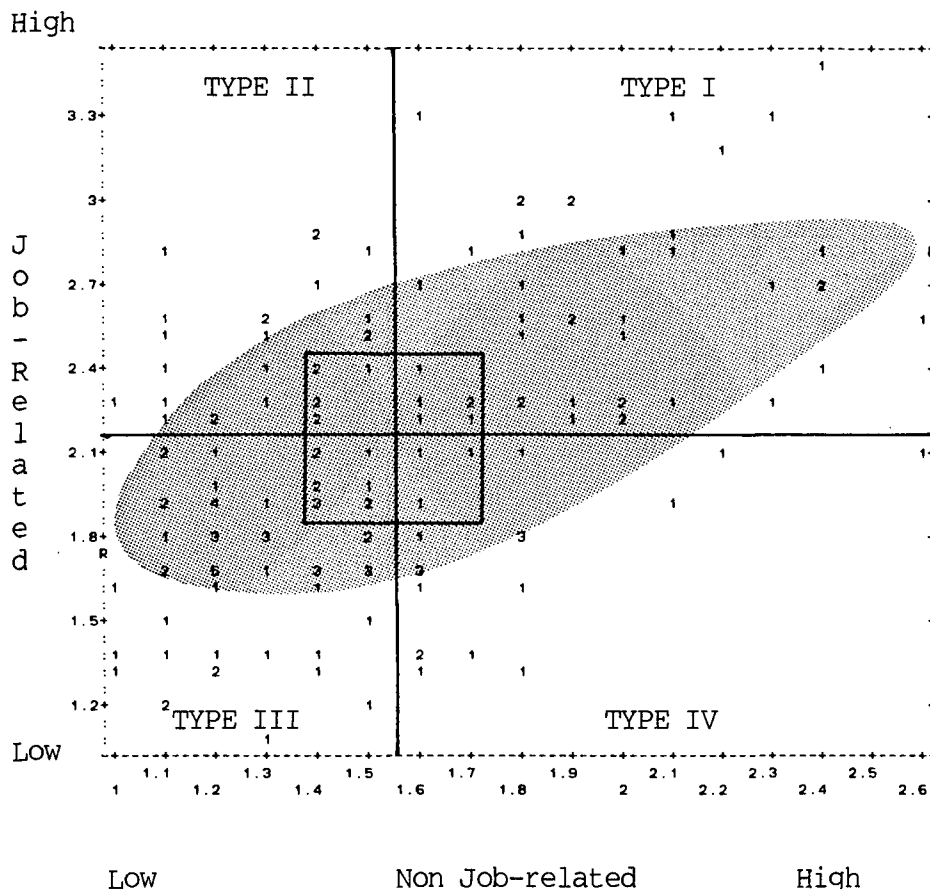
*** $\underline{p} < .001$

Results indicated that while only age, length of service, and employment function were significantly associated with job-related motivation, this was not the case in non job-related. Older employees and those in management were less influenced by both job and non job-related motivational orientations. Respondents with children and managers in staff positions were more influenced by non job-related motivational orientations than participants who were childless or in line management postions. Respondents with shorter periods of employment with B.C. Tel were more likely to participate because of job-related influences.

When job-related and non job-related scores of the 159 respondents were displayed on a scattergram (Fig. 4) where job-related scores are on the vertical axis and non job-related scores on the horizontal, it was evident that most respondents were clustered in the lower left quadrant. When the means of job-related (2.11) and non job-related (1.54) were added to the scattergram, it became clear that participants

fell mainly into either the high job/high non job, or low job/low non job-related quadrants. While fewer in number, those in the high job/low non job and low job/high non job-related categories were clearly identifiable in the scattergram. Since participants immediately about the means would be difficult to distinguish from those at the "centre" of each type (or quadrant), an exclusion zone (shown by the square) was set at .1 on either side of each mean. This resulted in the elimination of 36 respondents. In addition, empty cells were discovered in the data on three participants. These were also eliminated, resulting in $n = 120$.

Figure 4. Scattergram of job-related against non job-related motivational orientations for participation.



Four types of participants were now identified; those with high job-related and high non job-related motivational orientations (TYPE I), with high job-related and low non job-related motivational orientations (TYPE II), with low job-related and low non job-related motivational orientations (TYPE III), and with low job-related and high non job-related motivational orientations (TYPE IV).

In the preceding sections of this thesis, relationships between socio-demographic variables and job-related motivational orientations were explored. In this section an attempt was made to examine the extent to which socio-demographic variables, when working together (in conjoint relationships) determine the extent to which they can discriminate between the four types of B.C. Tel employees studied in this research. Note that the dependent variable in this part of the study is participant "type". Each participant has been typed according to the extent to which they were motivated by both job and non job-related reasons.

This section of the thesis describes the results of a discriminant function analysis conducted on the participants in the sample using the typology described above where "TYPE" was the dependent variable and socio-demographic variables were independent. Discriminant function analysis resembles regression except that, instead of yielding a multiple correlation statistic, it attempts to classify respondents into known groups (the "y" variable) on the basis of various interactions between the independent (or "x") variables. Like regression, the process is begun by creating a correlation matrix which shows inter-relationships between independent variables. Next,

variables are entered into the equation one step at a time. The "x" variable that accounts for most of the variance in the "y" variable enters first, followed by the next most powerful variable. When the remaining variables eligible for entry fail to yield any further explanatory power, the process is terminated. The procedure then produces "functions" which, like factors in a factor analysis, are clusters of interrelated independent (socio-demographic) variables which, when working together, explain variance in the dependent variable ("type" of motivational orientation). The procedure then produces "standardized discriminant function coefficients" which, like beta weights in regression, show the magnitude and direction of each x variable's contribution to each function. Finally, the procedure employs these coefficients in an attempt to predict group membership (type). In this research, the x variables included sex, age, domestic status (living alone or living with someone), child status (without or with children), education level, length of service, employment function, union function, management function, and WOFO scores. The y variables consisted of high job/high non job-related (TYPE I), high job/low non job-related (TYPE II), low job/low non job-related (TYPE III), and low job/high non job-related motivational orientations (TYPE IV).

The relationship between each of the independent variables and "TYPE" was determined prior to running the discriminant function analysis. This helped identify x variables to be included or excluded from the discriminant analysis (Table 12).

Table 12

Typology of Participants by Socio-demographic Characteristics:
Breakdown Analysis

Variable	n	Mean	Standard Deviation	F	Sig
<u>Sex</u>	120	1.48	.51	.34	.79
Type 1	39	1.49	.51		
Type 2	18	1.39	.50		
Type 3	47	1.47	.50		
Type 4	16	1.56	.51		
<u>Age</u>	120	35.88	7.02	2.85	.04 *
Type 1	39	33.92	7.14		
Type 2	18	33.83	6.12		
Type 3	47	37.74	7.71		
Type 4	16	37.31	6.12		
<u>Domestic Status</u>	120	1.68	.47	.50	.68
Type 1	39	1.62	.49		
Type 2	18	1.67	.49		
Type 3	47	1.72	.45		
Type 4	16	1.75	.45		
<u>Child Status</u>	120	1.43	.50	1.40	.25
Type 1	39	1.31	.47		
Type 2	18	1.44	.51		
Type 3	47	1.49	.51		
Type 4	16	1.56	.51		
<u>Education Level</u>	120	2.47	1.33	1.45	.23
Type 1	39	2.41	1.27		
Type 2	18	2.06	1.00		
Type 3	47	2.49	1.46		
Type 4	16	3.00	1.00		
<u>Length of Service</u>	120	12.32	6.85	1.85	.14
Type 1	39	11.26	5.60		
Type 2	18	9.94	4.93		
Type 3	47	13.79	8.22		
Type 4	16	13.25	4.93		
<u>Emplymnt. Function</u>	120	1.57	.49	2.22	.09
Type 1	39	1.44	.50		
Type 2	18	1.56	.51		
Type 3	47	1.71	.46		
Type 4	16	1.50	.52		
<u>Union Function</u>	52	.74	1.05	1.05	.38
Type 1	17	.88	1.05		
Type 2	8	.83	1.15		
Type 3	20	.53	.97		
Type 4	7	.88	1.15		
<u>Managmnt. Function</u>	68	1.08	1.03	2.69	.05 *
Type 1	22	.74	.94		
Type 2	10	1.17	1.20		
Type 3	27	1.36	1.01		
Type 4	9	.94	1.12		

* $p < .05$

Discriminant function analysis.

Only age and management function were significantly related to type when considered separately. These were selected as variables for entry in the discriminant equation. However, due to the well-known "third variable" problem (Neale & Liebert, 1973), variables with no known relationship to TYPE were also readied for entry.

During the first discriminant function analysis thirteen independent variables were entered into the equation. They included nine socio-demographic variables and four WOFO scores for each respondent. Table 13 lists the variables in their order of entry into the equation, the initial F-value of the variable before entry into the equation, and the standardized discriminant function coefficient resulting from the analysis. These coefficients are comparable to beta weights in a regression equation and indicate the extent to which each variable has an effect (when "working" with the other variables). The larger the coefficient, the more powerful the effect.

The first variable to enter the equation was a WOFO score (Competitiveness), followed by age. The WOFO score for Mastery was entered next, followed by management function and education level. These were followed by another WOFO score (Personal Unconcern). Sex, length of service, child status, employment function, domestic status (living alone or with someone), union function, and the remaining WOFO score (Work) were excluded from the analysis.

Table 13

Interactive Effects of Variables Associated with Typology of Motivational Orientations toward Participation - 13 Eligible Independent Variables

Variable	Step Entered	Wilk's Lambda	Initial Univariate F-value	Standardized Discriminant Function Coefficients		
				Func 1	Func 2	Func 3
Competitiveness	1	.90	4.42	-.31	-.64	.79
Age	2	.84	2.85	.39	.36	.53
Mastery	3	.79	3.39	-.50	.55	-.11
Management Function	4	.76	2.69	.45	-.50	-.02
Education Level	5	.71	1.45	-.13	.77	.26
Personal Unconcern	6	.69	1.59	.35	.07	.33

Canonical Correlation = .98

Earlier (p. 67), it was noted that EPS job-related scores were significantly correlated with WOFO Mastery ($r = .20$), Competitiveness ($r = .26$), and Personal Unconcern ($r = -.16$) scores. Thus, it was no surprise to find that WOFO scores contributed to discriminant functions that correctly classified 48.3% of the 120 respondents. Although psychometrically satisfying, this result was not of great theoretical interest because of the high intercorrelation between WOFO and EPS scores. Moreover, the use of thirteen variables violates the principle of parsimony (Marx, 1963). Therefore in the second analysis WOFO scores were deleted. In addition, management and union function scores were removed since they were neither dichotomous nor interval variables. Thus, seven variables were included in the second analysis. They were sex, age, domestic status (living alone or living with someone), child status (without or with children), education level, length of service, and employment function. The discriminant function analysis used only three of these as can be seen below in Table 14.

Table 14

Interactive Effects of Variables Associated with Typology of Motivational Orientations toward Participation - Seven Eligible Independent Variables

Variable	Step Entered	Wilk's Lambda	Initial Univariate F-value	Standardized Discriminant Function Coefficients		
				Func 1	Func 2	Func 3
Age	1	.93	2.85	.79	.26	-.61
Education Level	2	.90	1.45	.27	.88	.51
Employment Status	3	.85	2.22	.38	-.84	.55

Canonical Correlation = .55

Interactions between these three variables in this second analysis resulted in the successful classification of 45.0% of the respondents into the four "TYPE"s. Thus deletion of the WOFO and union and management function scores did not damage the classification process.

At this point a decision was needed. It was apparent that three or even two independent variable solutions were almost as "successful" at classifying as were seven or 13 variable solutions. Since age, length of service, and employment status were known to be significantly related to job-related motivational orientations (see p. 71), these were readied for entry as a three variables analysis. Two survived and resulted in the successful classification of 45.8% of the cases. Although this analysis misclassified approximately three percent more cases than the 13 variable one, it proved to be more effective and parsimonious than the analysis using seven variables where three survived. The focus in the remainder of this chapter will thus be on the "two variable" discriminant function analysis because, despite the loss of three percent of the cases, the need for parsimony takes precedence over explanatory power. Moreover, as will be shown later,

there were good reasons for the inability of the equations to correctly classify respondents in TYPE II and IV. Results of the "two variable" analysis are shown in Table 15.

Table 15

Interactive Effects of Variables Associated with Typology of Motivational Orientations toward Participation - Three Eligible Independent Variables

Variable	Step Entered	Wilk's Lambda	Initial Univariate F-value	Standardized Discriminant Function Coefficients	
				Func 1	Func 2
Age	1	.93	2.85	.72	-.72
Employment Status	2	.90	2.22	.56	.85

Canonical Correlation = .43

The two variables shown here accounted for 43% of the total variance in "TYPE" (canonical correlation of .43). Age variance was distributed across the two functions. The first function (largely age) accounted for 29.9% of the total variance, the second (age and employment function) accounted for 12.7% of the total variance. Discriminant function coefficients indicated that age (.72, -.72) was the most powerful variable when working together with the other two variables used. Employment function (.56, .85) was the next strongest.

As indicated by the canonical correlation (.43), the variable configurations described above accounted for approximately 43% of the variance between types. The discriminant function was able to correctly classify 45.8% of the cases into their "correct" TYPE (Table 16). When reading Table 16 pay particular attention to the misclassified TYPE II and TYPE IV cases (who largely ended up in TYPE I and III).

Table 16

Percentage of Participant Types Correctly Classified by Discriminant
Function Analysis

TYPE	Number of Cases	Predicted Group Membership			
		1	2	3	4
1 High job-related	39	19	0	20	0
High non job-related		48.7%	0.0%	51.3%	0.0%
2 High job-related	18	8	0	10	0
Low non job-related		44.4%	0.0%	55.6%	0.0%
3 Low job-related	47	11	0	36	0
Low non job-related		23.4%	0.0%	76.6%	0.0%
4 Low job-related	16	8	0	8	0
High non job-related		50.0%	0.0%	50.0%	0.0%

Percent of "Grouped" Cases Correctly Classified: 45.83%

In predicting TYPE I participants, the discriminant function correctly classified 19 high job/high non job-related (TYPE I) participants (48.7%) but misclassified 20 participants (51.3%) as TYPE III. No high job/low non job-related (TYPE II) participants were predicted. Instead, the analysis misclassified the 18 TYPE II participants into eight TYPE I (44.4%) and ten TYPE III (55.6%) participants. Prediction of low job/low non job-related (TYPE III) participants was the most successful. The analysis correctly classified 36 TYPE III participants (76.6%) but misclassified 11 participants (23.4%) as TYPE I. None of the 16 participants in the low job/high non job-related (TYPE IV) category were classified correctly. The analysis misclassified eight participants as TYPE I (50.0%) and eight as TYPE III (50.0%).

The meaning of Tables 15 and 16 is best understood by consulting Table 17. Based on the combined or interactive effects of the above variables, it was possible to construct a profile of participants in each type.

Table 17

Socio-demographic Characteristics of Four Types of Respondents

<u>TYPE II</u> (n = 18) (high job/low non job)	<u>TYPE I</u> (n = 39) (high job/high non job)
<u>Primary</u> Average age - 33.8 years Management 56% Union 44%	<u>Primary</u> Average age - 33.9 years Management 44% Union 56%
<u>Secondary</u> Length of service - 9.9 years	<u>Secondary</u> Length of service - 11.3 years
<u>TYPE III</u> (n = 47) (low job/low non job)	<u>TYPE IV</u> (n = 16) (low job/high non job)
<u>Primary</u> Average age - 37.7 years Management 70% Union 30%	<u>Primary</u> Average age - 37.3 years Management 50% Union 50%
<u>Secondary</u> Length of service - 13.8 years	<u>Secondary</u> Length of service - 13.3 years

TYPE I and TYPE II participants are similar. Their average ages are similar and so is their length of time employed by B.C. Tel. They differ primarily in employment function; they are practically mirror images of each other in this respect; that is, 44% of TYPE I and 56% of TYPE II are managers. TYPE III and TYPE IV participants also had a similar age and length of service. Unlike TYPES I and II, TYPE IV was split evenly between union and management, while TYPE III participants had by far the largest number of management employees (70%). Indeed, in this respect, TYPE IV participants resemble TYPE I and II respondents more closely. Since in the discriminant function analysis age and employment function were the most powerful variables in the equation, the similarities between TYPE I and II, TYPE III and IV in age combined with the similarity between TYPE IV, II, and I in employment function would tend to inhibit the ability of the equation to distinguish

between TYPE II and TYPE IV respondents.

The inability of discriminant function analysis to correctly identify memberships of TYPE II and IV can be explained by referring to a scatterplot produced by canonical discriminant function. Overlaid on the scatterplot (Figure 5) is a territorial map showing the boundaries of group types. Boundaries are identified by the appropriate group number. Therefore, the area bounded by "3"'s indicates the territory into which TYPE III participants were expected to appear. Similarly, the area bound by "2"'s designates the area for TYPE II participants.

Group numbers that appear in their appropriate territorial "area" are correctly classified by discriminant function analysis. No TYPE II participants fell into the "2" territory, no TYPE IV participants in the "4" territory. Instead, TYPE II and TYPE IV participants were found in both TYPE I and TYPE III territory. Note, however, that "2"s are usually found in the "1" territory, and "4"s in the "3" territory. In addition, some TYPE I participants can be found in TYPE III territory and vice-versa. Of particular interest are those misclassified "type"s found far from the boundary; for example, the TYPE I near the upper right-hand quadrant of TYPE III territory. While discriminant function analysis correctly classified over 76% of TYPE III participants, there is enough similarity between TYPE I and III to make them undistinguishable in some cases. Similarly, TYPE II and TYPE IV participants so closely resemble TYPE I and TYPE III that they cannot be segregated using discriminant function analysis. In short, it appears that the a-priori "types" were not pure. Returning to page 76, note the "large" distribution, or scatter of respondents throughout these quadrants. Also note how TYPE II and IV respondents converge

Canonical Discriminant Function 2

CHAPTER SEVEN

DISCUSSION AND SUMMARY

Discussion of Results

In this research, ten sub-hypotheses were examined. Four were accepted and six rejected. In addition, a typology of four types of participants was developed. Discriminant analysis successfully classified 45.8% of "types" of participants using only two socio-demographic variables, age and employment function.

Previous research on adult participation has largely focused on relationships between socio-demographic variables of the general population and participation in "general interest" adult education activities (Statistics Canada, 1984). The population at B.C. Tel is not representative of such a cross-section and the Financial Assistance Program is not concerned with "general interest" courses, but with those that have at least a minimal relationship to participant's careers and the company's needs. The results of this study showed that assumptions extrapolated from more general literature cannot necessarily be directly applied to the industrial setting.

Job-related Participation

This research examined the relative influence of job-related and non job-related motivational orientations for participation. Job-related motivation was significantly more influential than non job-related motivation ($r = .50$, $p < .001$). Given the criteria for reimbursement, it was anticipated that results would have been very strongly skewed toward job-related motivational orientations. The relatively low mean

for job-related participation (2.11) indicated this was not the case. However, given that for the most part, job-related influences fell within the top twenty in rankings, and the notion that general education is more useful than specific (Ironsides, 1984) in that it provides for better decision making, rational thought processes, and "learning how to learn" (Bandeem, 1983), motivational orientations that on the surface appeared to fall outside the job-related classification may in fact be in tune with the intent of B.C. Tel's system of financial assistance.

Achievement Orientations

Results indicated that respondents most influenced by "job" reasons also scored higher in intellectual challenge, competitiveness, and unconcern about the possible negative consequences of personal success than those less influenced by job-related reasons. It appeared that employees who participated for mostly "job" reasons also seek intellectual challenge. It may be they have mastered their jobs in the workplace and have not been able to seek new environments for challenge through promotion or job change, and thus seek intellectual challenge elsewhere. Similarly, such employees do not fear that their proactive approach to seeking new avenues toward promotion or doing their current job better will alienate them from their fellow employees (or if it does, they don't care). Finally, their competitive nature leads them to seek an advantage over their fellow employees by setting distal rather than proximal goals (Miller, 1967) and using educational opportunities to reach them.

Participant Typology

It was noted that of the four types of B.C. Tel employees participating, similarities existed between TYPE I (high job/high non job) and TYPE II (high job/low non job), and between TYPE III (low job/low non job) and TYPE IV (low job/high non job). These similarities were based on two socio-demographic variables, age and employment function, which were the most powerful variables in a multivariate analysis which simultaneously considered both job and non job reasons for participation. The discriminant function equation classified respondents into "types" of participant. A closer examination of these classifications in the context of Maslow's deficiency/growth metaphor might lead to speculation that they are in fact four distinct types.

TYPE I respondents ($n = 39$) scored highly on both job and non job reasons for participation. This seems to indicate that this group sought self actualization and were also highly job-oriented. Life-space to them included the status seeking associated with promotion and recognition, as well as the self development that is important as a means to achieve self actualization. Their relative youth indicated they are in the early stages of their career path, yet they appear to have worked at B.C. Tel long enough (over 11 years on average) to feel secure in both their job and work environment. The majority were union employees, who may seek status and self-actualization through entry into management or more rewarding jobs through specialization.

TYPE II participants ($n = 18$), while highly similar to TYPE I were more likely to exhibit life-chance motivations. Like TYPE I participants, they were relatively youthful, and differed primarily in a higher

proportion of management employees. Because their average period of employment with B.C. Tel was less than the other "types", life-chance orientations are more likely in this group as they seek to stabilize job and career. Their high job and low non job scores seem to indicate that this group sought to overcome deficiencies (either real or perceived) in their qualifications that might hinder their progress toward promotion and career advancement.

TYPE IV participants ($\underline{n} = 16$) on the other hand, were more likely to seek growth through self development. Their high non job, low job-related participation indicated a desire for self actualization. They were older than TYPE I and TYPE II participants and had longer terms of employment with B.C. Tel. As Miller (1967) suggests, the search for self actualization is more likely in the older adult.

TYPE III participants were an enigma. Besides differing considerably from the other three types in employment function (70% were managers compared to roughly 50-50% splits in the other groups) they were also the oldest group and had worked for B.C. Tel the longest. They were the largest group in the sample ($\underline{n} = 47$). Their low job, low non job scores lead one to question why they participated at all. It is possible that respondents in this group were in fact, much like TYPE IV participants but did not rate non job-related EPS influences as honestly. Had they been able to take courses they wished to take (for example, photography) they may have rated the EPS differently. But they wanted to take a course, the company pays for it, so they took a "job-related" course they didn't particularly enjoy. It may be they took courses because they were bored, and then found course-taking boring too. They

may have enrolled almost against their own wishes, feeling they needed to do something to improve themselves. It may be they viewed the Financial Assistance Plan as a perquisite they wished to exploit. Finally, it may be that mediating variables of achievement orientation had a negative effect on their participation. Referring to the model of hypothesised association between variables (p. 34), where, for example, competitiveness could lead an older employee to be as influenced by job-related reasons for participation as a younger employee, lack of competitiveness could have an inverse effect on older employees, leading them to score low in both job and non job motivational orientations.

Theoretical Implications

This study provided an opportunity to explore aspects of theory concerning motivational orientations. Two main findings were derived. The first concerns the fact job related motivation generally exceeded non job motivation. However, although the participants motivational orientations were reasonably congruent with B.C. Tel's objectives for the Financial Assistance Plan, many participants were as motivated by non job as by job reasons. This seems to imply that job and non job motivational orientations are inter-related and not mutually exclusive. The typology presented in Chapter Six showed that 39 respondents with high scores in "job" also scored highly in "non job". Similarly, 47 respondents with low scores in "job" had low scores in "non job". B.C. Tel has a need to ensure that employees participating in the Financial Assistance Plan do so for job-related reasons. If theory is to serve practice, this typology should provide the administrators of the

Financial Assistance Plan with some guidance. However, the results of the discriminant analysis suggest it would be unwise to evaluate participation in the Plan according to the extent to which employees are job motivated.

The second finding stems from the discriminant function analysis. The essence of this research is contained in Table 17 (p. 85). Although several of the socio-demographic variables shown in Table 11 (p. 75) were significantly associated with job or non job scores, only "age" and "employment function" and, to a lesser extent, "length of service" (at B.C. Tel) entered the equation that successfully classified 45.8% of the respondents. This evokes several questions related to unexplained variance and why these two variables, and not others, were the most significant predictors of TYPE of participant.

Unexplained Variance

The successful classification of 45.8% of respondents into four types of participants using only two variables, and the failure of the 13 variable solution to improve the classification process significantly, suggests that other untested variables may have allowed a better prediction of type. In particular, the enigma of TYPE III participants (older managers) who participated for low job/low non job-related reasons, needs to be explained. An examination of career path needs, work values, their attitudes toward their employment at B.C. Tel, and a deeper examination of their background, both familial and social may have shed some light on why they participated despite their apparent "non motivation". While beyond the scope of this study, the use of other instruments, such as Super's (1968) Work Values Inventory, which

was developed to assess the range of values that affect work motivation, may have explained more variance.

The Typology

There appear to be two possible approaches to explaining differences between respondents located in different parts of the typology. For example, what is it that explains why those in TYPE I (high job/high non job) were largely youngish union employees. Why were the "unmotivated" respondents in TYPE III (low job/low non job) largely older managers. One explanation assumes that the types differ, that the data reflects the dynamics of whatever relationships distinguish the types. The other explanation challenges the veracity of the typology.

Explanation One: Age and Employment Function as Predictors.

It was expected that reasons for participation given by older management employees would be less job-related than those of younger union employees. This was supported by the results of this research. As noted in the literature, young union people are more likely to participate for "life chance" motivation (Boshier, 1977), thus satisfying lower order needs by bolstering their ability to achieve job status and security. Young union employees may also seek to satisfy a desire for more pay and higher status through the Financial Assistance Plan. Miller (1967) has noted the difference between working class and middle class values and the pragmatic approach that the working class takes toward education as a means toward better jobs and better pay. As well, Herzberg's (1966) claim that "motivator" factors (self esteem and self actualization) are more effective than "hygiene" factors (extrinsic rewards) may be a factor that led young union employees to

rate both "job" and "non job" more highly than older managers. Young union employees may be setting goals that will enable them to achieve self-actualization through jobs in which they have more self-control.

Older management employees, on the other hand, have for the most part reached a relatively stable level of achievement, with a lesser need for advancement or pay and thus seek "life-space" opportunities to expand their horizons. As a result, these may have cited non job-related motivational orientations more frequently, not because of lack of interest in "job" reasons, but because as Miller (1967) said: "It is the rare person who begins to think about the meaning of his own life and the value of selfhood before he reaches his forties" (p. 7). It may be that management positions offer employees already in that category greater opportunity to satisfy self-esteem and self-actualization needs in their jobs. While management employees have potentially less job security, they may feel more in control of their own destiny.

The secondary variable, length of service at B.C. Tel, was highly correlated to age ($r = .72$, $p < .001$). Union employees were younger than management employees ($r = .21$, $p < .01$). Thus, employees with longer terms of employment were more likely to be older managers, and less likely to be influenced by job-related motivational orientations than younger union employees hired more recently. Younger union employees would therefore be more influenced by "life-chance" orientations, while older managers would consider "life-space" orientations more appropriate. Boshier (1977) proposed that these orientations lie at opposite ends of a "psychological" continuum. While

new and unfamiliar with job and company, the employee seeks to satisfy survival and safety needs as a short term goal, while their long term goals relate to higher order needs. The longer the term of employment, the more likely employees are to feel sure about their abilities and security with both job and employer. Economic factors also have an effect (Becker, 1962). Shorter term employees are more inclined to invest in their own human capital, longer term employees have less time to realize a return on their investment in an educational activity. Thus, young union employees are more likely to participate for "job" reasons; older managers are more likely to cite "non job" reasons for participation.

Age, employment function, and length of service were reasonable predictors of TYPE I participants, and to some extent, TYPE III. They explain why TYPE I respondents (mostly younger union employees) rated both job and non job influences highly, and why TYPE III participants (mostly older managers) would be less influenced by "job" reasons for participation. However, as already noted, "non job" is not necessarily the converse of "job". That TYPE III respondents appear to be as unmotivated by non job influences cannot be explained by the application of the variables of age, employment function, and length of service.

Explanation Two: The Typology as an Artifact.

The assumption underlying the construction of the four-part typology used in this research was that job and non job motivations exist in an orthogonal or uncorrelated relationship. This may be a dubious assumption because, as noted earlier, job scores were significantly

correlated with non job scores ($r = .50$, $p < .001$). Thus, there was a marked tendency for those "motivated" by job reasons to also be motivated by non job reasons. Results obtained from the classification system reflected the inter-related nature of job and non job motivation. By far the largest number of respondents fell into TYPE I and Type III (39 and 47 participants respectively). TYPE I respondents were "motivated" by both high job and high non job reasons; TYPE III respondents were conversely "unmotivated" by both low job and low non job reasons; (Table 17, p. 85). As Figure 5 shows, TYPE I respondents fell into the upper right quadrant (both high in job and non job motivations). TYPE III fell into the lower left quadrant (low in both job and non job motivation). The evidence would seem to suggest therefore, that some confidence can be placed in the discrimination of at least these two types of participants. If this is the case, and there is compelling evidence to support this interpretation, an explanation for why TYPE III older managers were "less" motivated (job and non job) than the younger (largely union) members of TYPE I is required.

There are two possible explanations for this divergence between older "unmotivated" managers and younger "motivated" union members. The first explanation is based on Maslow's need hierarchy. The job-related criteria of the Financial Assistance plan is in keeping with the "life-chance" orientation of the younger union employee. They seek educational opportunities as a means of satisfying survival and safety needs. Education of a job-related nature increases their chances of obtaining better jobs, better pay, and promotion and/or career advancement in their chosen occupation. Older managers are more likely

to be expanding their life-space opportunities. Thus, enrolment in a job-related course does not fit their life-space orientation toward education. In other words, had they been free to opt for non job-related courses, high non job scores might have been expected. Instead, they take courses for the wrong reasons, and are thus demotivated by the experience. This leads one to question why they participate at all. In the context of B.C. Tel, TYPE I participants (mostly union) are protected by union contract for both job choice and job security. TYPE III participants (mostly older managers) face the insecurity generated by recent reorganization events (p. 56) in B.C. Tel, the early retirement programs that could constitute a threat to their continued employment in a preferred job, or being encouraged into early retirement due to the company's requirement for reductions within the management group. Hence, they participate in courses they don't particularly want to take because they wish to either enhance their apparent worth to the company or prepare themselves for retirement.

Second, the possibility must be considered that these results do not reflect the motivational characteristics of young union employees and older managers but stem from differences in response style. Is it possible that the young union employees adopted a "company oriented" rather than a "personally oriented" response and claimed to be more "influenced" by job-related items than the older managers who may have downplayed the influence of all or most of the items of the EPS. This possibility has to be understood in the context of B.C. Tel.

First, older managers tend to be autonomous and less likely to consider themselves "influenced". Younger employees, on the other hand, are

accustomed to being "influenced" by many aspects of their environment, including the older managers participating in this study. As well, it may be that the responses of the older managers to the items of the EPS are an underestimation of the actual strength of various influences. Obviously, such an explanation is hypothetical and would require further research of a qualitative nature.

Second, as noted earlier (p. 56), the response rate from union employees was surprisingly low relative to other years for which data on the Financial Assistance Plan are available. This was attributed to a possible union directive against research using it's membership as respondents. Thus, union employees responding to this questionnaire may have been restricted to those proactive union employees who were strongly influenced by both job and non job motivations and therefore highly motivated to participate. Further, in a hierarchical organization like B.C. Tel, the availability of recognition through better jobs, better pay, and/or career advancement is more accessible to younger union employees, while older management employees are more limited, since fewer jobs are available at higher levels within the hierarchy. Therefore, while older management employees may take job-related courses, their expectations of being rewarded for their efforts are less likely. This reduced expectation may well be a demotivator that led older participants to respond in an "unmotivated" fashion to the items of the EPS.

The answers to many of the questions raised in this section are beyond the scope of this study and require further research. However, the typology of participants holds promise for theoretical development. The

potential research opportunities in the industrial/business community through this application of the EPS could contribute to refining theories of motivational orientations of adult learners.

Practical Implications

Data collected from B.C. Tel employees in this sample underlines the need to examine more closely the objectives of B.C. Tel's Financial Assistance Program. Participants expressed a clear desire to combine employment with education for reasons in which the top ten motivational orientations included eight job-related and two learning or cognitive interest reasons for participation. As noted in the introduction to this thesis, it is often the opportunity to participate in a learning experience that makes a difference in employee productivity. In the case of B.C. Tel's Financial Assistance Plan, resources directed toward employees in the high job-related categories (TYPE 1 and TYPE 2) would more closely match the stated objectives of the Plan than would providing funds to employees who are more oriented toward non job-related participation. Given the number of employees involved in the Financial Assistance Plan who rated non job-related motivational orientations highly (TYPE 1 and TYPE 3), it is apparent that despite the criteria, employees at B.C. Tel take courses for other than job-related reasons. While courses that develop one's skills in photography are unlikely to make the approved courses list, those educational activities that stimulate cognitive skills should be re-examined for inclusion in the Financial Assistance Plan.

The results of the present study corroborate assumptions made about the nature of adult learners in a corporate environment. Socio-demographic

variables can be used to predict the motivational orientations of participants. Although only age, length of service, employment function, and management function were sufficiently influential to predict relationships, the general trend of all relationships was as expected. Older employees and those of longer service to the company appeared to be relatively less influenced by job-related motivational orientations; this must be weighed against the accumulated value of experience they bring to their jobs. There is insufficient evidence in a study of this type to suggest re-evaluation of the Financial Assistance Plan with regard to the age or length of service of eligible applicants. However, the implication that middle-age to older employees seem unlikely to prepare for future retraining could be a problem to this group and the company that employs them. Retention of the middle-age to older work force may be the most important labour development of the next twenty years (Morrison, 1983).

The fact that union employees had stronger motivational orientations toward job-related participation does not imply that funding of bargaining unit employees would better serve the objectives of the plan. In fact, participation may only reflect the proactive nature of those who do take a role in their own self-development (Boshier & Collins, 1985).

The Financial Assistance Plan may provide the opportunity to develop employees for the future who are qualified in both the technical and managerial/commercial aspects of the telecommunications industry. By directing managers toward technical self-development and technicians toward business administration self-development, a pool of potentially

interactive employees could be developed that would be equally comfortable in both environments (Kaplan, 1986). This development of an integrative management cadre would facilitate cross-training and assist companies in high-technology businesses meet their corporate objectives. In retrospect, it might have been more useful to use an instrument that identified high potential employees rather than the achievement orientations measured by the WOFO. If a typology could be developed that identified such high potential employees, they could be encouraged to participate in the Financial Assistance Plan for developmental purposes. Union employees with the attributes to fill entry level management positions would be readily identifiable as well as those who should be considered for technical specialization in those areas of current or future requirements. Management employees could be prepared for cross-overs between line and staff positions if it were determined that such cross-training would be of value to the company. Further, as noted earlier, not all good specialists make good managers. In those cases where it becomes evident that a placement error has been made, the Financial Assistance Plan could provide the retraining necessary for re-entry to a specialist or other position. Finally, the Financial Assistance Plan could prepare employees facing retirement (especially early retirement) with life and career skills to ease the transition from full employment to semi or full retirement.

The findings in this study that competitiveness was an influential mediating variable may have implications for policy making. General statements by the company of expectations of self-development by employees as a pre-requisite for advancement may misdirect the participation orientation of employees. More emphasis on appropriate

guidance at the immediate supervisor level (aided by Employee Development) should be given to ensure that employees are not wasting either their time or the funds of the Financial Assistance Program in gaining skills that are either redundant or not required in the future (Menzies, 1981).

Another implication for policy making emerges from the results of this study. By identifying the major categories of courses in which employees participate, a small step has been taken in the process of narrowing down and identifying those which are or could be most useful for retraining. The percentage of employees who participate in management courses is disproportionate compared to the limited career opportunities in management in B.C. Tel today, and could be considered an indicator that some form of counseling may be warranted to direct participation away from general management and supervisory courses and toward more specialized or technical courses. The finding that job-related influences are a moderate to strong predictor of participation indicates provision of counseling would be compatible with employee's present reasons for participation; would likely be positively received; and would strengthen the existing relationship rather than diminish it.

Limitations of the Study

There were several limitations to the study. Subject participation was voluntary. Although every effort was made to ensure that the sample was representative, it was not possible to know about those who chose not to participate. It is possible that their lack of interest in the study reflected either some of the factors mentioned in the beginning

pages of Chapter Five, or was the result of heavy work commitment. Of particular concern is the possibility that the sample may have been biased towards management employees due to the reluctance of union personnel to respond to questionnaires as the result of union executive directive. In any case, the results of the study may have been altered had non-volunteers been included.

The timing of data collection not only added to the difficulty of collecting responses (as described in the early pages of Chapter Five), but also had the potential to cause confusion over what course to report in the questionnaire, as a new school year had already begun.

Although the reliability of the two instruments used was satisfactory, the job-related criteria of the Financial Assistance Plan may have hindered the ability of the Education Participation Scale (EPS) to measure motivational orientations of these participants. In addition, the application of the EPS to a commercial setting rather than an educational one may have had an impact on the results.

As mentioned, the contribution of the WOFO to this research was marginal. It could have been more useful to employ an instrument that measured participant potential to fill either management or highly skilled technical positions. Alternatively, descriptive questions soliciting career ambitions may have been useful to determine the goals of respondents as an adjunct to their motivational orientations.

All of the subjects were union and management employees of B.C. Tel,. It is assumed that they are representative of similar employees in other large Canadian telephone companies, however, there is no

guarantee that this is so.

Finally, the correlational design of the study makes it impossible for definitive statements to be made about the causal nature of observed differences.

Suggestions for Further Research

It would be of value for future researchers to replicate this study with other populations (for example, union and management employees in other large commercial companies, public administration departments, or companies of various sizes). It would also be of interest to compare a similar sample of participants with non-participants in the same company. The results of such a study would enable researchers to evaluate the impact that involvement in adult education has on employee aptitudes, attitudes, and behaviour. It would, moreover, increase our understanding of the interaction between work experiences and educational activities as a measure of employee worth to the corporation.

Future investigators may wish to follow the development of the employees in this sample and could consider the merits of gathering information about the career paths of current participants over time compared to the career paths of non-participants.

Studies in the future that use the Education Participation Scale (EPS) could usefully incorporate the results of this study to examine the possibility of modifications that would more precisely measure motivation orientations of such a homogenous and job-oriented group.

This application of the EPS in a commercial setting is unusual. The methodology of re-rating the EPS to reflect job-related motivational orientations could be used to develop other categorizations (eg., productivity oriented or proactivity scales) as well as refine the factors developed in this research. In addition, it would be useful to examine whether sub-categories of job-related influences exist, such as career advancement and improved performance, or other categories that would be valid and useful discriminators. Factor analysis of a large-scale study of a similar nature may disclose other or different categories for inclusion.

Finally, a re-examination of the typology of participants developed in this study may reveal other variables, or a methodology that would enable better prediction of participant classification. It would have been useful to examine relationships between TYPE of participant and Boshier and Collins' (1985) six factor categorization. This may provide better explanations of the orientations of the four types, and in particular, provide an insight into the enigmatic TYPE III participant. Alternatively, a construct validation of this typology through interviews conducted with representative respondents from each of the four TYPES of B.C. Tel employees could ratify the classifications used in this thesis.

Summary

This study examined relationships between employee participation in adult education activities funded by the participant's employer and job-related motivational orientations for this participation. Results indicated that significant differences existed between reported

job-related motivational orientations according to age, length of service, and employment function. Younger employees, those with shorter periods of employment, and union employees were more likely to participate for job-related reasons than their counterparts. As well, respondents scoring high in intellectual challenge, peer competition, and interpersonal relationships were more likely to participate for "job" reasons, while desire to work hard was less indicative of participation for job-related reasons.

The participant typology developed in this research showed that people participate for a variety of "job" and "non job" reasons, even in job-related courses. Some participate primarily for "job" reasons, and hence seek to overcome real or perceived deficiencies (life-chance). Others participate for "non job" reasons, and are likely to seek growth opportunities in educational activities, leading them toward self-actualization. Still others participate for both deficiency and growth reasons by undertaking educational activities for both job and non job reasons. Job, in this case, is likely congruent with promotion, career advancement, or more pay, while non job is part of a search for self-actualization and intellectual challenge. Finally, there appear to be those who participate for totally mysterious reasons, or motives that cannot be measured using the instruments applied in this research. Yet the multivariate analysis was most successful at predicting this type of participant (77%). So clearly, they are readily identifiable by the classification process. Perhaps this typology is better at identifying "motivated" and "non motivated" types of participants than those who reported a more complex blend of motivations.

The results of this study may be useful to corporations who provide tuition refunds to employees who participate in job-related educational activities on their own time. Evidence shows the motivational orientations of those who participate support the objectives of a financial assistance program; that is, most of those who participate do so for job-related reasons. The inter-related nature of job and non job motivations cannot be overlooked. Citing non job reasons for participation is not necessarily incongruent with the intent of B.C. Tel's Financial Assistance Plan. Rather, it would seem to indicate a desire for learning closely related to high "job" motivations for participation. The development of a typology of participant categories holds promise for the readier identification of employees who should be directed toward specific programs. Although no recommendations for specific changes to existing policy are made in this study, several suggestions are made to optimize the value of the Financial Assistance Plan to both B.C. Tel and it's employees.

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APPENDIX A

PART I - GENERAL INFORMATION

Please indicate your response by a mark in the box at the left of each question.

1. Are you a man or a woman? ☐ Man ☐ Woman

2. What is your age? years

3. If you are or have been married, answer this question. If you have never married, write N.A. (Not Applicable) in this box and go on to the next question.

If married, separated or divorced, check the category that best describes your living arrangements:

☐ Married or common-law and living with spouse/partner

☐ Separated/divorced/widowed and live alone

☐ Separated/divorced/widowed but live with a person (or people) other than my spouse

4. Do you have children living with you?

☐ No ☐ Yes

How many? ☐ One

☐ Two

☐ Three or more

5. How long have you worked at B.C.Tel? years

6. What is the highest educational qualification you hold?
(Check only one)

☐

Grade 12 or equivalent (ie: GED)

☐

Post secondary certificate or diploma
(e.g. Vocational School diploma, B.C.I.T.
Certificate, etc.)

☐

Part of a university degree or diploma

☐

University degree or diploma

☐

University degree or diploma plus additional
post secondary qualification (e.g. B.A.
and B.C.I.T. certificate)

7. Indicate the name of the course you last attended on the
financial assistance program. Be specific.

Name of course _____	
Institution at which you took it (eg. BCIT) _____	Were you re- imbursed by the plan? Yes ___ No ___

8. At the time you took the course were you

___ Bargaining unit?

☐

Clerical

☐

Traffic

☐

Craft

___ Exempt?

☐

Clerical

☐

Traffic

☐

Craft

___ Management?

☐

Line

☐

Staff

☐

Human Resources

☐

MIS

☐

Other (specify)

Thank you. The next section deals with the various reasons employees take outside courses. Think back to when you enrolled for the course noted above and indicate the extent to which each of the reasons listed below influenced you to participate. Circle the category which best reflects the extent to which each reason influenced you to enroll in this course. There are 40 reasons listed. Circle one category for each reason Please be frank. There are no right or wrong answers.

Reasons for Participation

(the 40 items of Boshier's (1982) Education Participation Scale were inserted here)

APPENDIX B

The following 40 questions were asked as part of a project to determine the motivations of employees who take outside courses on their own time. I need your help to determine which of these questions indicate job-related motivation and the type of job-relatedness represented.

Step One Assume each question was answered positively. To the right of each question is a scale that allows you to rate each question as "job-related" "not job-related" or "can't decide". Circle "job-related" if you think the question is definitely job-related, "not job-related" if definitely not job-related, and "can't decide" if you're uncertain.

Step Two I also need a further refinement of those questions you rated as job-related. I think most people take job-related courses either for career advancement or because they want to do their current job better. I would like you to go back to those questions that you marked "job-related" and write in the blank to the extreme right of the page either "CA" for those that reflect career advancement reasons, or "BJ" for those that reflect desire to do a better job.

Thanks for helping....David.

Reasons for Participation

1	To seek knowledge for it's own sake	job related	not job related	can't decide	_____
2	To share a common interest with my spouse or friend	job related	not job related	can't decide	_____
3	To secure professional advancement	job related	not job related	can't decide	_____
4	To become more effective as a citizen	job related	not job related	can't decide	_____
5	To get relief from boredom	job related	not job related	can't decide	_____
6	To carry out the recommendation of some authority	job related	not job related	can't decide	_____
7	To satisfy an enquiring mind	job related	not job related	can't decide	_____
8	To overcome the frustration of day to day living	job related	not job related	can't decide	_____
9	To be accepted by others	job related	not job related	can't decide	_____
10	To give me higher status in my job	job related	not job related	can't decide	_____

11	To supplement a narrow previous education	job related	not job related	can't decide	_____
12	To stop myself from becoming a vegetable	job related	not job related	can't decide	_____
13	To acquire knowledge to help with other courses	job related	not job related	can't decide	_____
14	To fulfill a need for personal association and friendships	job related	not job related	can't decide	_____
15	To keep up with competition	job related	not job related	can't decide	_____
16	To escape the intellectual narrowness of my occupation	job related	not job related	can't decide	_____
17	To participate in group activity	job related	not job related	can't decide	_____
18	To increase my job competence	job related	not job related	can't decide	_____
19	To gain insight into my personal problems	job related	not job related	can't decide	_____
20	To help me earn a degree, diploma or certificate	job related	not job related	can't decide	_____
21	To escape television	job related	not job related	can't decide	_____
22	To prepare for community service	job related	not job related	can't decide	_____
23	To gain insight into human relations	job related	not job related	can't decide	_____
24	To have a few hours away from responsibilities	job related	not job related	can't decide	_____
25	To learn just for the joy of learning	job related	not job related	can't decide	_____

26	To become acquainted with congenial people	job related	not job related	can't decide	_____
27	To provide a contrast to the rest of my life	job related	not job related	can't decide	_____
28	To get a break in the routine of home or work	job related	not job related	can't decide	_____
29	To improve my ability to serve mankind	job related	not job related	can't decide	_____
30	To keep up with others	job related	not job related	can't decide	_____
31	To improve my social standing	job related	not job related	can't decide	_____
32	To meet formal requirements	job related	not job related	can't decide	_____
33	To maintain or improve my social standing	job related	not job related	can't decide	_____
34	To escape an unhappy relationship	job related	not job related	can't decide	_____
35	To provide a contrast with my previous education	job related	not job related	can't decide	_____
36	To comply with the suggestions of someone else	job related	not job related	can't decide	_____
37	To learn just for the sake of learning	job related	not job related	can't decide	_____
38	To make new friends	job related	not job related	can't decide	_____
39	To improve my ability to do community work	job related	not job related	can't decide	_____
40	To comply with instructions from someone else	job related	not job related	can't decide	_____

APPENDIX C

Coding Schedule

Column	Variable	Category	Code
1	sex	man	=1
		woman	=2
2-3	age	actual	=00
4	marital status	not married	=1
		married/spouse	=2
		s/d/w live alone	=3
		s/d/w + people	=4
5	children	none	=0
		one	=1
		two	=2
		three plus	=3
6-7	length of service	actual	=00
8	educational level	grade 12	=1
		post sec. cert.	=2
		part degree	=3
		degree	=4
		degree plus	=5
9-10	course type	DP	=01
		sales	=02
		drafting	=03
		electronics	=04
		business admin	=05
		personnel	=06
		secretarial	=07
		academic	=08
		engineering	=09
		management	=10
		self-development	=11
		other	=12
11	institution	UBC	=1
		SFU	=2
		BCIT	=3
		school board	=4
		other (coll.)	=5
		other (comm.)	=6
		other (unclas)	=7
12	reimbursed?	yes	=2
		no	=1
13	employment status	union	=1
		exempt	=2
		management	=3
14	union class.	blank if not union	
		clerical	=1
		traffic	=2
		craft	=3
15	exempt class.	blank if not exempt	
		clerical	=1
		traffic	=2
		craft	=3
16	mgmt class.	blank if not management	
		line	=1
		staff	=2
		human resources	=3
		MIS	=4
		other	=5

17	blank	end of demographics	
18-57	EPS quest.	no influence	=1
		little infl.	=2
		moderate infl.	=3
		much infl.	=4
58	blank	end of EPS	
59-61	ID	assigned	
62	blank	ennd of ID	
63-86	WOFO	strongly agree	=1
		slightly agree	=2
		neither	=3
		slightly disagree	=4
		strongly disagree	=5
87	blank	end WOFO	
88-89	# of courses	actual	=00
9	d/d/c	yes	=2
		no	=1
91-92	type d/d/c	N/A	=00
		BA	=01
		B.Comm	=02
		MBA	=03
		MA (other)	=04
		ADED diploma	=05
		Mgmt. certificate	=06
		Acctg/fin certificate	=07
		CGA program	=08
		Data proc certificate	=09
		B. Comp. Science	=10
		Bus Admin certificate	=11
		Mktg certificate	=12
		Pers Mgmt certificate	=13
		PR & Advt certificate	=14
		Eng. tech certificate	=15
93	completed	yes	=2
		no	=1
94-95	d/d/c obtained	N/A	=00
		BA	=01
		B.Comm	=02
		MBA	=03
		MA (other)	=04
		ADED diploma	=05
		Mgmt. certifiicate	=06
		Acctg/fin certificate	=07
		CGA program	=08
		Data proc certificate	=09
		B. Comp. Science	=10
		Bus Admin certificate	=11
		Mktg certificate	=12
		Pers Mgmt certificate	=13
		PR & Advt certificate	=14
		Eng. tech certificate	=15