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FACTORS WHICH INFLUENCE EMPLOYEE PARTICIPATION IN TRAINING AND DEVELOPMENT: A STUDY OF CLERICAL STAFF AT McGILL UNIVERSITY

by

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ABSTRACT

This study examines the participation of clerical staff in training and development. It also considers the potential benefits of participation and the influence of forces in the work environment on participation. A survey of the population of 937 clerical staff at McGill University yielded a response of 460. Three-quarters of staff indicated awareness of training and development opportunities, with approximately half of these having participated in 1993/1994. Staff consider performance enhancement as by far the most likely benefit of participation. They are also inclined to agree that their supervisors are supportive of training and development, while they tend to be unsure whether they have their co-workers' support. Further, staff tend to be unsure or to disagree that situational constraints influence participation. Significant interactions between several of the variables were found. This study discusses the implications of these findings for McGill and makes recommendations for further research.

RÉSUMÉ

Cette étude examine la participation du personnel de bureau dans les programmes de formation et de perfectionnement. L'étude traite des bénéfices potentiels de la participation et l'influence des forces dans l'environnement du travail sur la participation. Sur une population de 937 employés de bureau à l'université McGill, 460 ont répondu à l'enquête. Les trois-quarts du personnel indiquaient avoir pris connaissance des opportunités de formation et de perfectionnement, et approximativement la moitié de ceux-ci y ont participé en 1993/94. Le personnel considère l'amélioration du rendement comme étant de loin la raison la plus bénéfique à la participation. Ils sont en accord que leurs superviseurs les soutiennent, quoiqu'ils aient tendance à être incertains d'avoir le support de leurs collègues. De plus, le personnel a tendance à être incertain ou en désaccord avec le fait que des contraintes situationnelles influencent la participation. Des relations significatives ont été trouvées entre plusieurs variables. Cette étude discute des implications des résultats pour McGill et fait des recommendations pour des recherches éventuelles.

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1.0 INTRODUCTION, RATIONALE AND SIGNIFICANCE OF THE STUDY

1.1 Introduction

Human resource development has become increasingly important over the past several years as Canadian organizations recognize "human capital" as their primary source of innovation, quality and production (McIntyre, 1992). The value placed on "human capital" is evidenced by special efforts being exerted (by both private and public organizations) to ensure that employee knowledge, skills and abilities are enhanced by means of effective training and development. Effective training and development increase "the learning capacity of individuals . . . through the development of learning-based interventions for the purpose of optimizing human and organizational growth and effectiveness" (Chalofsky, 1992, p. 177). Effective training and development are an investment in employees that result in better performance and higher levels of productivity.

The importance of workplace education is delineated in *A 21st Century Vision: A Worldwide Human Resource Study* where Canadian human resource executives, consultants and academics rate continuous training and development among their top choices for necessary human resource action (Towers Perrin, 1991). The importance is also confirmed in McIntyre's (1992) survey of Canadian organizations which reports that companies have significantly increased their training budgets since the beginning of the 1990's. Survey results indicate an average per-capita training expenditure of $659. This suggests that individuals and organizations are increasingly turning to training and development to address both individual job performance and organizational strategy (Goldstein, 1986).

Participation in training and development is essential for individuals in all occupations. Employees must remain abreast of new developments or risk becoming obsolete (Dubin, 1990). Obsolescence is the discrepancy between an employee's knowledge, skill and ability and that employee's "capability to perform the required tasks at hand as well as those planned for the future" (Dubin, 1990, p. 10). Obsolescent employees are costly liabilities to their organizations. Those who become obsolete jeopardize their own progress and diminish the ability of an organization to achieve its goals (Fossum, Arvey, Paradise & Robbins, 1986; Wexley & Latham, 1981).

1.1.1 *The Changing Role of Training and Development*

The 1990's are witnessing an increased emphasis on learning and education in organizations (S. L. Cohen, 1991; McIntyre, 1992). Many organizations have begun to adopt a "continuing-learning" philosophy (Rosow & Zager, 1988) and lifelong learning is now considered a requirement for individuals who want to remain productive in their jobs and careers (Dubin, 1990). Dixon (1992) stresses that learning is the "critical competency of the 1990's" and cites Perleman (1984) as stating that "by the beginning of the next century, three-quarters of the jobs in the U.S. economy will involve creating and processing knowledge" (p. 29). Dubin (1990) emphasizes this point by asserting that "new knowledge" has increased the necessity of greater expertise on the part of all employees in organizations. New ideas, theories and philosophies are constantly being introduced. Technological advances, particularly in the field of computers, have dramatically altered the knowledge and skill requirements in all professions.

Many challenges face employees at all levels and in all organizations. The 1990's workplace environment requires employees to be more creative, more independent and more industrious; it has become critical for employees to adapt and improve their knowledge and skills. In response to the changing work environment, training and development departments are fulfilling increasingly vital and meaningful roles. They are required to improve employee knowledge, attitudes and skills in a manner that maximizes employee potential. They are obliged to furnish employees with opportunities to develop competencies and expand their knowledge base. They are relied upon to ensure that program offerings are relevant and purposeful. Training and development departments have the considerable responsibility of encouraging and facilitating continuous learning.

1.2 Rationale

Employee participation in training and development is essential if organizations are to survive and prosper in a rapidly changing environment. Research has shown that the development and maintenance of knowledge and skill is directly related to the accomplishment of both individual and organizational goals. Moreover, while research continues to document the importance of workplace and lifelong learning, little attention has been given to discovering what individual and/or contextual factors affect employee attitudes toward as well as rate of participation in training and development (Baldwin & Karl, 1987; Baldwin & Magjuka, 1991; D. J. Cohen, 1990a, 1990b; Ford & Noe, 1987; Hicks & Klimoski, 1987; Martocchio, 1993; Noe & Schmitt, 1986; Noe & Wilk, 1993).

Research in the area of training and development has focused primarily on issues related to assessing program needs, designing and delivering appropriate program content, and determining how programs should be evaluated (Chalofsky & Reinhart, 1988; Goldstein, 1986; Hicks & Klimoski, 1987; McIntyre, 1992; Noe, 1986). While these areas deserve attention, many researchers identify a need for investigations into the various factors which influence employee participation. For instance, Hicks and Klimoski (1987) and Noe and Schmitt (1986) assert a need for research to investigate employee attitudes and expectations and suggest that research examine factors that influence whether employees take part in training. Noe and Wilk (1993) recommend that an examination of the "antecedents" of participation in training and development activities be undertaken and Baldwin and Magjuka (1991) and D. J. Cohen (1990a) stress that research should examine the effect of pre-training variables on employee attitudes toward participation.

The importance of examining the influence of both individual as well as contextual factors on employee attitudes is described in the literature. Ford and Noe (1987) and Noe and Wilk (1993) argue that research should explore a "wider range" of individual level characteristics. Meanwhile, Baldwin and Magjuka (1991), D. J. Cohen (1990a) and Wexley and Latham (1981) assert that research should carefully study the contextual factors that surround employee participation in training and development. They stress that training and development cannot be examined independently of the organizational context because the manner in which an employee regards a situation provides meaning and may influence subsequent behaviour.

1.3 Statement of the Problem

The purpose of this study is to investigate the influence of various individual and contextual factors on employee attitudes toward as well as rate of participation in training and development. This study (1) examines clerical staff participation in training and development activities offered through McGill University's Department of Human Resources and McGill University's Computing Centre, (2) explores clerical staff perceptions of the potential benefits of participation and (3) uncovers clerical staff perceptions of the influence of forces in the work environment on participation.

The framework of the study is as follows:

I. INDIVIDUAL FACTORS

- Background characteristics

  Personal characteristics
  - Sex
  - Age
  - Educational background
  - Self-efficacy

  Organizational membership characteristics
  - Job classification
  - Faculty/Department
  - Job tenure

- Perceived Benefits of Participation

II. CONTEXTUAL FACTORS

- Work environment characteristics

  Social support

  Situational constraints

III. PARTICIPATION

- Frequency of participation
- Type of participation (Department of Human Resources activities and/or Computing Centre activities)

For the purpose of this study, "clerical staff" refers to staff members employed within the McGill University's "C" classification range. A more detailed description of these staff members is provided in Chapter Three — Methodology.

1.4 Training and Development Opportunities at McGill University

Clerical staff at McGill University have the opportunity to participate in training and development activities offered through the Department of Human Resources and the Computing Centre. The next sections provide some background information on these two departments and include a discussion of program offerings, publicity, cost and location.

1.4.1 *Department of Human Resources Staff Development Programs*

The training and development division within the Department of Human Resources is guided by a mission which states that the "staff development section of Human Resources supports and provides quality training and development programs to administrative and support staff so that staff members may reach their full potential and the University may more effectively and efficiently fulfil its research and teaching goals" (Department of Human Resources, 1992, p. 1). Further, the Department purports that "as a learning institution, McGill encourages staff to improve and update their skills and knowledge in order to make McGill a better place to study and work" (Department of Human Resources, 1994, p. 2).

Program Offerings

The Department of Human Resources strives to fulfil the needs and/or attract the interest of staff with its training and development offerings. In order to accomplish this task, training and development activities are expanded and modified each year so the most up-to-date and innovative programs are available. The Department of Human Resources offers a wide range of training and development activities to all employees within the McGill environment. Several of these activities target staff members employed in clerical positions.

The Department of Human Resources offers training and development activities over both the noon-hour and during regular working hours (in half-day or full-day formats). Noon hour activities include Lifestyle and Wellness sessions, Film Series and specific informational sessions. Lifestyle and Wellness sessions are based on the notion that "a healthy lifestyle and physical well-being are important aspects of job satisfaction" and they "deal with attaining and maintaining physical and mental health, as well as with family and lifestyle matters" (Department of Human Resources, 1994, p. 6). The Film Series offers video presentations and discussions on work related topics ranging from how to manage pressure at work to how to utilize voice mail, and lastly, the informational sessions delve into such topics as financial planning, pension plans and benefits.

The training and development activities that take place during regular working hours include workshops geared toward such topics as customer service and time management; seminars about accounts, budget, payroll and records management; and

sessions about retirement planning and like topics. Further, the Department of Human Resources, in conjunction with the McGill Centre for the Study and Teaching of Writing, offers reading and writing workshops. It must be acknowledged, as well, that certain of the above-mentioned activities are available on request for small groups or individual departments.

Publicity

The Department of Human Resources utilizes several mediums to publicize its training and development offerings. The primary vehicle, a program handbook, details and describes all program offerings and is distributed twice a year to all deans, chairs and directors at McGill. In addition to the handbook, the Department promotes its activities in the *McGill Reporter* newspaper, on infoMcGill (McGill's Campus-Wide Electronic Information System), on infoMcGill posters hung at various locations around McGill and on other electronic mail systems.

Cost and Location

The training and development activities offered through the Department of Human Resources vary from no charge to nominal fees of 25 dollars and 35 dollars for half-day and full-day programs, respectively. These fees are generally covered by the employee's department, however, in certain cases the employee assumes the cost.

The bulk of training and development activities are held at the main downtown McGill campus, while some are offered at the Macdonald campus.

1.4.2 *Computing Centre Education Program*

The Computing Centre responds to the technological needs of the McGill community by providing a vast selection of "basic to advanced level seminars on computing and communication concepts and on selected topics" (Computing Centre, 1994a, p. 1). These seminars give clerical staff the opportunity to learn new skills and to upgrade their computing proficiency.

Program Offerings

Computing Centre seminars encompass such areas as Basic Level seminars; Applications seminars (for example, spreadsheets, wordprocessing, databases and statistical software seminars); Networking and Communications seminars (for example, e-mail seminars); and Operating Systems and Editors seminars. These seminars vary "in length from several hours to multiple half days" (Computing Centre, 1994b, p. 1) and take place during regular working hours. Each week the Computing Centre offers approximately three to ten scheduled seminars. The Centre also, in certain cases, may add additional sessions for courses that are in high demand or may hold requested private departmental seminars.

Publicity

The Computing Centre disseminates information about its educational seminars in several ways. First, the Centre distributes a detailed program publication to all deans, chairs and directors at McGill as well as to various building locations around the McGill campuses. Second, the Centre posts the program publication and various

newsletters and updates on info 'cGill. Third and lastly, the Centre publishes announcements about seminars in the *McGill Reporter* newspaper and in the Department of Human Resources programming booklet.

Cost and Location

Computing Centre seminar fees range from no charge through 295 dollars, with the multiple day sessions falling in the higher range. The majority of sessions fall in the no charge to 40 dollar range. The fee charges for clerical staff who participate in Computing Centre seminars are usually paid by the individual staff member's department, however, in certain cases the staff member incurs the cost.

Computing Centre seminars are presented in designated Computing Centre educational facilities located in Burnside Hall at McGill's main downtown campus. Seminars are held off-site when necessary.

1.5 Significance of the Study

This study is significant (1) to the Department of Human Resources and the Computing Centre at McGill University and (2) in terms of its contribution to prior research.

1.5.1 *Significance for the Department of Human Resources and the Computing Centre*

This study is significant in that it is the first study of its kind to be conducted at McGill. To date, no study has undertaken a systematic, rigorous assessment of staff attitudes toward or rate of participation in training and development. This study is

also important because it facilitates a deeper understanding of one major segment of the Department of Human Resources and the Computing Centre's client base — namely, clerical staff — and because it may serve to guide future action. First, the study indicates whether approaches to stimulating employee awareness and involvement in training and development should be modified. It determines which groups, if any, need to be targeted. Second, this study reveals to what extent staff associate certain benefits with participation in training and development and implies whether strategies should be developed to enhance employee motivation. Third, this study gives insight into the effects of contextual factors on training and development participation; that is, employee perceptions of social support and situational constraints. The analysis of contextual factors is significant, for instance, as it may indicate whether initiatives should be taken to ensure that supervisors and co-workers are supportive of training and development. The analysis may also imply whether certain working conditions make it difficult for employees to participate.

1.5.2 *Research Significance*

This study attempts to contribute to the foundation of prior research by exploring a wider range of both individual and contextual level factors than have been included in previous research (Baldwin, Magjuka & Loher, 1991; D. J. Cohen, 1990a, 1990b; Hicks & Klimoski, 1987; Martocchio, 1993; Noe & Schmitt, 1986). It also contributes by examining an employee population that has rarely been included in prior research (Noe & Wilk, 1993; Martocchio, 1993), namely clerical staff. Previous research on employee attitudes as well as other related topics have mainly examined

such groups as managers (Bray & Howard, 1983; Ford & Noe, 1987; Hicks & Klimoski, 1987; Noe & Wilk, 1993); technical workers (Dubin, 1990; Farr & Middlebrooks, 1990; Kuo, 1990; Noe & Wilk, 1993); supervisors (D. J. Cohen, 1990b; Hicks & Klimoski, 1987); educators (Beneteau, 1983; Levesley-Evans, 1989; Noe & Schmitt, 1986); health professionals (Blais, Duquette & Painchaud, 1989); military service people (Ryman & Biersner, 1975; Tannenbaum, Mathieu, Salas & Cannon-Bowers, 1991); and engineers (Dubin, 1990; Kozlowski & Farr, 1988).

2.0 REVIEW OF THE LITERATURE

2.1 Introduction

An in-depth examination of the theoretical and empirical literature in the fields of human resource development, personnel psychology and adult education reveals that employee participation in training and development (T & D) is influenced by two principal factors: (1) individual factors and (2) contextual factors. While the inherent significance of these principal factors must be acknowledged — they form the underlying conceptual foundation of this review — a careful and rigorous analysis of the literature has yielded a more precise and explicit framework. In this framework, the key aspects of the two principal factors are further delineated. Individual factors are characterized as including background characteristics and perceived benefits of participation while contextual factors are identified as encompassing work environment factors, including social support and situational constraints.

The review of the literature is modelled upon the aforementioned framework. While this framework facilitates a logical progression of ideas, there is some overlap among various sections. This overlap is inevitable and indicative of the interactions among the factors.

2.2 Individual Factors

Researchers continue to investigate the influence of individual-level factors on employee attitudes toward T & D. These investigations incorporate a myriad of different factors, are grounded in varied assumptions and are conducted by means of

diverse approaches and methodologies. Moreover, while many differences exist among the various studies, certain underlying themes and concerns can be identified. For the purpose of this review, therefore, individual factors are incorporated under two main headings: (1) background characteristics and (2) perceived benefits of participation.

2.2.1 *Background Characteristics*

The literature suggests that individual background characteristics influence employee attitudes toward participation in T & D. This section explores those aspects of the research which examine personal and organizational membership characteristics. It discusses the personal characteristics of sex, age and self-efficacy and the organizational membership characteristic of job tenure.

Sex

Participation in T & D varies in terms of sex, according to Blais et al. (1989), Collis (1985) and Houle (1980). Houle (1980) explains that even though all employees should update their skills and abilities throughout their careers, women's rate of participation in T & D is much lower than their male counterparts. Blais et al. (1989) assert that women are less likely to partake in T & D because of "sex-role socialization" where men as a group are presumed to demonstrate higher levels of job involvement. This assertion coincides with Collis' (1985) study which reports that stereotypes affect women's decisions to participate in T & D, specifically in microcomputer training. Collis' (1985) study suggests that many women are

socialized to view themselves as more apprehensive of technology than men. Please note that Collis' (1985) study must be regarded within the time-frame in which it was written. Technologies, such as microcomputers, were less common a decade ago.

Age

Researchers point out that individuals have differing attitudes toward participation in T & D as a function of age (Fossum et al., 1986; Martocchio, 1993; Willis & Tosti-Vasey, 1990). For instance, some researchers argue that older workers are less likely to engage in T & D because they perceive T & D as yielding less resulting payoff than their younger counterparts (Fossum et al., 1986; Martocchio, 1993). These researchers suggest that older employees perceive a weaker relationship between skill and knowledge development and obtaining rewards. Researchers also argue that older employees have less positive attitudes because they often feel that acquiring new knowledge and skill by means of T & D is too difficult and/or demanding (Fossum et al., 1986; Martocchio, 1993). According to Elias, Elias and Robbins (1987) and Erber and Botwinick (1983), one reason for this attitude is that older workers are less well equipped to acquire new skills, such as those required for performing microcomputer word processing tasks, than younger employees. They and others researchers found that older employees perform less well on tests of training program mastery than younger employees (Gist, Rosen & Schwoerer, 1988).

The argument that older workers are less able to acquire new knowledge and skill is countered by several researchers (Bray & Howard, 1983; Cascio, 1986; Rhodes, 1983; Schaie, 1983). These researchers argue that there is little evidence for

the widespread belief that ability declines with age. In a twenty-one year study, for example, Bray and Howard (1983) discovered no normative decline in ability from the early to midcareer phase. Further, in another longitudinal study, Schaie (1983) reported no reliable decline in ability until employees reach retirement age.

Self-efficacy

According to Bandura (1982), self-efficacy refers to an individual's belief in his/her ability to cope with challenging situations. It also refers to an individual's willingness to experiment. Bandura (1982) and Noe and Wilk (1993) agree that employees with high self-efficacy are more likely to be responsible for maintaining high levels of competence by engaging in T & D activities than individuals with low self-efficacy. Moreover, employees with high self-efficacy are more inclined to have positive attitudes toward learning, to be cognizant of their T & D needs and to believe that T & D will result in benefits and rewards. On the other hand, employees with low self-efficacy, that is, those who are low risk takers and those who are not open to new ideas, are less likely to have positive attitudes toward participation in T & D.

Job Tenure

Kuo (1990) and Noe and Wilk (1993) concur that the number of years an individual has held a particular job will have an impact on participation in T & D. They found that the longer an employee works in a particular position the less likely he/she is to engage in T & D.

2.2.2 *Perceived Benefits of Participation*

Research has shown that employee perceptions of the potential benefits of participation in T & D affect subsequent attitudes toward as well as rate of participation in T & D (Coffman, 1986; Ford & Noe, 1987; Goldstein, 1986; Knowles, 1984; Luckett, 1985). Several studies have illustrated this by demonstrating that employees are more positive toward attending T & D activities when they regard the activity as relevant or when they trust that participating will be a valuable experience (D. J. Cohen, 1990a; Hicks & Klimoski, 1987; Keller, 1987; Taylor, 1992). The value or benefit of partaking in T & D can be examined in terms of motivational theory. The next sections, therefore, discuss the expectancy theory of motivation and examine the influence of intrinsic and extrinsic benefits.

Expectancy Theory of Motivation

Several researchers in the field of human resource development have examined employee motivation toward T & D in terms of expectancy theory. According to expectancy theory, increasing an employee's belief in the potential valued outcomes or benefits of T & D will increase the likelihood of positive attitudes toward participation (Dubin, 1990; Farr & Middlebrooks, 1990; Howard, 1989; Vroom, 1964). The suggestion is that an employee must believe that participation will lead to more desired rewards than lack of participation. That is, unless an employee views attendance as leading to valued outcomes, T & D may simply be regarded as a waste of time (Wexley & Latham, 1981). Consequently, if no rewards are perceived, there

will be little or no motivation to participate (Baldwin and Magjuka, 1991; Fossum et al., 1986; Martocchio, 1993).

Expectancy theory suggests that individuals make reasoned choices based on expected payoffs. Application of this theory utilizes three categories of information: expectancy beliefs, instrumentality beliefs and valence of the outcome. Expectancy is the belief that expending effort will lead to the attainment of some level of performance or outcome. It refers, for example, to the degree to which employees believe that participating in T & D will lead to having the latest skills or knowledge in some area. Instrumentality is the belief that attaining some outcome will effect rewards. It refers, for example, to the belief that increased knowledge will lead to a salary increase or a promotion. Finally, outcome valence is the value an individual places on specific outcomes or rewards (Baldwin & Karl, 1987; D. J. Cohen, 1990a; Farr & Middlebrooks, 1990; Howard, 1989; Noe, 1986; Vroom, 1964).

Expectancy theory is based on the premise that individual motivation is a subjective process in which ability, past experience, self-efficacy and attractiveness of the various outcomes are significant components (Farr & Middlebrooks, 1990). Accordingly, this theory suggests that motivation is influenced by whether an individual believes that increased or better performance will lead to certain accomplishments. This is referred to as effort-to-performance and is affected by individual ability, self-efficacy and past experiences. Effort-to-performance includes, for example, the belief that a greater amount of time devoted to T & D will facilitate a higher level of job performance. Expectancy theory also suggests that motivation is

affected by the perception that a certain level of performance will yield desired outcomes. This is referred to as performance-to-outcome and is affected by past experience and attractiveness of the outcome. Performance-to-outcome beliefs, for example, encompass such concerns as whether increased performance (resulting from T & D participation) will result in a wage increase or recognition from one's peers or supervisor(s) (D. J. Cohen, 1990a; Howard, 1989; Noe, 1986; Vroom, 1964).

Influence of Extrinsic and Intrinsic Benefits

It has been demonstrated that motivation to participate in T & D is influenced by whether an employee believes he/she can benefit from participating. These benefits may take the form of extrinsic or intrinsic rewards. Extrinsic rewards include salary increases, job promotions or special perks (Cropley, 1989; Dubin, 1990; Keller, 1987; Noe & Schmitt, 1986; Noe & Wilk, 1993; Wexley & Latham, 1981) while intrinsic rewards include increases in self-esteem, recognition from superiors and peers, or simply the satisfaction of obtaining new knowledge (Dubin, 1990; Farr & Middlebrooks, 1990; Keller, 1987; Noe & Wilk, 1993). Intrinsic benefits also include various career developments such as greater job responsibility or "psychosocial development" (Nordhaug, 1989).

Howard (1989) and Noe and Wilk (1993) contend that the number of benefits an employee feels he/she can obtain as a result of participation will influence his/her attendance frequency. Moreover, D. J. Cohen (1990a) and Keller (1987) report that the more appealing the benefit the greater the subsequent motivation. Noe and Wilk (1993) found, for instance, that employees who believe that participation in

T & D activities would result in career benefits reported plans to participate in a greater number of T & D activities than employees with less positive perceptions of possible benefits.

Employees are motivated to learn when the knowledge or skill to be attained will help them achieve their goals (Keller, 1987). Martocchio (1993), Noe (1986), Noe and Schmitt (1986) found that employees who believe that T & D will enhance their job performance or will provide them with marketable skills will have more positive attitudes toward attendance. These results indicate that employees who are highly committed to their jobs are strongly motivated toward T & D (Howard, 1989; Noe, 1986; Noe & Schmitt, 1986). These results also suggest that employees who value their job and their performance probably engage in self-assessments of their strengths and weaknesses which lead them to seek out appropriate T & D opportunities (Noe, 1986).

2.3 Contextual Factors

Researchers emphasize that contextual factors must be recognized due to their significant influence on employee perceptions of the maintenance and enrichment of work-related behaviour and performance (Blais et al., 1989; Farr & Middlebrooks, 1990). This section of the review, therefore, surveys the influence of the work environment factors of social support and situational constraints.

2.3.1 *Social Support*

Social support refers to the extent to which supervisors and co-workers provide encouragement and feedback, show concern and give respect to their employees or colleagues, respectively (D. J. Cohen, 1990a; Noe & Schmitt, 1986). Researchers have found that employee perceptions of social support pose a significant influence on employee attitudes toward participation and exertion of effort in T & D (D. J. Cohen, 1990a; Kozlowski & Farr, 1988; Noe, 1986; Noe & Schmitt, 1986; Noe & Wilk, 1993). This research proposes several conditions which lead employees to develop positive attitudes toward attending T & D. It suggests that positive attitudes may ensue if employees feel that they are receiving encouragement to improve and develop their skills (Noe & Schmitt, 1986); if employees feel that attending will lead to acceptance and/or respect (D. J. Cohen, 1990a); and/or if employees believe that they are receiving accurate information regarding the possible benefits of participating (Kozlowski & Hults, 1987; Leibowitz, Farren and Kaye, 1986; Noe and Wilk, 1993).

Supervisor Support

Employee perceptions of supervisor support or non-support are significant determinants of attitudes toward participation (Kozlowski & Hults, 1987). Supervisor non-support, for instance, has been found to have a negative influence on employee attitudes toward participation (Galagan, 1986; Lynton & Pareek, 1990; Michalak, 1981; Nathan & Stanleigh, 1991). According to D. J. Cohen (1990a), these perceptions of non-support often transpire when, for example, a supervisor verbally supports T & D attendance but does not lighten an employee's work load during the

T & D time period or when a supervisor makes an employee feel guilty about taking time away from work to attend T & D.

While research has shown that supervisor non-support negatively affects employee attitudes, it also demonstrates that supervisor support will positively affect employee attitudes toward participation in T & D (D. J. Cohen, 1990b; London, 1989). Supervisor support can be exhibited in several ways. A supervisor can provide support by encouraging subordinates to acquire new knowledge and skills or by giving recognition, credit or incentives when subordinates do participate (Dubin, 1990). A supervisor can proffer support by helping his/her subordinates set goals for T & D or by expressing confidence in a subordinate's competence (D. J. Cohen, 1990a; London, 1989). A supervisor can express support by making employees aware that it is acceptable to admit uncertainty or by explaining that learning and personal growth are valued (Farr & Middlebrooks, 1990). Finally, a supervisor can demonstrate support by encouraging employees to "bring back" ideas (D. J. Cohen, 1990a; Michalak, 1981) and to transfer new knowledge and skills acquired in T & D to the job (Algranti, 1988; Noe & Schmitt, 1986).

Co-worker Support

Co-worker or peer support has been found to have a positive influence on employee attitudes toward participation in T & D, with research in this area offering two interesting findings. The first finding suggests that recommendations from co-workers regarding particular T & D activities positively influence employee attitudes toward partaking in T & D (D. J. Cohen, 1990a). The second finding indicates that

competition between co-workers will positively affect employee perceptions of T & D attendance. It suggests that communication among co-workers may lead to a competitive environment in which employees seek out T & D opportunities that will enable them to maintain their competitive "edge" (Dubin, 1990).

2.3.2 *Situational Constraints*

Employee perceptions regarding situational constraints, such as time, financial or attendance constraints, have an impact on employee attitudes toward learning and toward participation in T & D (Kozlowski & Farr, 1988; Noe & Schmitt, 1986; Noe & Wilk, 1993). Noe and Wilk (1993) found that employees who perceived their work environment to be characterized by situational constraints planned to participate in fewer T & D activities than those who did not perceive such constraints.

Time constraints are among the most significant factors affecting employee participation in T & D (Farr & Middlebrooks, 1990). Research has found that since T & D competes with so many other activities for the time and energy of employees (Dubin, 1990), many employees feel they cannot attend because they must devote all of their energy to completing job tasks and assignments. Such employees have been found to have developed sceptical attitudes toward learning and to view T & D as an added burden (Dubin, 1990; Farr & Middlebrooks, 1990; Noe & Schmitt, 1986).

In addition to time factors, financial constraints affect employee attitudes towards engaging in T & D. With regards to finances, Martocchio (1993) found that employees are more likely to participate when they do not have to pay a course fee.

He found that employees believe it is the organization's responsibility to expend the cost of training, even if the program will increase an employee's job marketability.

Attendance factors also have an influence on employee attitudes. Research in this area has found that employees are more likely to respond favourably to T & D when they are not required or forced to attend (D. J. Cohen, 1990a; Knowles, 1984; Taylor, 1992). This suggests that if employees have been forced to participate they may lack necessary motivation and commitment. However, interestingly and contrary to this widely accepted notion that attitudes toward T & D participation are more positive if attendance is voluntary, Baldwin and Magjuka (1991) found that employee motivation to participate and learn in T & D is greater if employees perceive the program as mandatory. They question whether by labelling T & D as voluntary, organizations are inadvertently communicating that the programs are unimportant.

2.4 Summary of the Review

This review has surveyed the literature pertaining to employee attitudes toward T & D in general and toward T & D participation in particular. The review began with a discussion of individual factors and included an investigation of background characteristics and perceived benefits of participation. It then moved to an examination of contextual factors and explored the work environment factors of social support and situational constraints.

A summary of the literature is presented in Table 2.1.

Table 2.1

Summary of Literature Reviewed

TOPIC	SELECTED FINDINGS	AUTHOR, DATE
I. *INDIVIDUAL FACTORS*		
A. Background Characteristics		
* Sex	Women participate less than men.	Blais et al., 1989 Houle, 1980
	Sex role socialization influences women's rate of participation.	Blais et al., 1989 Collis, 1985
* Age	Older workers participate less because of less resulting payoff.	Fossum et al., 1986 Martocchio, 1993
	Older workers find acquiring new skills too difficult/demanding.	Elias et al., 1987 Erber & Botwinick, 1983 Fossum et al., 1986 Martocchio, 1993
	Older workers do less well on tests of training program mastery than younger workers.	Elias et al., 1987 Erber & Botwinick, 1983 Gist et al., 1988
	There is little evidence for the widespread belief that ability declines with age.	Bray & Howard, 1983 Cascio, 1986 Rhodes, 1983 Schaie, 1983
	A decline in employee ability is not observed until retirement age.	Schaie, 1983
* Self-efficacy	Employees with high self-efficacy will participate more than employees with low self-efficacy.	Bandura, 1982 Noe & Wilk, 1993
* Job Tenure	Frequency of participation decreases with number of years in job.	Kuo, 1990 Noe & Wilk, 1993

Table 2.1 Cont'd

TOPIC	SELECTED FINDINGS	AUTHOR, DATE
B. Perceived Benefits of Participation	Employee perceptions of potential benefits of participation in T & D influence attitudes toward and rate of participation in T & D.	Coffman, 1986 Ford & Noe, 1987 Goldstein, 1986 Knowles, 1984 Luckett, 1985
	Employees are more positive toward T & D programs that they trust will be valuable and beneficial.	D. J. Cohen, 1990a Hicks & Klimoski, 1987 Keller, 1987 Taylor 1992
* Expectancy Theory of Motivation	Employees must believe that participation will lead to more desired rewards than lack of participation.	Dubin, 1990 Farr & Middlebrooks, 1990 Howard, 1989 Vroom, 1964
	If no rewards are perceived, there will be little or no motivation to participate.	Baldwin & Magjuka, 1991 Fossum et al., 1986 Martocchio, 1993
* Influence of Extrinsic and Intrinsic Benefits	The number of benefits perceived as resulting from participation will influence attendance frequency.	Howard, 1987 Noe & Wilk, 1993
	More appealing benefits increase motivation to participate.	D. J. Cohen, 1990a Keller, 1987
	Employees who perceive career benefits plan to participate in more T & D than employees who do not perceive such benefits.	Noe & Wilk, 1993
	Employees who believe T & D will enhance job performance or will provide them with marketable skills have more positive attitudes toward participation.	Martocchio, 1993 Noe, 1986 Noe & Schmitt, 1986

Table 2.1 Cont'd

TOPIC	SELECTED FINDINGS	AUTHOR, DATE
II. *CONTEXTUAL FACTORS*		
A. Social Support	Perceptions of social support influence employee attitudes toward participation.	D. J. Cohen, 1990a Kozlowski & Farr, 1988 Noe, 1986 Noe & Schmitt, 1986 Noe & Wilk, 1993
	Receiving encouragement to improve or develop skills leads to positive attitudes toward participation.	Noe & Schmitt, 1986
	Positive attitudes result from the belief that attendance will lead to acceptance and respect.	D. J. Cohen, 1990a
	Perceptions of information regarding T & D benefits affect attitudes toward participation.	Kozlowski & Hults, 1987 Leibowitz et al., 1986 Noe & Wilk, 1993
* Supervisor Support	Supervisor non-support has a negative influence on employee attitudes toward participation.	D. J. Cohen, 1990a Galagan, 1986 Lynton & Pareek, 1990 Michalak, 1981 Nathan & Stanleigh, 1991
	Supervisor support positively affects employee attitudes toward participation.	D. J. Cohen, 1990b London, 1989
	Supervisor support may take the form of recognition, credit or incentives to those that do participate.	Dubin, 1990
	A supervisor can demonstrate support by helping subordinates set goals for T & D.	D. J. Cohen, 1990a London, 1989
	A supervisor can show support by explaining the value of learning and personal growth.	Farr & Middlebrooks, 1990
	A supervisor can demonstrate support by encouraging the transfer of knowledge gained in T & D to the job.	Algranti, 1988 D. J. Cohen, 1990a Michalak, 1981 Noe & Schmitt, 1986

Table 2.1 Cont'd

TOPIC	SELECTED FINDINGS	AUTHOR, DATE
* Co-worker Support	Recommendations from co-workers regarding T & D affect attitudes toward participation.	D. J. Cohen, 1990a
	Competition between co-workers influence employee perceptions of T & D.	Dubin, 1990
B. Situational Constraints	Perceived situational constraints decrease likelihood of participation.	Noe & Wilk, 1993
	Time constraints lead employees to view partaking in T & D as a burden.	Dubin, 1990 Farr & Middlebrooks, 1990 Noe & Schmitt, 1986
	Employees have more positive attitudes toward engaging in T & D when they do not have to pay a fee.	Mariocchio, 1993
	Employees will have more positive attitudes toward T & D if attendance is voluntary.	D. J. Cohen, 1990a Knowles, 1984 Taylor, 1992
	Employee motivation to participate is greater if employees perceive T & D as mandatory.	Baldwin & Magjuka, 1991

2.5 Research Questions

The study investigates the following:

1.0 What are the background characteristics of clerical staff at McGill?

- 1.1 What are the personal characteristics of staff (sex, age, educational background, self-efficacy)?
- 1.2 What are the organizational membership characteristics of staff (job classification, faculty/department, job tenure)?

2.0 What is the pattern of clerical staff participation in T & D activities offered through the Department of Human Resources and through the Computing Centre?

- 2.1 To what extent are staff aware of T & D opportunities?
- 2.2 To what extent do staff participate in T & D activities?
- 2.3 To what extent does rate of participation differ in terms of the background characteristics of staff?
- 2.4 How do staff rank potential reasons for participating in T & D activities?
- 2.5 How do staff rank types of T & D activities in terms of their perceived importance?

3.0 What are clerical staff perceptions of the potential benefits of participation in T & D?

- 3.1 To what extent do these perceptions differ in terms of staff background characteristics?
- 3.2 To what extent are these perceptions related to actual rates of participation?

4.0 What are clerical staff perceptions of the influence of forces in the work environment on participation in T & D?

- 4.1 To what extent do these perceptions differ in terms staff background characteristics?
- 4.2 To what extent are these perceptions related to actual rates of participation?

3.0 METHODOLOGY

3.1 Introduction

An investigation of employee attitudes toward as well as rate of participation in T & D can be accomplished by means of diverse approaches, varying assumptions and differing practices and procedures. While I determined that a questionnaire survey method would be most appropriate for this particular study, several possible alternatives were first considered. For instance, I contemplated collecting data by means of a cross-sectional design in which only participants or only non-participants would be studied. While this type of cross-sectional design may have facilitated an in-depth understanding of one segment of the population, I concluded that more comprehensive data would be obtained by means of a study that included both participants and non-participants. I also explored collecting data primarily by means of qualitative interviews. These interviews would have enabled me to acquire a great deal of detailed and meaningful information (as they did during the process of questionnaire construction), but by the same token, this information would not have had the potential for generalizability to the entire population. Since acquiring a general understanding of clerical staff attitudes toward and participation in T & D was the primary concern of this study, I determined that a questionnaire survey method was most suitable.

This study, the first of its kind to be conducted at McGill, undertook a large scale inquiry which involved surveying the entire population of clerical staff members at McGill. A survey of the entire population was conducted for several reasons. First,

it ensured that all clerical staff members would have the opportunity to participate — a potentially important consideration in a collegial environment such as is found at McGill. Second, since the size of the population was manageable, sampling was deemed unnecessary. Third, since certain segments of the population (for example, males) were a very small minority, a simple random sample of the population would not have sufficed. Rather than employ special sampling strategies to compensate for these "minority groups," a survey of the population was determined to be most suitable. Fourth, surveying the entire population was regarded as an effective way to ensure a high number of responses.

This chapter outlines the methodology of the study. It includes a description of the subjects, the procedure and the constraints and limitations associated with the study.

3.2 Subjects

The entire population of 937 clerical staff members ("C" level employees) employed on a permanent basis at McGill were included as potential research subjects. Staff members employed on a casual basis in clerical positions were not included.

The "C" classification is comprised of ten levels ranging from "C1" to "C10." Associated with these classifications are requisite levels of education and years of work experience — with the requirements becoming more demanding with higher classification levels. For example, an employee at the "C3" level is required to have a

high school education and one year of work experience while employees at the "C10" level should have DEC III (Diplôme D'Études Collégiales) in Business Administration and four years of work experience. In addition to the varying qualifications for each classification level, each level encompasses several different job positions. For instance, a "C8" level employee may hold the position of an administrative secretary, an accounting clerk, an administrative coordinator or yet another position.

It is important to acknowledge that the classification system of staff members is in one sense hierarchial and it is not easy to link responsibilities one-to-one with job classification. Shaughnessy (1991) illustrates this point by stating that upper-level "C" positions often include responsibilities and job tasks similar if not identical to employees in lower level managerial ("M") positions, however, these are not recognized by the current classification or salary scale. Shaughnessy (1991) also reports that clerical staff members are quite cynical about the classification levels because the levels do not accurately reflect actual duties and responsibilities.

3.3 Procedure

The next sections outline the procedure by which the study progressed. It reports on such procedural elements as (1) access to the research setting; (2) sources of data; (3) the instrument; (4) data collection; and (5) data analysis.

3.3.1 *Access to the Research Setting*

Permission to conduct this study and access to the research setting was solicited from the Department of Human Resources at McGill. The process of acquiring approval involved several steps. First, I engaged in several communications with a contact person (to whom I was referred by my supervisor) who helped determine the best strategy for introducing the study to appropriate officials in the Department. Second, I delivered several copies of an introductory letter, a "mini" proposal and a list of sample questionnaire items to the contact person at the Department for distribution. Third, my research supervisor made several telephone calls and sent a memorandum endorsing the research study and pointing out its usefulness to the Department of Human Resources and to the McGill community. Fourth, I delivered several full-length copies of a research proposal to the Department for distribution. As a result of the above steps a meeting was arranged. This meeting gave me the opportunity to convince key officials at the Department of the value of this research. The meeting also led to a decision to permit its continuance and to help launch the research process.

In addition to securing permission from the Department of Human Resources, I obtained a Certificate of Ethical Acceptability from the Ethical Review Committee of the Faculty of Education of McGill University.

It is important to mention that the Department of Human Resources and the Computing Centre advanced the research process by providing all resources, financial and otherwise, necessary to facilitate the distribution of the questionnaire.

3.3.2 *Sources of Data*

This study utilized several different sources of data. The major source of data was people. While it is important to mention that many different groups of people helped expedite the research process, it must be stressed that the most fundamental and indispensable source of data were the clerical staff members themselves. Some of these staff members participated in in-depth interviews, many participated in pilot testing and a significant number completed and returned the questionnaire instrument.

In addition to acquiring data from clerical staff members, I was able to procure a great deal of information from key officials and others at the Department of Human Resources and the Computing Centre. Throughout the research process I maintained close working relations with key people at the Department of Human Resources. This relationship enabled me to acquire special insight and awareness into the study and practice of human resource development and management.

Data for this study were also obtained by means of documentation. I attained useful information from program handbooks, statistics, annual reports and other documents provided by the Department of Human Resources. I also obtained pertinent information, such as program publications and newsletters, from the Computing Centre. In addition to the above-noted documentation, I acquired informational materials and reports from my research supervisor who receives such information as the chairperson of an academic department at McGill.

3.3.3 *Instrument*

A questionnaire, specially designed for the purpose of this study, was the principal research instrument (see Appendix A). In order to develop a suitable instrument I conducted several in-depth interviews with clerical staff and with key officials at the Department of Human Resources and the Computing Centre. I also solicited several instruments and measurement scales from other researchers at various universities throughout North America. This process of data collection was followed by a careful examination of both the interview data and the scales and instruments and led to certain elements of each being combined and/or adapted to create an instrument relevant to this study's particular situation.

Once a draft questionnaire was developed, a pilot test was conducted. This pilot test entailed presenting the draft questionnaire and a list of "things to consider" to six clerical staff members. Face-to-face interviews were scheduled one day after each staff member received the draft instrument. During this interview, staff members were asked to critique and comment on the questionnaire. After the interviews, all comments and reactions were carefully considered and appropriate changes were made to the questionnaire instrument. A new draft version of the questionnaire followed and this version was examined for face validity by a university professor, by key officials at the Department of Human Resources, and by several academic colleagues. It is important to acknowledge that several draft versions of the questionnaire were prepared and refinement and reformulation was an ongoing process.

The final format of the questionnaire was carefully designed so that it would "catch" the interest of potential respondents. The questionnaire was presented in booklet form with the front page serving as a cover. This cover page included the title, the purpose and instructions for completing the questionnaire. The questionnaire was organized into five sections:

(1) The first section entitled "Perceived Benefits of Participation" asked respondents to indicate the extent of their agreement (on a five-point Likert scale ranging from strongly dis. .e to strongly agree) with 13 items relating to the potential benefits of participating in T & D activities. Examples of these items are: "Participating in training and development will help my personal development" and "Participating in training and development will give me a better idea of the career path I want to pursue." In addition to indicating the extent of their agreement with these items, staff were asked to state which items they perceive as most important, as second most important and as third most important. The items in this section were based on Nordhaug's (1989) work as well as interviews with clerical staff and others.

(2) The second section "Key Forces in the Work Environment" asked staff members to indicate the extent of their agreement (on a five-point Likert scale ranging from strongly disagree to strongly agree) with 13 items which describe how their work situation influences their attendance in T & D activities.

Examples of these items are: "My workload makes it difficult for me to participate in training and development activities" and "My supervisor enthusiastically supports my participation in training and development activities." Seven of the 13 items regarding the work environment were adapted from Noe and Wilk's (1993) instrument. The six remaining items were based on interview findings.

(3) The third section "Participation in Training and Development at McGill" asked respondents to indicate whether they are aware of T & D opportunities offered through the Department of Human Resources and through the Computing Centre and to indicate their degree of participation (on a six-point scale ranging from zero to five or more activities) in such activities this past year. This section also asked staff to rank three possible reasons for participation in Department of Human Resources offered activities and Computing Centre offered activities. These reasons were: (1) for personal enrichment/ development, (2) to develop or improve job skills and (3) for long-term career development.

(4) The fourth section "Some Additional Information" asked staff members for some additional background data. This section began with three items to assess self-efficacy borrowed from the general self-efficacy scale developed by Pond and Hay (1989). The section also asked staff to rank three types of T & D

activities (T & D for personal enrichment/development, T & D to develop or improve job skills and T & D for long-term career development) in terms of their perceived importance. Finally, this section asked for demographic information including the following: sex; level of education (please note that "Business School — DEP Certificate" refers to secretarial school); age; job classification; job title; number of years at McGill; number of years in current position; and faculty/department. It is important to mention that this study was not concerned with the job titles of employees. This question was asked because many employees are dissatisfied with the current classification system and prefer to refer to their job title. This question was suggested to this researcher as a way to diminish anxiety regarding the classification system.

(5) The fifth and final section of the questionnaire provided blank space for respondents to add any additional comments.

3.3.4 *Data Collection*

The data collection process involved preparing questionnaire packages for distribution to the clerical staff members. These packages included a cover letter, the questionnaire and an addressed return envelope. The cover letter (see Appendix B) requested participation in the study and outlined the study's purpose. It also informed

staff that anonymity and confidentiality would be scrupulously observed and provided a telephone number to call regarding any questions or concerns. In order to assure staff of the confidentiality of their responses questionnaires were deliberately not coded. Moreover, the addressed return envelope was stamped "Confidential."

The questionnaire package was sent to clerical staff by means of the internal mail system at McGill. This package was mailed on May 16, 1994 and staff were requested to respond by June 3, 1994. The package was mailed on May 16, 1994 to ensure that staff had the opportunity to reply before the holiday period began.

A follow-up letter (see Appendix C) was mailed to staff on May 25, 1994. This letter yielded 17 telephone calls by staff who requested additional questionnaire packages. Callers reported that they had either accidentally mislaid the questionnaire or that they had not received it.

Four hundred and sixty of 937 (49.1%) clerical staff members responded to the questionnaire.

3.3.5 *Data Analysis*

The questionnaire instrument sought primarily quantitative data although some qualitative information was solicited as well. Quantitative data were analyzed by means of the SYSTAT 5.03 statistical software program. Qualitative data were analyzed by means of a content analysis approach and were used primarily to reinforce quantitative findings.

It is important to point out that while the respondents totalled only 49.1% of the population, they proved to be representative of the population on several dimensions (sex, age, job classification, faculty/department). This representativeness provides reasonable grounds to generalize findings to the entire population of clerical staff at McGill. However, as certain other findings in Chapter Four — Results and Discussion — demonstrate, the McGill population differs considerably from other groups studied in the research literature. This suggests that the findings of this study cannot be generalized beyond McGill — certainly not to organizations other than universities.

The quantitative data gathered for this study were analyzed by means of frequency distributions, descriptive statistics, principal components factor analyses, crosstabulations, chi-square analyses, analyses of variance and Tukey post hoc tests of pairwise differences.

Several statistical techniques were utilized in order to facilitate as well as enhance the process of data analysis. These techniques resulted in the development of several variables, categories and frameworks. The following discussion describes the creation of a self-efficacy variable; the categorization of job classification levels and faculty/departments; the re-categorization of participation data; the development of a framework to explain staff perceptions of potential benefits of participation; and the creation of a model to characterize staff perceptions of forces in the work environment which influence participation. All new variables, categories and frameworks were used to define the analyses presented in Chapter Four.

Creation of a Self-efficacy Variable

In order to determine the presence of an underlying structure, the three questionnaire items used to measure the level of self-efficacy of clerical staff members (see Appendix D) were factor analyzed, by means of the principal components analysis. The analysis generated a one factor solution with all items yielding component loadings greater than 0.72 (see Table 3.1) and with the factor accounting for 60% of the variance in the space defined by the three items (see Appendix E). Results of the factor analysis led to the creation of a new self-efficacy variable which combined the three original items.

Table 3.1

Factor Loadings of Items to Measure Self-efficacy

FACTOR	TITLE AND ITEMS	FACTOR LOADING
1	Self-efficacy	
	In general, my colleagues perceive me as a capable person.	0.81
	I cope well with the everyday challenges of my job.	0.79
	I expect to do well in training activities, even in unfamiliar areas.	0.73

Categorization of Job Classification Levels and Faculty/Departments

To simplify interpretation, the ten job classification levels were divided into two levels in accordance with conventions shown in Shaughnessy (1991). Similarly, the 20 faculties and departments listed in the questionnaire instrument were carefully examined and categorized into five groups (see Appendix F).

Re-categorization of Participation Data

Pearson chi-square analyses were used to determine whether significant differences exist between rates of participation in T & D and the background characteristics of staff. However, with the original six-category rate of participation scale (ranging from zero activities to five or more activities) the analyses yielded suspect significance tests because more than one-fifth of the cells had expected values (fitted values) less than five. In order to remedy this condition the data were re-categorized. This was accomplished by maintaining the "zero" activity and "one" activity categories and combining the "two," "three," "four" and "five or more" activity categories to create a new "two or more" activity category.

Development of a Framework of Potential Benefits of Participation

Thirteen questionnaire items were used to examine clerical staff perceptions regarding the potential benefits of participation in T & D (see Appendix G). These items were carefully examined and then were factor analyzed in order to determine the presence of an underlying structure. This was accomplished by means of a principal

components analysis and varimax rotation. The analysis yielded a five factor solution accounting for 73% of the variance in the space defined by the thirteen items. Factor one represents 17% of the variance; factor two, 16%; factor three, 17%; factor four, 15%; and factor five, 8% (see Appendix H).

In order to present a parsimonious model, it was decided that items with factor loadings less than 0.60 would be eliminated. This led to the elimination of two items: "Participating in [T & D] will lead to more respect from my peers" and "Participating in [T & D] will help me network with other employees." The sorted rotated factor loadings of the 11 remaining items facilitated the creation of five new variables and guided the interpretation and naming of the factors. The resultant factor titles are: (1) "To Obtain Rewards;" (2) "To Improve Relationships;" (3) "To Enhance Performance;" (4) "To Develop Career;" (5) "To Get Needed Break" (see Table 3.2).

Table 3.2

Principal Components Analysis of Perceived Benefits of Participation

FACTOR	TITLE AND ITEMS	FACTOR LOADING
1	To Obtain Rewards	
	Participating in T & D will help me get a salary increase.	0.83
	Participating in T & D will increase my chances of getting a promotion.	0.79
2	To Improve Relationships	
	Participating in T & D will help me get along better with my peers.	0.92
	Participating in T & D will help me get along better with my supervisor.	0.91
3	To Enhance Performance	
	Participating in T & D will help me stay up-to-date with new processes and procedures related to my job.	0.75
	Participating in T & D will help me perform my job better.	0.75
	Participating in T & D will help my personal development.	0.69
4	To Develop Career	
	Participating in T & D will give me a better idea of the career path I want to pursue.	0.85
	Participating in T & D will help me reach my career objectives.	0.75
	Participating in T & D will result in more opportunities to pursue different career paths.	0.60
5	To Get Needed Break	
	Participating in T & D will give me a needed break from my job.	0.96

Creation of a Model to Characterize Forces in the Work Environment

Thirteen questionnaire items were used to investigate the influence of forces in the work environment on participation in T & D (see Appendix I). In order to discover the presence of an underlying structure among the items, the items were factor analyzed by means of a principal components analysis and varimax rotation. This analysis yielded a five factor solution, with the five factors accounting for 72% of the variance in the space defined by the thirteen items. Factor one represents 22% of the variance; factor two, 18%; factor three, 13%; factor four, 10%; and factor five, 9% (see Appendix J).

The sorted factor loadings of 12 of the 13 questionnaire items were stronger than 0.71 while one item ("The cost of courses prevents my participation in [T & D] activities") did not load on any factor and was therefore eliminated. The factor loadings of the 12 remaining items facilitated the creation of five new variables and guided the interpretation and naming of the factors. The factor titles are: (1) "Supervisor Support;" (2) "Heavy Workload;" (3) "Not Convenient;" (4) "Co-worker Support;" and (5) "Supervisor Expectations" (see Table 3.3). Before the new "Co-worker Support" variable was created the polarity of the item "My co-workers view T & D as a waste of time" was reversed. This was done to ensure the signs of the loading of both items in the factor "Co-worker Support" were the same.

Table 3.3

Principal Components Analysis of Perceptions of Forces in the Work Environment Which Influence Participation

FACTOR	TITLE AND ITEMS	FACTOR LOADING
1	Supervisor Support	
	My supervisor enthusiastically supports my participation in T & D activities.	-0.89
	My supervisor gives me the freedom to choose which T & D activities I want to attend.	-0.85
	My supervisor makes sure I get the T & D needed to remain effective in my job.	-0.72
	I would not hesitate to tell my supervisor of a T & D need I have in a particular area.	-0.72
2	Heavy Workload	
	I do not participate in T & D activities because too much work accumulates while I am away from my job.	0.89
	My workload makes it difficult for me to participate in T & D activities.	0.86
	I cannot participate in T & D activities because there is no one to replace me while I am away from my job.	0.76
3	Not Convenient	
	I do not participate in T & D activities because they are offered at inconvenient locations.	0.87
	I do not participate in T & D activities because they are offered at inconvenient times.	0.83
4	Co-worker Support	
	My co-workers encourage me to participate in T & D activities.	0.80
	My co-workers view T & D as a waste of time.	-0.78
5	Supervisor Expectations	
	I usually participate in T & D because my supervisor expects me to.	-0.94

3.4 Constraints and Limitations

This study has a number of constraints and limitations that should be noted:

- As mentioned previously, this study sought to understand McGill clerical staff attitudes toward and rate of participation in T & D. It does not purport to provide an understanding of clerical staff outside the McGill environment.

- This scope of this study was limited to examining clerical staff participation in Department of Human Resources and Computing Centre offered activities that take place during the workday, whether during regular working hours or during noon-time. It must be acknowledged, however, that staff may participate in McGill Information Systems Resources training activities during the workday. It must also be recognized that staff may participate in Continuing Education courses, other university courses or T & D activities offered by external agencies during or outside working hours.

- This scope of this study was limited to examining clerical staff participation throughout the 1993/1994 academic year. The decision to examine attendance spanning one year was grounded in the assumption that it would be unrealistic to expect staff to give an accurate indication of participation over a longer time period.

- This study sought to examine a narrow range of T & D activities (such as courses, seminars and film series), thus excluding such on-the-job training experiences as coaching or peer-teaching. While it is important to mention the significance of on-the-job experiences, as they may be perceived as more

valuable for skill development than courses or seminars (Carnevale, Gainer & Villet, 1990), including such activities is beyond the scope of this study. It should be mentioned, however, that both the Department of Human Resources and the Computing Centre offer T & D opportunities in the form of instructional audio and video tape loans and that the Computing Centre provides on-the-job coaching and computer-based tutorials.

- It is important to acknowledge the analysis may have benefitted from a multivariate analysis of variance approach. Such an analysis, however, was considered beyond the scope of this study.

4.0 RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents and discusses the findings of the study. It is organized in terms of the research questions set forth at the end of Chapter Two.

The chapter begins with a description of clerical staff at McGill. This description considers the personal and organizational membership characteristics of staff. The chapter then moves to an examination of staff participation in T & D activities offered through the Department of Human Resources and the Computing Centre. This examination uncovers the extent to which staff indicate awareness of T & D opportunities; the degree to which staff participate in T & D activities; staff rankings of reasons for participation; and staff rankings of preferred types of T & D. The chapter continues with an assessment of staff perceptions regarding the potential benefits of participation. These perceptions are examined in terms of both the background characteristics of staff and their rate of participation in T & D. Lastly, the chapter explores staff perceptions of the influence of forces in the work environment on participation. These perceptions are also examined in terms of background characteristics and rate of participation of staff.

4.2 Background Characteristics of Clerical Staff

Information to describe the background characteristics of clerical staff was obtained both from demographic materials accessed through the Department of Human Resources and from raw data collected by means of the questionnaire instrument. This section examines the personal characteristics (sex, age, educational background and self-efficacy) and organizational membership characteristics (job classification, faculty/department, job tenure) of clerical staff.

Sex and Age

Frequencies relating to the sex and age of clerical staff members are shown in Table 4.1. Findings indicate that clerical staff members are overwhelmingly female — an expected finding given that clerical work has traditionally been performed by females. Findings also reveal that there is a relatively normal age distribution among clerical staff (in the statistical sense).

Table 4.1

Sex and Age of Clerical Staff: Population and Respondents

CHARACTERISTIC		NUMBER		PERCENTAGE	
		POP.	RESP.	POP.	RESP.
Sex					
	Female	861	429	91.9%	93.5%
	Male	76	30	8.1%	6.5%
	Total	937	459		
Age					
	Below 20	0	0	0.0%	0.0%
	20 - 29	205	98	21.9%	21.4%
	30 - 39	329	164	35.1%	35.9%
	40 - 49	236	115	25.2%	25.2%
	50 - 59	122	59	13.0%	12.9%
	60 +	45	21	4.8%	4.6%
	Total	937	457		

Note. Total number of respondents was 460. Totals less than 460 indicate data were missing from returned questionnaires.

It is important to note how closely the percentages relating to respondent sex and age correspond to population data. This lends credence to the generalizability of results to the entire population of clerical staff at McGill.

Educational Background

Table 4.2 presents the educational background of clerical staff. Findings reveal that over 50% of clerical staff have completed either CEGEP or university; with approximately 60% of these having completed university. One possible explanation for the high number of university educated staff members may be related to the corporate value of degrees at McGill — McGill is a university and degrees are one of its products. The corporate value itself may encourage clerical staff to engage in higher education.

Table 4.2

Educational Background of Clerical Staff: Respondents Only

CHARACTERISTIC	NUMBER	PERCENTAGE
Educational Background		
High School graduate	86	18.8%
Business School - DEP Certificate	108	23.6%
CEGEP diploma	116	25.3%
University degree	127	27.7%
Other	21	4.6%
Total	458	

Note. Total number of respondents was 460. In two cases data were missing from returned questionnaires.

Pearson chi-square analysis reveals a significant difference between the sex of clerical staff and their educational background ($\chi^2(4) = 10.36, p \leq 0.05$). Crosstabulation shows that 25% of female clerical staff continued schooling through to

business/secretarial school compared to three percent of males. Crosstabulation also shows that 26% of females achieved university degrees compared to 47% of males (see Appendix K). Chi-square analysis also reveals a significant difference between age and educational background ($\chi^2(16) = 56.21$, $p \leq 0.01$). Crosstabulation shows that a greater percentage of younger staff members continued formal schooling after high school or business school than did older staff members (see Appendix L).

Self-efficacy

Clerical staff members have high self-efficacy (*Factor Mean* = 4.18, *SD* = 0.49). In general, findings reveal that staff are confident in their own abilities and believe others regard them as capable. Findings also reveal little variation among staff perceptions of their abilities (see Appendix D).

Job Classification and Faculty/Department

Table 4.3 illustrates the job classification levels and faculty/department groupings of clerical staff. Findings show that the majority of clerical staff members hold higher level "C" positions — positions which demand higher levels of knowledge and skill than lower level positions. Findings also indicate that a relatively equal number of clerical staff members are employed within each faculty/department grouping. Again, it is important to note that the respondent data is highly representative of the target population. This lends credence to the generalizability of the results to the total population of clerical staff at McGill.

Table 4.3

Job Classification and Faculty/Department Groupings of Clerical Staff: Population and Respondents

CHARACTERISTIC	NUMBER		PERCENTAGE	
	POP.	RESP.	POP.	RESP.
Job Classification				
C1 - C5	351	159	37.7%	35.5%
C6 - C10	581	289	62.3%	64.5%
Total	932[a]	448		
Faculty/Department Groupings[b]				
Health Sciences	179	101	19.1%	22.3%
Physical and Natural Sciences	124	77	13.2%	17.0%
Social Sciences, Humanities and the Arts	181	100	19.3%	22.1%
University Administration and Operations	205	103	21.9%	22.7%
Other	248	72	26.5%	15.9%
Total	937	453		

Note. Total number of respondents was 460. Totals less than 460 indicate data were missing from returned questionnaires.

[a] Job classification codes were unavailable for five of the 937 clerical staff members.

[b] Detailed descriptions of faculty/department groupings can be found in Appendix F.

It is important to mention that Pearson chi-square analysis does not reveal a significant difference between job classification and educational background. One explanation for this may be that the knowledge and skills required for higher level positions need not be obtained by means of formal educational programs leading to diplomas and/or degrees. Perhaps the skills required are obtainable by means of T & D activities or by means of on-the-job experience (see next section — Job Tenure — for evidence relating to this assertion).

Pearson chi-square analysis reveals a significant difference between the faculty/department groupings and the sex of staff members ($\chi^2(4) = 21.92$, $p \leq 0.01$). Crosstabulation reveals that males are employed within only three of the groupings ("Social Sciences, Humanities and the Arts," "University Administration and Operations," and "Other") while females are employed relatively equally throughout the five faculty/department groupings (see Appendix M). Pearson chi-square analysis also reveals a significant difference between the faculty/department groupings and educational background ($\chi^2(16) = 30.28$, $p \leq 0.05$). Crosstabulation reveals that a greater proportion of staff members in the "Health Sciences" and "Physical and Natural Sciences" groupings continued schooling through to business or secretarial school while a greater proportion of staff in the "Social Sciences, Humanities and the Arts," "University Administration and Operations," and "Other" groupings continued through university (see Appendix N).

Job Tenure

Frequencies relating to the number of years clerical staff members have been employed at McGill and in their current position are shown in Table 4.4. Findings suggest that there is a great deal of movement from one job position to another within McGill. The data reveal that while less than 25% of staff have been employed at McGill for three or less years, almost 52% have worked in their current position for that length of time.

Table 4.4

Number of Years at McGill and in Current Position: Respondents Only

CHARACTERISTIC	NUMBER		PERCENTAGE	
	AT McGILL	IN CURRENT POSITION	AT McGILL	IN CURRENT POSITION
Number of Years				
3 or less	110	234	24.4%	51.9%
4 to 7	126	122	27.9%	27.1%
8 to 14	114	70	25.3%	15.5%
15 +	101	25	22.4%	5.5%
Total	451	451		

Note. Total number of respondents was 460. Totals less than 460 indicate data were missing from returned questionnaires. Please note that staff were asked to respond "in years" and all responses were rounded to the closest whole number.

Pearson chi-square analyses reveal interesting and significant findings with regards to job tenure. There are significant differences between both the number of years employed at McGill and the job classification levels of staff ($\chi^2(3) = 45.21$, $p \leq 0.01$) and the number of years employed in one's current position and the classification levels ($\chi^2(3) = 11.16$, $p \leq 0.05$). Crosstabulation illustrates that staff members employed in higher level positions have been employed at McGill longer than those in lower level positions. Crosstabulation also reveals that, in general, staff employed in lower level positions have held their current position for fewer years than those in higher level positions (see Appendix O). This finding substantiates the previously made assertion that the qualifications — knowledge and skills — required for higher level positions may be attained by means of years of work experience (see

previous section — Job Classification and Faculty/Department — for report of no significant difference between job classification and educational background).

Pearson chi-square analysis reveals a significant difference between years in current position and the faculty/department groupings in which staff are employed ($\chi^2(12) = 23.28$, $p \leq 0.05$). Crosstabulation indicates that the majority of staff members employed in the "University Administration and Operations" and "Other" groupings have worked in their current positions for three or less years while employees in other groupings tend to have longer tenure (see Appendix P). While this finding is interesting, further research is needed to determine whether this is a result of high rates of turnover, newly created job positions or some other reason.

4.3 Clerical Staff Participation in T & D

This section explores clerical staff participation in T & D opportunities offered through the Department of Human Resources and the Computing Centre. It includes an assessment of clerical staff awareness of T & D opportunities, an examination of rate of attendance in T & D and an analysis of rate of participation by the various background characteristics of staff. The section also includes an evaluation of clerical staff rankings of reasons for participation in T & D and a report on clerical staff rankings of various types of T & D activities.

4.3.1 *Awareness of T & D Opportunities*

Questionnaire data reveal that 75% or 342 of 460 clerical staff are aware of T & D opportunities offered through the Department of Human Resources while 25% or 116 are unaware. Similarly, data show that 75% (N = 342) of clerical staff are aware of T & D opportunities offered through the Computing Centre while 25% (N = 116) remain unaware.

One-quarter of the clerical staff reported a lack of knowledge of T & D opportunities. In general, these staff members declared that information regarding T & D is not effectively disseminated and/or that they would like to attend but are uninformed. For example, one staff member stated that "I would very much like to attend courses but I am unaware of the courses that do exist" while another commented that "My department does not know of any such training." Several staff also complained that their supervisor(s) do(es) not feel that informing staff of T & D is important. Examples of such comments include:

> I would gladly participate in . . . [T & D]. Often time I am not aware of the training because the information sent to us does not come into my hands. My supervisor does not find it important enough to pass on.
>
> It would be helpful if information about training was sent to individuals. All mail is opened by the supervisor and I think he keeps it from us on purpose.
>
> Information regarding staff development and training programs is not circulated to staff. For example, I know my supervisor receives information but she does not share it with me or any of my co-workers.

Please note that these opinions may be extreme cases and were provided to illustrate the importance of staff awareness.

4.3.2 *Rate of Participation in T & D*

Clerical staff participation in T & D is presented in Table 4.5. Findings show that of the clerical staff who indicated awareness of T & D activities, many did not participate during the 1993/1994 academic year. Findings also show that of the staff who indicated awareness, over 50% participated in at least one activity offered through the Department of Human Resources and the Computing Centre. Further, findings reveal that 32.5%, 31.9% and 24.1% of those that did attend were repeat participators in Department of Human Resources noon-time activities, in "other" Department of Human Resources activities and in Computing Centre activities, respectively. See Chapter One (section 1.4) for description of T & D activities.

Table 4.5

Clerical Staff Participation in T & D Activities

NUMBER OF ACTIVITIES	NUMBER			PERCENTAGE		
	HR NOON[a]	HR OTHER[b]	CC[c]	HR NOON	HR OTHER	CC
None	168	131	163	49.3%	38.4%	47.8%
1	62	101	96	18.2%	29.6%	28.2%
2	48	60	51	14.1%	17.6%	15.0%
3	26	29	16	7.6%	8.5%	4.7%
4	27	10	10	7.9%	2.9%	2.9%
5 +	10	10	5	2.9%	2.9%	1.5%
Total	341	341	341			

Note. Total number of respondents was 342. In one case data were missing from returned questionnaires. Please note that only those respondents who indicated awareness of T & D activities were asked to respond to items regarding rate of participation. Please also note that rounding yields totals of 99.9% and 100.1% for HR other and CC activities, respectively.

[a] Refers to T & D activities offered by the Department of Human Resources at noon-time.

[b] Refers to all T & D activities offered by the Department of Human Resources, with the exception of noon-time activities.

[c] Refers to T & D activities offered through the Computing Centre.

4.3.3 *Rate of Participation by Background Characteristics*

This section examines whether differences exist between rate of participation and the personal and organizational membership characteristics of staff. Differences were investigated by means of Pearson chi-square analyses and crosstabulations as well as by one-way analyses of variance.

Sex

There are no significant differences between the sex of clerical staff members and their rate of participation in T & D offered through the Department of Human Resources or the Computing Centre. This finding warrants attention because it contradicts the study by Blais et. al (1989) which found that women participate less than men in work-related education. It also counters Collis' (1985) assertion that females are less likely to participate in computer related training than males. Please note that Collis' (1985) survey was conducted almost a decade ago when access to technologies, such as microcomputers, was not as common.

Age

Pearson chi-square analysis reveals a significant difference between the age of clerical staff and their rate of participation in Department of Human Resources noon-time activities ($\chi^2(8) = 32.93$, $p \leq 0.01$). Crosstabulation shows that a greater percentage of younger employees than older employees did not participate in any noon-time activities. Crosstabulation also shows than a greater proportion of older employees participated in two or more noon-time activities than did younger employees (see Appendix Q). While this finding counters the assertion that older

employees value training less than younger employees (Fossum et al., 1986), one possible explanation may be that noon-time activities, such as Lifestyle and Wellness sessions, Film Series and sessions relating to financial planning and pensions, are more appealing to this age group. For instance, one over-sixty staff member stated that "at this point in my career I am interested in preparing for retirement and personal enrichment" while others wrote that " . . . noon sessions, a little light relief, are very welcome in a hectic week," " . . . lunch hour sessions are good for personal enrichment" and "I strongly believe that age should not hinder and prevent an employee from growing and attending T & D."

Pearson chi-square analyses uncovered no significant differences between the age of clerical staff and their rate of participation in "other" Department of Human Resources activities or in Computing Centre activities. That there are no significant differences between age and attendance in Computing Centre activities counters Martocchio's (1993) finding that younger employees are more likely to participate in computer training. While this finding may be related to the pressure associated with a university culture — the pressure to stay up-to-date — one cannot be certain without further research.

Educational Background

No significant differences between the educational background of clerical staff and their rate of participation in T & D were found.

Self-efficacy

One-way analyses of variance reveal no significant differences between the level of self-efficacy of clerical staff members and their rate of participation in T & D.

Job Classification

There are no significant differences between the job classification levels of clerical staff and their rate of participation in Department of Human Resources noon-time activities or in Computing Centre activities. There is, however, a significant difference between the job classification level of staff and their rate of participation in "other" Department of Human Resources activities ($\chi^2(2) = 6.39$, $p \leq 0.05$). Crosstabulation shows that a greater percentage of lower level staff members did not participate while a greater percentage of higher level staff members participated in two or more activities (see Appendix R). One possible explanation may be that many of the subjects covered in "other" activities target employees with more complex job tasks and greater responsibility — employees in higher level classifications.

Faculty/Department

No significant differences between the faculty/department groupings in which clerical staff members are employed and their rate of participation in T & D were found.

Job Tenure

There are no significant differences between the number of years staff have been employed at McGill or the number of years staff have worked in their current position and their rate of participation in T & D, with one exception. Pearson chi-square analysis reveals a significant difference between years in current position and rate of participation in "other" Department of Human Resources activities ($\chi^2(6) = 15.65$, $p \leq 0.05$). Crosstabulation shows that staff are considerably more

likely to be non-participators if they have been in their current position for 15 or more years (see Appendix S). This finding coincides with Kuo (1990) and Noe and Wilk (1993) who found that the longer an employee has worked in a particular position the less likely he/she is to engage in T & D. It is important to mention, however, that the lack of significant differences by participation in Department of Human Resources noon-time activities or Computing Centre activities conflicts with Kuo (1990) as well as with Noe and Wilk's (1993) findings.

4.3.4 *Reasons for Participation in T & D*

Clerical staff rankings of reasons for participation in T & D activities are illustrated in Table 4.6. First, staff are divided with regards to the first most important reason for participation in Department of Human Resources activities while half (50%) of staff agree that the first most important reason for partaking in Computing Centre activities is for job skills development. Second, the majority of clerical staff members consider personal development/enrichment as the second most important reason for engaging in both Department of Human Resources and Computing Centre activities. Third, the majority of staff judge long-term career development as the third most important reason for participation in both Department of Human Resources and Computing Centre activities. That staff perceive career development as third most important is interesting because it demonstrates that people's reasons for participating in workplace T & D differ from people's reasons for participating in other work-related education. For example, Clark and Anderson's (1992) study of the benefits

adults attribute to continuing higher education, found that career development is the first most important reason for participation. Obviously, adults participate in continuing education for different reasons than staff participate in T & D.

Table 4.6

Clerical Staff Rankings of Reasons for Participation in T & D Activities

REASON	% RANKED 1st MOST IMPORTANT		% RANKED 2nd MOST IMPORTANT		% RANKED 3rd MOST IMPORTANT	
	HR[a]	CC[b]	HR	CC	HR	CC
For personal development/enrichment	38.5%	12.7%	56.3%	81.9%	6.2%	6.2%
To develop or improve job skills	37.8%	50.0%	37.2%	14.6%	24.5%	35.0%
For long-term career development	23.7%	37.3%	6.5%	3.6%	69.3%	58.8%

Note. Total number of respondents was 342. In some cases data relating to the above were missing from returned questionnaires. Please note that only those respondents who indicated awareness of T & D activities were asked to respond to items regarding reasons for participation. Please also note that rounding yields a total of 100.1% for the second most important reason for participating in Computing Centre activities.

[a] Refers to the Department of Human Resources.

[b] Refers to the Computing Centre.

4.3.5 *Perceived Importance of Types of T & D*

Table 4.7 presents clerical staff rankings of preferred types of T & D activities. Findings show that the largest proportion of staff regard T & D activities that will develop or improve job skills as most important; that the majority of clerical staff consider T & D activities directed toward personal enrichment or development as second most important; and that the majority of staff view T & D activities geared toward long-term career development as third most important. These findings are

corroborated by comments made by several clerical staff members. For instance, one staff member stated that " . . . training courses should help me first with job skills and then with my personal development. Career development is the last thing on my mind" while another wrote that "First most I like to attend seminars that will make my job more challenging and then I'm interested in the seminars that are related to personal development." Further, other staff members remarked that "I think courses that have an immediate job skill orientation are most important" and "My views may seem outdated because I feel that all courses that take place during working hours should always be related to job skills."

Table 4.7

Clerical Staff Rankings of Types of T & D Activities

TYPE OF ACTIVITY	% RANKED 1st MOST IMPORTANT	% RANKED 2nd MOST IMPORTANT	% RANKED 3rd MOST IMPORTANT
T & D for personal enrichment/development	27.7%	62.1%	10.8%
T & D to develop or improve job skills	41.4%	29.4%	28.9%
T & D for long-term career development	30.9%	8.5%	60.3%

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires.

4.4 Clerical Staff Perceptions of Benefits of Participation in T & D

Table 4.8 presents descriptive statistics and rankings of the perceived benefits of participation. Results show that "to enhance performance" is ranked first among the five potential benefits. This finding supports Martocchio (1993), Noe (1986) and Noe and Schmitt's (1986) assertion that employees who believe T & D will improve performance will have more positive attitudes toward participation. It also substantiates the staff rankings presented in Appendix T. Appendix T presents staff's selection and rankings of three items (from the original 13 questionnaire items relating to the potential benefits of participation) recoded and grouped within the five factor framework (with the exception of items that were eliminated from the model). Not surprisingly, results here suggest that the majority of clerical staff perceive enhancing performance as most important.

Table 4.8

Descriptive Statistics: Perceived Benefits

PERCEIVED BENEFITS	FACTOR MEAN	STANDARD DEVIATION	RANK
To Obtain Rewards	3.11	0.99	3
To Improve Relationships	2.68	0.91	4
To Enhance Performance	4.22	0.57	1
To Develop Career	3.57	0.79	2
To Get Needed Break	2.65	1.14	5

Note. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

While performance enhancement is ranked first, "to develop career" and "to obtain rewards" follow as a reasonable second and third, respectively. The remaining benefits, "to improve relationships" and "to get needed break," are all perceived as less likely to be potential benefits of participation in T & D. These results suggest that performance, career and reward related benefits — all strategic concerns — are regarded as more likely to result from participation than shorter-term benefits like "to improve relationships" or "to get needed break."

In addition to the rankings of the potential benefits, it is important to note the variation among the standard deviations of each factor. For instance, the standard deviation of the first ranked item, "to enhance performance," is exactly half that of the item ranked fifth, "to get needed break." One possible reason for this may be that there is more legitimate diversity of opinion on the lower ranked factor. Another reason may be that there is a statistical aberration — a ceiling effect caused by the five-point scale.

4.4.1 *Perceived Benefits by Background Characteristics*

This section examines whether differences exist between perceptions of the potential benefits and the personal and organizational membership characteristics of staff. Differences were investigated by means of one-way analyses of variance and Tukey post hoc tests of pairwise differences as well as by Pearson correlations, where appropriate.

Sex, Age and Educational Background

Table 4.9 presents analyses of variance by sex, by age and by educational background. The analyses reveal no significant differences between the perceived benefits of participation and sex. The analyses do, however, reveal a significant difference between the perceived benefit "to obtain rewards" and age. An examination of the means indicates that employees between the ages of 20 through 29 are more likely to perceive obtaining rewards as a potential benefit of participation in T & D than employees in older age categories. This finding is interesting because it coincides with the theory that older workers are less likely to perceive rewards as an outcome of participation (Fossum et al., 1986; Martocchio, 1993).

The difference between "to obtain rewards" and age was further examined by means of the Tukey post hoc test of pairwise differences. This test reveals a significant mean difference between the age categories "20 - 29" and "30 - 39" (see Appendix U), with staff members in the "30 - 39" category indicating more uncertainty about whether rewards are really a potential benefit. According to one key official in the Department of Human Resources, this uncertainty may be justified because rewards are not usually promised as outcomes of participation (A. G. Sarda, personal communication, May 5, 1994).

One-way analysis of variance reveals a significant difference between the benefit "to obtain rewards" and educational background. An examination of the means indicates that those staff members who continued schooling through to CEGEP are more likely to agree that partaking in T & D will help them obtain rewards than staff members with different educational backgrounds. Further, the Tukey post hoc test of pairwise differences in means reveals a significant difference between the perceptions

of those who continued to business/secretarial school and those who continued through to CEGEP (see Appendix V). It is difficult to ascertain possible reasons for this difference. Further research is, therefore, needed.

Table 4.9

ANOVA: Perceived Benefits by Personal Characteristics

PERCEIVED BENEFITS	MEANS BY SEX		F-RATIO
	FEMALE	MALE	
To Obtain Rewards	3.10	3.22	0.36
To Improve Relationships	2.67	2.77	0.29
To Enhance Performance	4.23	4.03	3.36
To Develop Career	3.58	3.41	1.23
To Get Needed Break	2.66	2.53	0.32

PERCEIVED BENEFITS	MEANS BY AGE					F-RATIO
	20-29	30-39	40-49	50-59	60 +	
To Obtain Rewards	3.44	2.96	3.09	3.08	2.93	3.90**
To Improve Relationships	2.64	2.58	2.71	2.99	2.63	2.27
To Enhance Performance	4.25	4.19	4.28	4.19	4.10	0.78
To Develop Career	3.69	3.58	3.57	3.44	3.28	1.66
To Get Needed Break	2.80	2.61	2.58	2.70	2.60	0.62

PERCEIVED BENEFITS	MEANS BY EDUCATIONAL BACKGROUND					F-RATIO
	HIGH SCHOOL	BUSINESS SCHOOL	CEGEP	UNIVER-SITY	OTHER	
To Obtain Rewards	3.04	2.99	3.39	3.04	2.91	3.12*
To Improve Relationships	2.51	2.72	2.70	2.74	2.76	0.99
To Enhance Performance	4.10	4.26	4.32	4.17	4.25	2.13
To Develop Career	3.47	3.58	3.69	3.51	3.56	1.28
To Get Needed Break	2.44	2.74	2.51	2.77	3.05	2.29

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).
* $p \leq 0.05$. ** $p \leq 0.01$.

Self-efficacy

Pearson correlations reveal no significant relationships between level of self-efficacy and the perceived benefits of participation.

Job Classification and Faculty/Department

Analyses of differences between the perceived benefits and the job classification levels and faculty/department groupings of clerical staff are presented in Table 4.10. Results show a significant difference between job classification level and the benefit "to obtain rewards." An examination of the means indicates that those employees classified at higher levels are more uncertain as to whether partaking in T & D will help them obtain rewards. One explanation for this may be that staff at higher levels are more conscious of the "inflexibility" routinely associated with the classification system (Shaughnessy, 1991).

One-way analysis of variance reveals a significant difference between the faculty/department groupings of clerical staff and the perceived benefit "to develop career." An examination of the means reveals that staff employed within the "Health Sciences" grouping are more likely to agree that participation will help them develop their career. Further, the Tukey post hoc test of pairwise differences in means shows a significant difference between the perceptions of those employed in the "Health Sciences" grouping and those employed in the "Social Sciences, Humanities and the Arts" grouping. This indicates that staff members employed in the former grouping are more likely than those in the later grouping to perceive career development as a potential benefit (see Appendix W). While this finding is interesting, it is difficult to address possible explanations without additional research.

Table 4.10

ANOVA: Perceived Benefits by Job Classification and Faculty/Department Groupings

PERCEIVED BENEFITS	MEANS BY JOB CLASSIFICATION		F-RATIO
	C1 - C5	C6 - C10	
To Obtain Rewards	3.30	3.02	8.03**
To Improve Relationships	2.67	2.70	0.12
To Enhance Performance	4.24	4.21	0.27
To Develop Career	3.61	3.56	0.42
To Get Needed Break	2.62	2.69	0.34

PERCEIVED BENEFITS	MEANS BY FACULTY/DEPARTMENT GROUPINGS					F-RATIO
	HEALTH SCIENCES	PHYS & NAT SCI[a]	SOC SCI, HUM & ART[b]	UNIV ADM & OPER[c]	OTHER	
To Obtain Rewards	3.13	3.11	3.08	3.17	3.10	0.11
To Improve Relationships	2.65	2.76	2.64	2.67	2.73	0.26
To Enhance Performance	4.21	4.31	4.23	4.16	4.23	0.86
To Develop Career	3.76	3.55	3.41	3.60	3.54	2.60*
To Get Needed Break	2.71	2.49	2.82	2.57	2.68	1.07

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

[a] Refers to Physical and Natural Sciences.

[b] Refers to Social Sciences, Humanities and the Arts.

[c] Refers to University Administration and Operations.

* $p \leq 0.05$. ** $p \leq 0.01$.

Job Tenure

Table 4.11 presents the analyses of differences between the perceived benefits of participation and years at McGill and years in current position. One-way analysis of variance reveals a significant difference between the benefit "to obtain rewards," and years at McGill. An examination of the means indicates that staff members who have been employed at McGill for seven or fewer years are more likely to agree that participation in T & D will help them obtain rewards. The Tukey post hoc test of

pairwise differences extends our understanding by revealing significant differences among three pairs of means — all of which demonstrate that those with shorter tenure at McGill are more likely to perceive rewards as a potential benefit (see Appendix X). One possible explanation for these differences may be that staff with shorter tenure are at career stages characterized by enthusiasm and keenness — career stages characterized by more optimistic attitudes toward the prospect of participation facilitating reward attainment.

One-way analysis of variance also reveals a significant difference between the benefit "to obtain rewards" and years in current position. An examination of the means shows that those staff members who have worked in their current position for three or less years are more likely to agree that obtaining rewards is a potential benefit of participation. The Tukey post hoc test of pairwise differences in means does not reveal any significant differences, although the difference between those who have worked in their current position for three or less years and those who have worked for four to seven years approaches significance ($p \leq 0.07$). Coinciding with the previously made assertion, this finding may be related to the enthusiasm usually felt by employees with shorter tenure. Further research, however, is clearly needed to explore this possibility.

Table 4.11

ANOVA: Perceived Benefits by Years at McGill and Years in Current Position

PERCEIVED BENEFITS	MEANS BY YEARS AT McGILL				F-RATIO
	≤ 3	4 - 7	8 - 14	15 +	
To Obtain Rewards	3.31	3.24	2.97	2.89	4.61**
To Improve Relationships	2.77	2.64	2.60	2.72	0.77
To Enhance Performance	4.33	4.29	4.13	4.14	3.65*
To Develop Career	3.70	3.72	3.45	3.40	4.86**
To Get Needed Break	2.51	2.76	2.73	2.58	1.21
PERCEIVED BENEFITS	MEANS BY YEARS IN CURRENT POSITION				F-RATIO
	≤ 3	4 - 7	8 - 14	15 +	
To Obtain Rewards	3.25	2.98	3.01	2.86	3.05*
To Improve Relationships	2.68	2.64	2.72	2.74	0.14
To Enhance Performance	4.30	4.13	4.21	4.13	2.88*
To Develop Career	3.58	3.52	3.46	3.35	2.75*
To Get Needed Break	2.64	2.78	2.56	2.42	0.95

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).
* $p \leq 0.05$. ** $p \leq 0.01$.

Table 4.11 shows significant differences between the perceived benefit "to enhance performance" and both years at McGill and years in current position. An examination of the means show, in the case of years at McGill, a gradual decrease in the extent to which staff members agree that participation will help them improve their performance. The Tukey post hoc test of pairwise differences in means indicates a significant difference in perceptions between employees who have been at McGill for three or fewer years and those who have been employed at McGill for eight to 14 years (see Appendix Y). An examination of the means by years in current position reveals a similar, though less consistent decrease in agreement. In this case, however, the Tukey post hoc test reveals a significant difference between those employed in

their current position for three or fewer years and those employed for four to seven years (see Appendix Y). All this suggests that staff members who have worked at McGill or in their current position for a greater number of years are less likely to believe that partaking in T & D will enhance their performance. Perhaps employees with longer tenure are more confident or less concerned with performance.

There are significant differences between the perceived benefit "to develop career" and both years at McGill and years in current position. An examination of the means, in both cases, indicates a general decline in the extent to which staff agree that career development is a potential benefit of participation. In terms of years at McGill, the Tukey post hoc test reveals significant differences between three pairs of means (see Appendix Z). These differences confirm the decline in agreement from those employed at McGill for a fewer number of years to those employed for more years. In terms of years in current position, the Tukey post hoc test reveals no significant pairwise differences among means. Nevertheless, the findings suggest that the longer staff have worked at McGill or in their current position the less likely they will believe that partaking in T & D will encourage or facilitate career development. One possible reason for this attitude may be that staff with longer tenure have reached or have come close to reaching their career objectives. Another possible reason may be that career development is not important to these employees.

4.4.2 *Perceived Benefits by Rate of Participation*

This section examines whether differences exist between clerical staff perceptions of the potential benefits of participation and their rate of participation in T & D. Analyses of variance are presented in Table 4.12.

There is a significant difference between the perceived benefit "to improve relationships" and participation in Department of Human Resources noon-time activities. An examination of the means suggests that clerical staff who participate in noon-time activities are unsure whether participation will enhance their relationships while those who do not participate are even more sceptical. The Tukey post hoc test reveals no significant pairwise differences among means, although the difference between those who participated in zero activities and those who participated in two activities approaches significance ($p = 0.06$). One possible reason for non-participators' higher level of scepticism may be that they do not perceive relationship enhancement as important. Another possible reason is that these staff members do not feel that their relationships need improvement; perhaps they already have very solid and supportive relations or perhaps they are comfortable with their relations as they currently exist.

There is a significant difference between the benefit "to enhance performance" and rate of participation in Department of Human Resources noon-time activities. An examination of the means suggests that staff are more likely to agree that participation will enhance performance if they participate in one or more activities. The Tukey post hoc test of pairwise differences reveals a significant difference between the means for those who did not participate and those who participated in one activity (see Appendix AA). This suggests that staff who are non-participators are less likely to perceive performance enhancement as a possible benefit. One possible explanation for this may that non-participators are either more certain or less interested in performance.

Table 4.12

ANOVA: Perceived Benefits by Rate of Participation

PERCEIVED BENEFITS	MEANS BY NUMBER OF HR[a] NOONTIME ACTIVITIES						F-RATIO
	0	1	2	3	4	5 +	
To Obtain Rewards	3.08	3.33	3.14	2.78	3.07	3.20	1.25
To Improve Relationships	2.60	2.87	3.02	2.68	2.78	3.10	2.24*
To Enhance Performance	4.14	4.38	4.34	4.39	4.30	4.30	2.95*
To Develop Career	3.47	3.66	3.72	3.46	3.51	3.67	1.08
To Get Needed Break	2.65	2.58	2.88	2.57	2.92	2.30	0.87

PERCEIVED BENEFITS	MEANS BY NUMBER OF OTHER HR ACTIVITIES						F-RATIO
	0	1	2	3	4	5 +	
To Obtain Rewards	3.14	3.17	3.07	3.10	2.60	3.00	0.67
To Improve Relationships	2.72	2.78	2.70	2.95	2.10	3.05	1.57
To Enhance Performance	4.18	4.20	4.39	4.35	4.17	4.40	1.81
To Develop Career	3.60	3.50	3.51	3.76	3.13	3.43	1.20
To Get Needed Break	2.66	2.63	2.86	2.57	2.50	2.60	0.43

PERCEIVED BENEFITS	MEANS BY NUMBER OF COMPUTING CENTRE ACTIVITIES						F-RATIO
	0	1	2	3	4	5 +	
To Obtain Rewards	3.01	3.12	3.19	3.13	3.20	3.10	0.37
To Improve Relationships	2.75	2.68	2.61	2.72	2.70	2.60	0.19
To Enhance Performance	4.23	4.26	4.43	4.06	4.17	4.33	1.77
To Develop Career	3.48	3.61	3.76	3.40	3.30	3.53	1.33
To Get Needed Break	2.70	2.70	2.42	2.13	2.20	2.60	1.42

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

[a] Refers to the Department of Human Resources.

* $p \leq 0.05$. ** $p \leq 0.01$.

The results shown in Table 4.12 reveal no significant differences between staff perceptions of the potential benefits of participation and their rate of participation in either "other" Department of Human Resources activities or Computing Centre activities.

4.5 Perceptions of Forces in the Work Environment Which Influence Clerical Staff Participation in T & D

Table 4.13 presents descriptive statistics relating to the forces in the work environment. These forces are most appropriately viewed in terms of the following: (1) perceived social support and (2) perceived situational constraints. The factors relating to social support include "supervisor support," "co-worker support" and "supervisor expectations" and the factors relating to situational constraints encompass "not convenient" and "heavy workload." In terms of social support, clerical staff are more likely to agree that their supervisors are supportive of T & D than they are to agree that they have their co-workers' support. Further, clerical staff tend to disagree that they are influenced to participate in T & D because of supervisor expectations. In terms of situational constraints, staff tend to disagree that lack of convenience is a deterrent to participation and they are generally undecided about whether their workload impedes participation.

Table 4.13

Descriptive Statistics: Forces in the Work Environment

FORCES IN THE WORK ENVIRONMENT	FACTOR MEAN	STANDARD DEVIATION
Supervisor Support	3.5[illegible]	0.84
Heavy Workload	2.93	0.99
Not Convenient	2.40	0.80
Co-worker Support	3.13	0.76
Supervisor Expectations	2.1[illegible]	0.79

Note. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

4.5.1 *Forces in the Work Environment by Background Characteristics*

This section examines whether differences exist between clerical staff perceptions of forces in the work environment and personal and organizational membership characteristics. Differences were investigated by means of one-way analyses of variance and Tukey post hoc tests of pairwise differences as well as by Pearson correlations, where appropriate.

Sex, Age and Educational Background

Table 4.14 presents analyses of variance by sex, by age and by educational background. The analyses reveal no significant differences between staff perceptions of forces in the work environment and sex or age. The analyses do, however, reveal a significant difference between perceptions of "co-worker support" and educational background. An examination of the means indicates that staff members with university degrees are more unsure whether their co-workers are supportive of participation in T & D than those with different educational backgrounds. The Tukey post hoc test reveals no significant pairwise differences, however, it does reveal an almost significant difference ($p = 0.06$) between staff members who continued schooling through to business/secretarial school and those who completed university. It is difficult to ascertain the reasons for this difference. Additional research should, therefore, be undertaken.

Table 4.14

ANOVA: Forces in the Work Environment by Personal Characteristics

FORCES IN THE WORK ENVIRONMENT	MEANS BY SEX		F-RATIO
	FEMALE	MALE	
Supervisor Support	3.58	3.28	3.70
Heavy Workload	2.93	2.90	0.03
Not Convenient	2.38	2.58	1.76
Co-worker Support	3.15	2.93	2.29
Supervisor Expectations	2.14	2.30	1.09

FORCES IN THE WORK ENVIRONMENT	MEANS BY AGE					F-RATIO
	20-29	30-39	40-49	50-59	60 +	
Supervisor Support	3.44	3.58	3.51	3.68	3.65	0.96
Heavy Workload	2.87	2.98	2.98	2.88	2.84	0.33
Not Convenient	2.46	2.39	2.38	2.37	2.35	0.19
Co-worker Support	3.00	3.13	3.20	3.15	3.31	1.25
Supervisor Expectations	2.16	2.09	2.14	2.25	2.45	1.19

FORCES IN THE WORK ENVIRONMENT	MEANS BY EDUCATIONAL BACKGROUND					F-RATIO
	HIGH SCHOOL	BUSINESS SCHOOL	CEGEP	UNIVER-SITY	OTHER	
Supervisor Support	3.43	3.57	3.62	3.52	3.73	0.92
Heavy Workload	2.69	2.97	2.94	3.03	3.03	1.60
Not Convenient	2.44	2.44	2.34	2.39	2.38	0.25
Co-worker Support	3.18	3.22	3.21	2.96	3.10	2.43*
Supervisor Expectations	2.06	2.09	2.14	2.27	2.10	1.09

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).
* $p \leq 0.05$. ** $p \leq 0.01$.

Self-efficacy

Pearson correlation reveals a slight but almost negligible relationship ($r = 0.14$, $p \leq 0.01$) between level of self-efficacy and "supervisor support."

Job Classification and Faculty/Department

There is a significant difference between job classification level and perceptions of "supervisor support" (see Table 4.15). An examination of the means suggests that those staff members employed in higher level classifications are more likely to agree that their supervisors are supportive of participation in T & D. One explanation for this may be that supervisors consider the job responsibilities of staff members in the "C6" to "C10" range to be more critical and are therefore more encouraging with regards to participation. Another possible explanation may be that the majority of higher classified employees have worked with their current supervisors sufficiently long enough to have developed a rapport in which both supervisor and staff member feel comfortable discussing issues relating to T & D.

There is a significant difference between job classification level and perceptions relating to "heavy workload." An examination of the means indicates that employees in the "C1" to "C5" range are more likely to disagree that their workload restricts participation in T & D than those in the "C6" to "C10" range. Perhaps staff classified in the lower range have less job responsibility and/or feel less urgency in their work than those in higher level positions.

Table 4.15

ANOVA: Forces in the Work Environment by Job Classification and Faculty/Department Groupings

FORCES IN THE WORK ENVIRONMENT	MEANS BY JOB CLASSIFICATION		F-RATIO
	C1 - C5	C6 - C10	
Supervisor Support	3.38	3.63	9.01**
Heavy Workload	2.81	3.01	4.14*
Not Convenient	2.46	2.37	1.02
Co-Worker Support	3.20	3.09	2.16
Supervisor Expectations	2.25	2.10	3.44

FORCES IN THE WORK ENVIRONMENT	MEANS BY FACULTY/DEPARTMENT GROUPINGS					F-RATIO
	HEALTH SCIENCES	PHYS & NAT SCI[a]	SOC SCI, HUM & ART[b]	UNIV ADM & OPER[c]	OTHER	
Supervisor Support	3.47	3.79	3.66	3.49	3.37	3.21*
Heavy Workload	3.08	2.79	2.98	2.88	2.82	1.35
Not Convenient	2.45	2.45	2.44	2.40	2.19	1.38
Co-worker Support	3.24	3.28	3.00	3.16	2.99	2.71*
Supervisor Expectations	2.13	2.29	2.14	2.11	2.06	0.88

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

[a] Refers to Physical and Natural Sciences.

[b] Refers to Social Sciences, Humanities and the Arts.

[c] Refers to University Administration and Operations.

* $p \leq 0.05$. ** $p \leq 0.01$.

One-way analysis of variance reveals a significant difference between perceptions of "supervisor support" and the faculty/department groupings. An examination of the means suggests that staff members employed in the "Physical and Natural Sciences" grouping are more likely to agree that their supervisors are supportive of participation in T & D. The Tukey post hoc test of pairwise differences in means shows a significant difference between the "Physical and Natural Sciences"

grouping and the "Other" grouping (see Appendix BB). One possible reason for this may be that the majority of staff employed in the "Other" grouping have been employed in their current position for three or less years; possibly too short a time to have developed a "supervisor-employee" dialogue about participation in T & D.

One-way analysis of variance reveals a significant difference between perceptions of "co-worker support" and the faculty/department groupings. An examination of the means suggests that those staff members employed in the "Social Sciences, Humanities and the Arts" and the "Other" groupings are more unsure about whether their co-workers are supportive of T & D. The Tukey post hoc test, however, shows no significant pairwise differences in means. While this finding is interesting, further research is necessary to facilitate interpretation.

Job Tenure

There is a significant difference between the number of years staff members have been employed at McGill and perceptions relating to "heavy workload" (see Table 4.16). An examination of the means indicates that as the number of years at McGill increase the more likely staff will agree that their workload is a barrier to participation. The Tukey post hoc test confirms this trend by revealing significant mean differences between those who have been employed at McGill for seven or fewer years to those who have been at McGill for 15 or more years (see Appendix CC). One possible explanation for this finding may be that over three-quarters of staff with tenure of 15 or more years are employed in the "C6" to "C10" range — positions which have more job responsibility and more complex job tasks. Further analysis of this assertion is required, however.

Table 4.16

ANOVA: Forces in the Work Environment by Years at McGill and Years in Current Position

FORCES IN THE WORK ENVIRONMENT	MEANS BY YEARS AT McGILL				F-RATIO
	≤ 3	4 - 7	8 - 14	15 +	
Supervisor Support	3.45	3.58	3.68	3.50	1.55
Heavy Workload	2.88	2.78	2.91	3.24	4.32**
Not Convenient	2.46	2.31	2.43	2.40	0.84
Co-worker Support	3.09	3.20	3.11	3.13	0.48
Supervisor Expectations	2.29	2.15	2.00	2.14	2.46
FORCES IN THE WORK ENVIRONMENT	MEANS BY YEARS IN CURRENT POSITION				F-RATIO
	≤ 3	4 - 7	8 - 14	15 +	
Supervisor Support	3.50	3.60	3.70	3.52	1.93
Heavy Workload	2.85	3.00	2.96	3.25	1.55
Not Convenient	2.34	2.55	2.35	2.40	1.87
Co-worker Support	3.16	3.11	3.05	3.24	0.57
Supervisor Expectations	2.19	2.08	2.09	2.00	0.95

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).
* $p \leq 0.05$. ** $p \leq 0.01$.

Analyses of variance do not reveal any significant differences between the number of years staff members have worked in their current position and perceptions of the influence of forces in the work environment on participation.

4.5.2 *Forces in the Work Environment by Rate of Participation*

Table 4.17 shows analyses of differences between clerical staff perceptions of whether forces in the work environment influence participation and rate of participation in T & D activities.

One-way analyses of variance reveal significant differences between perceptions of "supervisor support" and rate of participation in Department of Human Resources as well as Computing Centre activities. An examination of the means show somewhat consistent increases in agreement as rate of participation increases. The Tukey post hoc test of pairwise differences shows a significant difference in means for those who participated in zero Department of Human Resources noon-time activities and those who participated in five or more activities (see Appendix DD). The Tukey post hoc test reveals a significant difference in means for those who participated in zero Department of Human Resources "other" activities and those who participated in three (see Appendix EE). The Tukey test also reveals a significant difference in means for those who participated in zero Computing Centre activities and those who participated in four (Appendix FF). This suggests that those staff members who are frequent participators are more likely to agree that they have their supervisors' support. These findings correspond with D. J. Cohen (1990a) and London (1989) who state that supervisor support has a positive influence on employee attitudes toward participation.

Table 4.17

ANOVA: Forces in the Work Environment by Rate of Participation

FORCES IN THE WORK ENVIRONMENT	MEANS BY NUMBER OF HR[a] NOONTIME ACTIVITIES						F-RATIO
	0	1	2	3	4	5 +	
Supervisor Support	3.58	3.69	3.81	3.84	3.67	4.35	2.38*
Heavy Workload	2.97	2.96	2.78	3.04	2.58	2.00	2.72*
Not Convenient	2.46	2.27	2.28	2.30	2.41	1.75	2.00
Co-worker Support	3.12	3.14	3.18	3.06	2.93	3.00	0.47
Supervisor Expectations	2.11	2.32	1.92	2.16	2.37	2.00	1.85

FORCES IN THE WORK ENVIRONMENT	MEANS BY NUMBER OF OTHER HR ACTIVITIES						F-RATIO
	0	1	2	3	4	5 +	
Supervisor Support	3.55	3.69	3.66	4.07	4.05	4.05	2.93*
Heavy Workload	3.00	2.97	2.76	2.52	2.60	2.63	1.82
Not Convenient	2.47	2.35	2.28	2.07	2.20	2.20	1.43
Co-worker Support	3.11	3.13	3.13	3.12	2.95	2.85	0.33
Supervisor Expectations	2.09	2.17	2.10	2.38	2.40	2.00	0.91

FORCES IN THE WORK ENVIRONMENT	MEANS BY NUMBER OF COMPUTING CENTRE ACTIVITIES						F-RATIO
	0	1	2	3	4	5 +	
Supervisor Support	3.56	3.71	3.87	3.72	4.35	3.35	3.01*
Heavy Workload	2.99	2.88	2.62	3.08	2.53	2.80	1.45
Not Convenient	2.51	2.25	2.19	2.19	2.00	2.80	2.88*
Co-worker Support	2.99	3.29	3.34	3.09	3.50	2.80	3.30**
Supervisor Expectations	2.16	2.13	2.18	2.06	2.30	2.60	0.43

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

[a] Refers to the Department of Human Resources.

* $p \leq 0.05$. ** $p \leq 0.01$.

There is a significant difference between perceptions relating to "heavy workload" and rate of participation in Department of Human Resources noon-time activities. An examination of the means suggests that those staff members who

participate in zero through four activities are uncertain about whether their workload is a barrier while those who participate in five or more activities tend to disagree that their workload deters them from participating. The Tukey post hoc test of pairwise differences reveals significant differences between the means of those who participated in zero and five or more activities as well as those who participated in one and five or more activities (see Appendix GG). This finding confirms Noe and Wilk's (1993) assertion that employees are more likely to participate if they do not perceive situational constraints. This finding also indicates that the most frequent participators do not find their workload terribly demanding.

One-way analysis of variance reveals a significant difference between perceptions relating to "not convenient" and rate of participation in Computing Centre activities. An examination of the means suggests that staff are more likely to disagree that activities are inconvenient if they participated in between one and four activities and are more likely to be undecided if they did not participate or if they participated in five or more activities. The Tukey post hoc test of pairwise differences does not reveal any significant differences. While this finding is interesting, it is difficult to ascertain possible reasons without further research.

There is a significant difference between perceptions of "co-worker support" and rate of participation in Computing Centre activities. An examination of the means reveal no consistent pattern — with perceptions ranging from degrees of uncertainty to degrees of agreement — relating to staff opinions of co-worker support. The Tukey post hoc test of pairwise differences in means reveals a significant difference between

those who did not participate and those who participated in one activity (see Appendix HH). While this finding is interesting, the area of co-worker support is clearly in need of additional research.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Researchers emphasize that T & D has the potential to maximize both employee capability and organizational capacity. The value associated with T & D has led researchers to assert a need for investigations into the various factors which influence employee participation. This study contributes to the foundation of basic knowledge by providing insight into the effects of several individual and contextual factors on McGill clerical staff attitudes toward as well as rate of participation in T & D.

This chapter summarizes the findings of the study, highlights its implications for McGill and provides direction for further research.

5.2 Who are McGill Clerical Staff?

An examination of the background characteristics of clerical staff included a survey of both personal and organizational membership characteristics. Findings indicate that the vast majority of clerical staff are female and the majority of staff have high self-efficacy. In terms of the other characteristics studied, however, clerical staff represent a broad spectrum of diversity. The age of clerical staff members varies greatly, as does their educational background. Moreover, while more clerical staff are employed in the higher level classifications, staff have assorted tenures both with regards to number of years at McGill and number of years in their current positions.

Finally, staff are employed throughout the faculty/department groupings. Several significant differences between the background characteristics of staff were found. These are reported in Chapter Four — Results and Discussion.

5.3 Do McGill Clerical Staff Participate in T & D?

Three-quarters of McGill clerical staff are aware of T & D opportunities offered through the Department of Human Resources and the Computing Centre. Of those staff who are aware, approximately half participated in one or more activities during the 1993/1994 academic year.

Differences in rate of participation by the various background characteristics of staff were investigated. The findings are summarized as follows:

(1) There are no significant differences in rate of participation by sex. This contrasts Blais et al. (1989) and Collis' (1985) assertion that females participate less than males.

(2) Older workers are more likely to be repeat participators in Department of Human Resources noon-time activities. While this finding is noteworthy because it counters the assertion of Fossum et al. (1986) that older workers value T & D less than younger workers, one possible explanation may be that the types of activities offered at noon-time are more appealing to older staff members. No other significant differences by age were found. The lack of difference in participation in Computing Centre activities by age contradicts Martocchio's (1993) observation that younger workers are more likely than

older workers to participate in computer training. This finding, however, may be associated the pressure of a university culture and the fear of becoming obsolete.

(3) No significant differences between rate of participation and educational background were found.

(4) No significant differences between rate of participation and level of self-efficacy were found.

(5) Higher level classified staff members are more likely to be repeat participators in "other" Department of Human Resources activities. This may be because many of the "other" activities target employees with more complicated jobs tasks. No differences between job classification and rate of participation in Department of Human Resources noon-time or Computing Centre activities were found.

(6) No significant differences between rate of participation and the faculty/ department groupings were found.

(7) Employees with very long tenure are more likely to be non-participators in "other" Department of Human Resources activities. While this finding corresponds with Kuo (1990) and Noe and Wilk (1993), who found that employees with lengthy tenure are less likely to participate in T & D, the lack of additional significant differences between participation and job tenure counters their findings.

Findings indicate that clerical staff prefer to participate in T & D activities that will improve job skills. Findings also reveal that the majority of staff regard job skills development as the first most important reason for participation in Computing Centre activities, while staff are divided between whether job skills development or personal development is the first most important reason for participation in Department of Human Resources activities.

5.4 What Benefits do Clerical Staff Associate with T & D?

Clerical staff regard enhancing performance as, by far, the most likely benefit of participation in T & D. Staff regard career development followed by obtaining rewards as the next most likely benefits of participation. Further, staff regard improving relationships and getting a needed break, respectively, as least likely to be potential benefits of participation.

Differences between staff perceptions of the potential benefits and the background characteristics of staff were investigated. The findings are outlined as follows:

(1) There are no significant differences between perceptions of the potential benefits and sex.

(2) Younger employees are more likely than older employees to perceive obtaining rewards as a potential benefit. This finding corresponds with the assumption that older workers are less inclined to associate rewards with participation in T & D (Fossum et al, 1986; Martocchio, 1993).

(3) Staff who continued schooling to CEGEP are more likely to perceive obtaining rewards as a potential benefit of participation.

(4) No significant relationships between level of self-efficacy and the potential benefits were found.

(5) Higher level classified staff are more unsure as to whether reward attainment is a potential benefit of participation. Perhaps higher classified staff are more cognizant of the "inflexibility" associated with the classification system (Shaughnessy, 1991).

(6) Staff employed in the "Health Sciences" grouping are more likely to perceive career development as a potential benefit of participation, particularly more so than staff employed in the "Social Sciences, Humanities and the Arts" grouping.

(7) Staff with shorter tenure (at McGill and in current position) are more likely to perceive obtaining rewards as a potential benefit of participation. Perhaps those with shorter tenure are at career stages characterized by higher levels of enthusiasm.

(8) Staff with shorter tenure (at McGill and in current position) are more likely to perceive enhancing performance as a potential benefit. Perhaps these staff are more preoccupied with performance or feel more pressure to perform well in their jobs.

(9) Staff who have longer tenure (at McGill and in current position) are less likely to perceive career development as a potential benefit of participation in T & D. Perhaps staff with longer tenure do not regard career development as important or perhaps they come closer or have reached their career goals.

An examination of differences between staff perception of the potential benefits and rate of participation were also undertaken. The findings include the following:

(1) Staff who do not participate in Department of Human Resources noon-time activities are more uncertain about whether participation will enhance relationships than those who do participate.

(2) Staff who participate in Department of Human Resources noon-time activities are more likely than those who do not participate to agree that performance enhancement is a potential benefit. Perhaps non-participators are more certain or less concerned with performance.

(3) There are no significant differences between perceptions of the potential benefits and rate of participation in either Department of Human Resources "other" activities or Computing Centre activities.

5.5 Do Forces in the Work Environment Influence Clerical Staff Participation in T & D?

The influence of various forces in the work environment on participation can be viewed in terms of perceived social support and perceived situational constraints. In terms of social support, staff lean toward agreeing that their supervisors are supportive of T & D while they are somewhat uncertain about their co-workers' support. Moreover, staff are inclined to disagree that they are influenced by supervisor expectations. In terms of situational constraints, staff tend to disagree that T & D is not convenient and are generaliy undecided about whether their workload impedes participation.

Differences between staff perceptions of forces in the work environment and the background characteristics of staff were explored. The findings include the following:

(1) There are no significant differences between staff perceptions of forces in the work environment and sex or age.

(2) Staff members who completed university degrees are more unsure about whether their co-workers are supportive of T & D.

(3) There is a slight but almost negligible relationship between perceptions of supervisor support and level of self-efficacy.

(4) Staff members in higher level classifications are more likely to agree that their supervisors are supportive of T & D. Perhaps supervisors believe that employees in higher classifications have more job responsibility and therefore demonstrate more support and encouragement.

(5) Staff in lower level positions are less likely to believe that their workload hinders participation in T & D. Perhaps lower classified employees have less demanding job tasks and responsibilities or perhaps they feel less pressure in their work.

(6) Employees in the "Physical and Natural Sciences" grouping are most likely to regard their supervisors as supportive of T & D.

(7) Staff members employed in the "Social Sciences, Humanities and the Arts" and the "Other" groupings are more uncertain about whether they have their co-workers support.

(8) Staff members with long tenure at McGill are more likely to believe that their workload is a barrier to participation.

An analysis of the differences between staff perceptions of forces in the work environment and rate of participation were also undertaken. The findings are as follows:

(1) Staff members who are frequent participators in T & D are more likely to agree that they have their supervisors' support. This finding coincides with the assertion that supervisor support has a positive influence on participation (D. J. Cohen, 1990a; London, 1989).

(2) Staff who are very frequent participators in Department of Human Resources noon-time activities tend to disagree that their workload influences participation. This confirms Noe and Wilk's (1993) finding that employees are more likely to participate if they do not perceive situational constraints.

(3) Staff who do not participate and staff who are very regular participators in Computing Centre activities are uncertain about whether activities are convenient.

(4) Staff who do not participate in Computing Centre activities are uncertain about whether they have their co-workers support.

5.6 Implications for McGill

This study reveals many interesting findings relating to clerical staff attitudes toward as well as rate of participation in T & D. Findings indicate that more emphasis should be placed on advising staff not only about the availability of T & D opportunities, but of the possible benefits associated with participation. Findings also suggest that the concerns and opinions of staff regarding T & D should be solicited and considered. Further, a supportive environment in which staff are motivated to participate should be nurtured and encouraged. In order to accomplish this, McGill might undertake special efforts to initiate or rejuvenate a dialogue promoting awareness of, interest in and action toward T & D. Such a dialogue should not only take place between staff members and their supervisors and staff members and their co-workers but should transpire on an organization-wide basis. As a learning

institution. McGill has the responsibility of encouraging and facilitating not only the development and growth of its faculty and students, but of the clerical staff members who provide invaluable administrative and customer services support.

Like most research, this study has sparked suggestions for further research with specific implications for McGill. Further research could survey the attitudes and opinions of clerical staff supervisors and co-workers and could compare these attitudes with those reflected by the clerical staff themselves. Research could also undertake explorations of similar issues in other university settings to determine if there are common themes throughout higher educational institutions. An inter-university investigation would be worthwhile because it would give T & D providers at McGill the opportunity to collaborate and exchange ideas with others dealing with comparable issues and concerns.

5.7 Recommendations for Further Research

This study provides a general understanding clerical staff participation in T & D. It uncovers many interesting findings and patterns and seeks to explain them by proffering a wide range of hypotheses. Further research in this area should undertake more in-depth investigations of this phenomenon. This might be accomplished by means of differing research paradigms and methodologies.

Explorations of employee participation in T & D have been highly empirical. For instance, while this study is valuable because it provides a framework by which to shape subsequent research, further research could be based on a qualitative approach and could incorporate such techniques as focus groups, in-depth interviews and

participant observation. A qualitative approach might provide a more detailed and deeper understanding of the factors that influence participation as that approach focuses on understanding the *meaning* of behaviour and/or attitudes within a specific context.

In conclusion, this study provides a foundation by which to pattern further research. It uncovers common themes and provides a framework of hypotheses relating to the factors that influence participation in T & D.

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APPENDIX A

Questionnaire

McGill Support Staff Questionnaire
Training and Development Study
Administration and Policy Studies in Education

PURPOSE:

The purpose of this questionnaire is to find out about support staff participation in training and development activities at McGill.

This questionnaire is concerned with training and development activities offered through the Department of Human Resources and through the Computing Centre. It is concerned with such activities as courses, seminars, workshops and film series.

INSTRUCTIONS:

The questionnaire consists of several items relating to training and development. Please read each statement carefully and mark the appropriate answer with a check mark [✓], unless otherwise indicated.

You should be able to complete the questionnaire in approximately 15 minutes. Rest assured that anonymity and complete confidentially will be scrupulously observed.

Please return the completed questionnaire by internal mail to Jacqueline Dressler in the enclosed envelope by June 3, 1994.

Thank you for your time and cooperation. If you have any questions or concerns please call Professor Gary Anderson or Jacqueline Dressler at Ext. # 6746.

PERCEIVED BENEFITS OF PARTICIPATION

The first set of statements describe the potential benefits of participating in training and development activities. Please check the box corresponding to the extent of your agreement with each statement.

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1.	Participating in training and development...					
a.	will help my personal development	☐	☐	☐	☐	☐
b.	will increase my chances of getting a promotion	☐	☐	☐	☐	☐
c.	will help me get a salary increase	☐	☐	☐	☐	☐
d.	will help me perform my job better	☐	☐	☐	☐	☐
e.	will result in more opportunities to pursue different career paths	☐	☐	☐	☐	☐
f.	will lead to more respect from my peers	☐	☐	☐	☐	☐
g.	will give me a needed break from my job	☐	☐	☐	☐	☐
h.	will help me get along better with my supervisor	☐	☐	☐	☐	☐
i.	will help me get along better with my peers	☐	☐	☐	☐	☐
j.	will give me a better idea of the career path I want to pursue	☐	☐	☐	☐	☐
k.	will help me reach my career objectives	☐	☐	☐	☐	☐
l.	will help me network with other employees	☐	☐	☐	☐	☐
m.	will help me stay up-to-date with new processes or procedures related to my job	☐	☐	☐	☐	☐

2. Which of the statements in # 1 do you perceive as most important? (indicate appropriate letter) _____

As second most important? _____

As third most important? _____

KEY FORCES IN THE WORK ENVIRONMENT

The following statements describe how your work situation influences your attendance at training and develop at activities. Please check the box corresponding to the extent of your agreement with each statement.

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
3.	My workload makes it difficult for me to participate in training and development activities.	☐	☐	☐	☐	☐
4.	I do not participate in training and development activities because too much work accumulates while I am away from my job.	☐	☐	☐	☐	☐
5.	The cost of courses prevents my participation in training and development activities.	☐	☐	☐	☐	☐
6.	I cannot participate in training and development because there is no one to replace me while I am away from my job.	☐	☐	☐	☐	☐
7.	I do not participate in training and development activities because they are offered at inconvenient locations.	☐	☐	☐	☐	☐
8.	I do not participate in training and development activities because they are scheduled at inconvenient times.	☐	☐	☐	☐	☐
9.	My supervisor gives me the freedom to choose which training and development programs I want to attend.	☐	☐	☐	☐	☐
10.	My supervisor enthusiastically supports my participation in training and development activities.	☐	☐	☐	☐	☐
11.	My co-workers view training and development as a waste of time.	☐	☐	☐	☐	☐
12.	I would not hesitate to tell my supervisor of a training and development need I have in a particular area.	☐	☐	☐	☐	☐
13.	My supervisor makes sure I get the training and development needed to remain effective in my job.	☐	☐	☐	☐	☐
14.	I usually participate in training and development because my supervisor expects me to.	☐	☐	☐	☐	☐
15.	My co-workers encourage me to participate in training and development activities.	☐	☐	☐	☐	☐

PARTICIPATION IN TRAINING AND DEVELOPMENT AT McGILL

The next set of statements ask you to provide an indication of your participation in training and development activities offered through various departments at McGill. Please check the box corresponding to your response.

The Department of Human Resources

16. I am aware of training and development opportunities offered through the Department of Human Resources

Yes ☐ If yes, go to # 17
No ☐ If no, go to # 20

17. How many Department of Human Resources noon-time offered training and development activities have you attended in the past year?

	Number of Activities					
	0	1	2	3	4	5+
For example:	☐	☐	☐	☐	☐	☐

- Lifestyles and Wellness Sessions
- Film Series
- Information Sessions: eg. Financial Planning, Pension Plan, Benefits...

18. How many other Department of Human Resources offered training and development activities have you attended in the past year?

	Number of Activities					
	0	1	2	3	4	5+
For example:	☐	☐	☐	☐	☐	☐

- Workshops: eg. customer service, telephone skills, coaching, time management...
- Information Sessions: eg. accounts, budget, payroll, records...
- Information Sessions: eg. Retirement Planning...
- Reading and Writing Workshops
- Career Development

19. Please rank the following according to the scale provided. I participate in Department of Human Resources activities...

for personal enrichment/development _____
to develop or improve job skills _____
for long-term career development _____

1 = 1st most important reason
2 = 2nd most important reason
3 = 3rd most important reason

The Computing Centre

20. I am aware of training and development opportunities offered through the Computing Centre

Yes ☐ If yes, go to # 21
No ☐ If no, go to # 23

21. How many Computing Centre offered training and development activities have you attended in the past year?

	Number of Activities					
	0	1	2	3	4	5+
For example:	☐	☐	☐	☐	☐	☐

- Basic Level Seminars
- Applications Seminars: eg. Spreadsheets, Wordprocessing, Databases, Statistical Software
- Networking and Communications seminars: eg. e-mail
- Operating seminars

22. Please rank the following according to the scale provided. I participate in Computing Centre activities...

for personal enrichment/development ____
to develop or improve job skills ____
for long-term career development ____

1 = 1st most important reason
2 = 2nd most important reason
3 = 3rd most important reason

SOME ADDITIONAL INFORMATION

The following section asks you for some additional information. Please check the box corresponding to the extent of your agreement with each statement, unless otherwise indicated.

		Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
23.	I cope well with the everyday challenges of my job.	☐	☐	☐	☐	☐
24.	In general, my colleagues perceive me as being a capable person.	☐	☐	☐	☐	☐
25.	I expect to do well in training activities, even in unfamiliar areas.	☐	☐	☐	☐	☐

26. Please rank the following types of training and development activities in terms of their importance to you. Rank "1" for most important, "2" for second most important, and "3" for third most important.

training and development for personal enrichment/development ____

training and development to develop or improve job skills ____

training and development for long-term career development ____

27. Please indicate your sex.

Female ☐ Male ☐

28. Please indicate your level of education.

High school graduate ☐
Business School - DEP ☐
CEGEP diploma ☐
University degree ☐
Other, please specify ☐ _____

29. Please indicate your age.

Below 20 ☐ 20 - 29 ☐ 30 - 39 ☐
40 - 49 ☐ 50 - 59 ☐ 60 + ☐

30. What is your job classification code?

C1 ☐ C2 ☐
C3 ☐ C4 ☐
C5 ☐ C6 ☐
C7 ☐ C8 ☐
C9 ☐ C10 ☐

31. What is your job title? _____

32. How long have you worked at McGill (in years)? _____

33. How long have your been in your current position (in years)? _____

34. In which faculty/department do you work?

Agriculture ☐
Arts ☐
Athletics ☐
Continuing Education ☐
Dentistry ☐
Education ☐
Engineering ☐
Facilities ☐
Graduate Studies ☐
Law ☐
Libraries ☐
Management ☐
Medicine ☐
Music ☐
Nursing ☐
Religious Studies ☐
Science ☐
Student Services ☐
University Administration ☐
eg. Admissions, Advancement, Human Resources, Principal's and Vice Principal's Office, University Business Operations etc...
Other, please specify ☐ _____

35. Please add any additional comments or suggestions (continue on back if necessary).

Thank you very much for your time.

APPENDIX B

Cover Letter

APPENDIX C

Follow-up Letter

APPENDIX D

Results of Items to Measure Self-efficacy

ITEM	NUMBER	MEAN	STANDARD DEVIATION
I cope well with the everyday challenges of my job.	457	4.29	0.64
In general, my colleagues perceive me as a capable person.	456	4.24	0.57
I expect to do well in training activities, even in unfamiliar areas.	454	4.01	0.68

Note. Total number of respondents was 460. Totals less than 460 indicate data were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

APPENDIX E

Factor Analysis of Items to Measure Self-efficacy

LATENT ROOTS (EIGENVALUES)

1	2	3
1.808	0.659	0.533

COMPONENT LOADINGS

Q24	0.805
Q23	0.788
Q25	0.734

VARIANCE EXPLAINED BY COMPONENTS

1.808

PERCENT OF TOTAL VARIANCE EXPLAINED

60.271

APPENDIX F

Faculty/Department Groupings

Health Sciences

- Dentistry
- Medicine
- Nursing

Physical and Natural Sciences

- Agriculture
- Engineering
- Science

Social Sciences, Humanities and the Arts

- Arts
- Continuing Education
- Education
- Law
- Management
- Music

University Administration and Operations

- Facilities
- Student Services
- University Administration

Other

- Athletics
- Bookstore
- Graduate Studies
- Libraries
- All others

APPENDIX G

Results of Items: Perceived Benefits of Participation

ITEM	NUMBER	MEAN	STANDARD DEVIATION
Participating in T & D will help my personal development.	453	4.23	0.72
Participating in T & D will increase my chances of getting a promotion.	450	3.46	1.08
Participating in T & D will help me get a salary increase.	451	2.77	1.10
Participating in T & D will help me perform my job better.	453	4.18	0.67
Participating in T & D will result in more opportunities to pursue different career paths.	448	3.81	0.93
Participating in T & D will lead to more respect from my peers.	450	2.94	1.02
Participating in T & D will give me a needed break from my job.	447	2.65	1.14
Participating in T & D will help me get along better with my supervisor.	448	2.68	0.96
Participating in T & D will help me get along better with my peers.	449	2.68	0.96
Participating in T & D will give me a better idea of the career path I want to pursue.	449	3.38	0.97
Participating in T & D will help me reach my career objectives.	448	3.51	0.93
Participating in T & D will help me network with other employees.	450	3.80	0.84
Participating in T & D will help me stay up-to-date with new processes and procedures related to my job.	453	4.24	0.76

Note. Total number of respondents was 460. Totals less than 460 indicate data were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

APPENDIX H

Principal Components Analysis of Perceived Benefits of Participation

LATENT ROOTS (EIGENVALUES)

1	2	3	4	5
4.726	1.838	1.154	0.892	0.860
6	7	8	9	10
0.679	0.602	0.548	0.459	0.411
11	12	13		
0.353	0.292	0.187		

COMPONENT LOADINGS

	1	2	3	4	5
Q1K	0.751	0.106	-0.056	-0.405	0.015
Q1E	0.699	0.288	0.079	-0.264	0.052
Q1B	0.665	0.358	0.385	0.137	0.013
Q1J	0.661	-0.041	-0.098	-0.594	-0.021
Q1D	0.651	0.303	-0.236	0.337	-0.029
Q1M	0.642	0.110	-0.389	0.247	-0.042
Q1F	0.639	-0.209	0.365	0.150	0.105
Q1C	0.615	0.258	0.527	0.134	0.005
Q1A	0.575	0.282	-0.296	0.229	-0.012
Q1L	0.531	-0.207	-0.517	0.017	0.103
Q1I	0.519	-0.712	0.087	0.050	-0.316
Q1H	0.488	-0.730	0.072	0.107	-0.281
Q1G	0.230	-0.487	0.029	0.070	0.808

VARIANCE EXPLAINED BY COMPONENTS

1	2	3	4	5
4.726	1.838	1.154	0.892	0.860

PERCENT OF TOTAL VARIANCE EXPLAINED

1	2	3	4	5
36.353	14.139	8.876	6.860	6.617

ROTATED LOADINGS

	1	2	3	4	5
Q1C	0.830	0.084	0.128	0.166	-0.010
Q1B	0.785	0.003	0.273	0.215	-0.035
Q1F	0.575	0.416	0.138	0.149	0.271
Q1I	0.089	0.918	0.085	0.152	0.069
Q1H	0.071	0.912	0.099	0.089	0.108
Q1M	0.135	0.155	0.751	0.181	0.021
Q1D	0.341	0.022	0.745	0.108	-0.037
Q1A	0.225	-0.016	0.687	0.165	-0.030
Q1L	-0.173	0.270	0.586	0.310	0.249
Q1J	0.105	0.203	0.149	0.852	0.042
Q1K	0.281	0.129	0.295	0.747	0.042
Q1E	0.453	-0.024	0.288	0.602	0.004
Q1G	0.039	0.152	0.013	0.039	0.961

VARIANCE EXPLAINED BY ROTATED COMPONENTS

1	2	3	4	5
2.160	2.034	2.252	1.942	1.082

PERCENT OF TOTAL VARIANCE EXPLAINED

1	2	3	4	5
16.614	15.647	17.326	14.935	8.323

APPENDIX I

Results of Items: Perceptions of Forces in the Work Environment Which Influence Participation

ITEM	NUMBER	MEAN	STANDARD DEVIATION
My workload makes it difficult for me to participate in T & D activities.	452	3.23	1.21
I do not participate in T & D activities because too much work accumulates while I am away from my job.	451	2.81	1.14
The cost of courses prevents my participation in T & D activities.	452	2.85	1.10
I cannot participate in T & D because there is no one to replace me while I am away from my job.	447	2.75	1.12
I do not participate in T & D activities because they are offered at inconvenient locations.	451	2.25	0.83
I do not participate in T & D activities because they are scheduled at inconvenient times.	448	2.54	0.99
My supervisor gives me the freedom to choose which T & D programs I want to attend.	450	3.45	1.10
My supervisor enthusiastically supports my participation in T & D activities.	449	3.55	1.05
My co-workers view T & D as a waste of time.	449	2.38	0.90
I would not hesitate to tell my supervisor of a T & D need I have in a particular area.	449	3.97	0.90
My supervisor makes sure I get the T & D needed to remain effective in my job.	448	3.25	1.07
I usually participate in T & D because my supervisor expects me to.	449	2.15	0.79
My co-workers encourage me to participate in T & D activities.	446	2.64	0.98

Note. Total number of respondents was 460. Totals less than 460 indicate data were missing from returned questionnaires. Calculations based on a five-point Likert scale (1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree).

APPENDIX J

Principal Components Analysis of Perceptions of Forces in the Work Environment Which Influence Participation

LATENT ROOTS (EIGENVALUES)

1	2	3	4	5
3.653	2.086	1.239	1.180	1.079
6	7	8	9	10
0.782	0.634	0.563	0.463	0.456
11	12	13		
0.416	0.252	0.197		

COMPONENT LOADINGS

	1	2	3	4	5
Q10	-0.740	0.490	0.059	0.177	0.031
Q9	-0.685	0.447	0.116	0.259	-0.000
Q13	-0.627	0.453	0.111	-0.055	-0.135
Q6	0.623	0.447	-0.266	0.026	0.021
Q4	0.573	0.613	-0.328	-0.083	-0.084
Q12	-0.568	0.403	-0.218	0.211	0.104
Q5	0.542	0.040	0.110	-0.152	0.203
Q3	0.498	0.582	-0.393	-0.023	-0.000
Q7	0.438	0.368	0.650	0.088	0.129
Q8	0.491	0.378	0.569	0.105	0.141
Q15	-0.292	0.201	0.173	-0.741	0.130
Q11	0.377	-0.107	0.136	0.521	-0.523
Q14	-0.039	0.176	0.151	-0.403	-0.821

VARIANCE EXPLAINED BY COMPONENTS

1	2	3	4	5
3.653	2.086	1.239	1.180	1.079

PERCENT OF TOTAL VARIANCE EXPLAINED

1	2	3	4	5
28.101	16.043	9.534	9.078	8.302

ROTATED LOADINGS

	1	2	3	4	5
Q10	-0.892	-0.104	-0.024	0.127	0.003
Q9	-0.854	-0.138	0.029	0.025	0.005
Q13	-0.721	-0.081	-0.007	0.218	-0.241
Q12	-0.717	0.073	-0.202	0.065	0.155
Q4	0.069	0.887	0.149	-0.018	-0.106
Q3	0.020	0.857	0.077	-0.020	0.008
Q6	0.175	0.763	0.187	-0.101	0.042
Q7	0.053	0.124	0.868	-0.042	-0.020
Q8	0.081	0.200	0.829	-0.066	0.014
Q15	-0.103	-0.075	0.061	0.795	-0.266
Q11	0.157	0.035	0.164	-0.778	-0.243
Q14	-0.036	0.051	-0.021	0.021	-0.942
Q5	0.419	0.258	0.332	0.096	0.102

VARIANCE EXPLAINED BY ROTATED COMPONENTS

1	2	3	4	5
2.817	2.278	1.688	1.332	1.123

PERCENT OF TOTAL VARIANCE EXPLAINED

1	2	3	4	5
21.666	17.521	12.986	10.244	8.641

APPENDIX K

Chi-square and Crosstabulation of Educational Background by Sex

FREQUENCIES

	A)HIGHSC	B)BUSINE	C)CEGEP	D)UNIVER	E)OTHER	TOTAL
FEMALE	79	107	109	112	20	427
MALE	7	1	7	14	1	30
TOTAL	86	108	116	126	21	457

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	A)HIGHSC	B)BUSINE	C)CEGEP	D)UNIVER	E)OTHER	TOTAL	N
FEMALE	17.29	23.41	23.85	24.51	4.38	93.44	427.00
MALE	1.53	.22	1.53	3.06	.22	6.56	30.00
TOTAL	18.82	23.63	25.38	27.57	4.60	100.00	
N	86	108	116	126	21	457	

ROW PERCENTS

	A)HIGHSC	B)BUSINE	C)CEGEP	D)UNIVER	E)OTHER	TOTAL	N
FEMALE	18.50	25.06	25.53	26.23	4.68	100.00	427.00
MALE	23.33	3.33	23.33	46.67	3.33	100.00	30.00
TOTAL	18.82	23.63	25.38	27.57	4.60	100.00	
N	86	108	116	126	21	457	

COLUMN PERCENTS

	A)HIGHSC	B)BUSINE	C)CEGEP	D)UNIVER	E)OTHER	TOTAL	N
FEMALE	91.86	99.07	93.97	88.89	95.24	93.44	427.00
MALE	8.14	.93	6.03	11.11	4.76	6.56	30.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	
N	86	108	116	126	21	457	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	10.357	4	0.035

APPENDIX L

Chi-square and Crosstabulation of Educational Background by Age

FREQUENCIES

	20TO29	30TO39	40TO49	50TO59	60ORMORE	TOTAL
A)HIGHSC	9	28	32	14	3	86
B)BUSINE	13	32	36	15	11	107
C)CEGEP	41	48	14	11	2	116
D)UNIVER	30	44	29	18	5	126
E)OTHER	5	12	3	1	0	21
TOTAL	98	164	114	59	21	456

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	20TO29	30TO39	40TO49	50TO59	60ORMORE	TOTAL	N
A)HIGHSC	1.97	6.14	7.02	3.07	.66	18.86	86.00
B)BUSINE	2.85	7.02	7.89	3.29	2.41	23.46	107.00
C)CEGEP	8.99	10.53	3.07	2.41	.44	25.44	116.00
D)UNIVER	6.58	9.65	6.36	3.95	1.10	27.63	126.00
E)OTHER	1.10	2.63	.66	.22	.00	4.61	21.00
TOTAL	21.49	35.96	25.00	12.94	4.61	100.00	
N	98	164	114	59	21	456	

ROW PERCENTS

	20TO29	30TO39	40TO49	50TO59	60ORMORE	TOTAL	N
A)HIGHSC	10.47	32.56	37.21	16.28	3.49	100.00	86.00
B)BUSINE	12.15	29.91	33.64	14.02	10.28	100.00	107.00
C)CEGEP	35.34	41.38	12.07	9.48	1.72	100.00	116.00
D)UNIVER	23.81	34.92	23.02	14.29	3.97	100.00	126.00
E)OTHER	23.81	57.14	14.29	4.76	.00	100.00	21.00
TOTAL	21.49	35.96	25.00	12.94	4.61	100.00	
N	98	164	114	59	21	456	

COLUMN PERCENTS

	20TO29	30TO39	40TO49	50TO59	60ORMORE	TOTAL	N
A)HIGHSC	9.18	17.07	28.07	23.73	14.29	18.86	86.00
B)BUSINE	13.27	19.51	31.58	25.42	52.38	23.46	107.00
C)CEGEP	41.84	29.27	12.28	18.64	9.52	25.44	116.00
D)UNIVER	30.61	26.83	25.44	30.51	23.81	27.63	126.00
E)OTHER	5.10	7.32	2.63	1.69	.00	4.61	21.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	
N	98	164	114	59	21	456	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	56.212	16	0.000

APPENDIX M

Chi-square and Crosstabulation of Faculty/Department Groupings by Sex

FREQUENCIES

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL
FEMALE	62	101	77	91	93	424
MALE	10	0	0	9	10	29
TOTAL	72	101	77	100	103	453

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
FEMALE	13.69	22.30	17.00	20.09	20.53	93.60	424.00
MALE	2.21	.00	.00	1.99	2.21	6.40	29.00
TOTAL	15.89	22.30	17.00	22.08	22.74	100.00	
N	72	101	77	100	103	453	

ROW PERCENTS

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
FEMALE	14.62	23.82	18.16	21.46	21.93	100.00	424.00
MALE	34.48	.00	.00	31.03	34.48	100.00	29.00
TOTAL	15.89	22.30	17.00	22.08	22.74	100.00	
N	72	101	77	100	103	453	

COLUMN PERCENTS

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
FEMALE	86.11	100.00	100.00	91.00	90.29	93.60	424.00
MALE	13.89	.00	.00	9.00	9.71	6.40	29.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	
N	72	101	77	100	103	453	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	21.917	4	0.000

APPENDIX N

Chi-square and Crosstabulation of Faculty/Department Groupings by Educational Background

FREQUENCIES

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL
A)HIGHSC	15	14	15	14	27	85
B)BUSINE	13	34	24	15	21	107
C)CEGEP	16	27	22	30	20	115
D)UNIVER	25	19	13	36	31	124
E)OTHER	3	6	3	5	4	21
TOTAL	72	100	77	100	103	452

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
A)HIGHSC	3.32	3.10	3.32	3.10	5.97	18.81	85.00
B)BUSINE	2.88	7.52	5.31	3.32	4.65	23.67	107.00
C)CEGEP	3.54	5.97	4.87	6.64	4.42	25.44	115.00
D)UNIVER	5.53	4.20	2.88	7.96	6.86	27.43	124.00
E)OTHER	.66	1.33	.66	1.11	.88	4.65	21.00
TOTAL	15.93	22.12	17.04	22.12	22.79	100.00	
N	72	100	77	100	103	452	

ROW PERCENTS

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
A)HIGHSC	17.65	16.47	17.65	16.47	31.76	100.00	85.00
B)BUSINE	12.15	31.78	22.43	14.02	19.63	100.00	107.00
C)CEGEP	13.91	23.48	19.13	26.09	17.39	100.00	115.00
D)UNIVER	20.16	15.32	10.48	29.03	25.00	100.00	124.00
E)OTHER	14.29	28.57	14.29	23.81	19.05	100.00	21.00
TOTAL	15.93	22.12	17.04	22.12	22.79	100.00	
N	72	100	77	100	103	452	

COLUMN PERCENTS

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
A)HIGHSC	20.83	14.00	19.48	14.00	26.21	18.81	85.00
B)BUSINE	18.06	34.00	31.17	15.00	20.39	23.67	107.00
C)CEGEP	22.22	27.00	28.57	30.00	19.42	25.44	115.00
D)UNIVER	34.72	19.00	16.88	36.00	30.10	27.43	124.00
E)OTHER	4.17	6.00	3.90	5.00	3.88	4.65	21.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	
N	72	100	77	100	103	452	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	30.280	16	0.017

APPENDIX O

Chi-square and Crosstabulation of Job Classification by Years at McGill and by Years in Current Position

JOB CLASSIFICATION BY YEARS AT McGILL

FREQUENCIES

	A)3ORLES	B)4TO7	C)8TO14	D)15ORMO	TOTAL
1TO5	60	53	22	22	157
6TO10	44	72	91	77	284
TOTAL	104	125	113	99	441

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	A)3ORLES	B)4TO7	C)8TO14	D)15ORMO	TOTAL	N
1TO5	13.61	12.02	4.99	4.99	35.60	157.00
6TO10	9.98	16.33	20.63	17.46	64.40	284.00
TOTAL	23.58	28.34	25.62	22.45	100.00	
N	104	125	113	99	441	

ROW PERCENTS

	A)3ORLES	B)4TO7	C)8TO14	D)15ORMO	TOTAL	N
1TO5	38.22	33.76	14.01	14.01	100.00	157.00
6TO10	15.49	25.35	32.04	27.11	100.00	284.00
TOTAL	23.58	28.34	25.62	22.45	100.00	
N	104	125	113	99	441	

COLUMN PERCENTS

	A)3ORLES	B)4TO7	C)8TO14	D)15ORMO	TOTAL	N
1TO5	57.69	42.40	19.47	22.22	35.60	157.00
6TO10	42.31	57.60	80.53	77.78	64.40	284.00
TOTAL	100.00	100.00	100.00	100.00	100.00	
N	104	125	113	99	441	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	45.214	3	0.000

JOB CLASSIFICATION BY YEARS IN CURRENT POSITION

FREQUENCIES

	A)3ORLES	B)4TO7	C)8TO14	D)15ORMO	TOTAL
1TO5	92	44	13	8	157
6TO10	136	76	57	15	284
TOTAL	228	120	70	23	441

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	A)3ORLES	B)4TO7	C)8TO14	D)15ORMO	TOTAL	N
1TO5	20.86	9.98	2.95	1.81	35.60	157.00
6TO10	30.84	17.23	12.93	3.40	64.40	284.00
TOTAL	51.70	27.21	15.87	5.22	100.00	
N	228	120	70	23	441	

ROW PERCENTS

	A)3ORLES	B)4TO7	C)8TO14	D)15ORMO	TOTAL	N
1TO5	58.60	28.03	8.28	5.10	100.00	157.00
6TO10	47.89	26.76	20.07	5.28	100.00	284.00
TOTAL	51.70	27.21	15.87	5.22	100.00	
N	228	120	70	23	441	

COLUMN PERCENTS

	A)3ORLES	B)4TO7	C)8TO14	D)15ORMO	TOTAL	N
1TO5	40.35	36.67	18.57	34.78	35.60	157.00
6TO10	59.65	63.33	81.43	65.22	64.40	284.00
TOTAL	100.00	100.00	100.00	100.00	100.00	
N	228	120	70	23	441	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	11.164	3	0.011

APPENDIX P

Chi-square and Crosstabulation of Faculty/Department Groupings by Years in Current Position

FREQUENCIES

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL
A)3ORLES	46	45	28	50	62	231
B)4TO7	17	34	21	26	24	122
C)8TO14	6	16	19	19	10	70
D)15ORMO	2	5	7	5	6	25
TOTAL	71	100	75	100	102	448

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
A)3ORLES	10.27	10.04	6.25	11.16	13.84	51.56	231.00
B)4TO7	3.79	7.59	4.69	5.80	5.36	27.23	122.00
C)8TO14	1.34	3.57	4.24	4.24	2.23	15.63	70.00
D)15ORMO	.45	1.12	1.56	1.12	1.34	5.58	25.00
TOTAL	15.85	22.32	16.74	22.32	22.77	100.00	
N	71	100	75	100	102	448	

ROW PERCENTS

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
A)3ORLES	19.91	19.48	12.12	21.65	26.84	100.00	231.00
B)4TO7	13.93	27.87	17.21	21.31	19.67	100.00	122.00
C)8TO14	8.57	22.86	27.14	27.14	14.29	100.00	70.00
D)15ORMO	8.00	20.00	28.00	20.00	24.00	100.00	25.00
TOTAL	15.85	22.32	16.74	22.32	22.77	100.00	
N	71	100	75	100	102	448	

COLUMN PERCENTS

	ALLOTHER	HEALTHSC	PHYSNATS	SOCSCHUM	UNIVADMI	TOTAL	N
A)3ORLES	64.79	45.00	37.33	50.00	60.78	51.56	231.00
B)4TO7	23.94	34.00	28.00	26.00	23.53	27.23	122.00
C)8TO14	8.45	16.00	25.33	19.00	9.80	15.63	70.00
D)15ORMO	2.82	5.00	9.33	5.00	5.88	5.58	25.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	
N	71	100	75	100	102	448	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	23.283	12	0.025

APPENDIX Q

Chi-square and Crosstabulation of Age by Rate of Participation in Department of Human Resources Noon-time Activities

FREQUENCIES

	0	1	2ORMORE	TOTAL
20TO29	40	21	7	68
30TO39	64	19	36	119
40TO49	41	15	35	91
50TO59	16	5	25	46
60ORMORE	5	2	8	15
TOTAL	166	62	111	339

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	0	1	2ORMORE	TOTAL	N
20TO29	11.80	6.19	2.06	20.06	68.00
30TO39	18.88	5.60	10.62	35.10	119.00
40TO49	12.09	4.42	10.32	26.84	91.00
50TO59	4.72	1.47	7.37	13.57	46.00
60ORMORE	1.47	.59	2.36	4.42	15.00
TOTAL	48.97	18.29	32.74	100.00	
N	166	62	111	339	

ROW PERCENTS

	0	1	2ORMORE	TOTAL	N
20TO29	58.82	30.88	10.29	100.00	68.00
30TO39	53.78	15.97	30.25	100.00	119.00
40TO49	45.05	16.48	38.46	100.00	91.00
50TO59	34.78	10.87	54.35	100.00	46.00
60ORMORE	33.33	13.33	53.33	100.00	15.00
TOTAL	48.97	18.29	32.74	100.00	
N	166	62	111	339	

COLUMN PERCENTS

	0	1	2ORMORE	TOTAL	N
20TO29	24.10	33.87	6.31	20.06	68.00
30TO39	38.55	30.65	32.43	35.10	119.00
40TO49	24.70	24.19	31.53	26.84	91.00
50TO59	9.64	8.06	22.52	13.57	46.00
60ORMORE	3.01	3.23	7.21	4.42	15.00
TOTAL	100.00	100.00	100.00	100.00	
N	166	62	111	339	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	32.931	8	0.000

APPENDIX R

Chi-square and Crosstabulation of Job Classification by Rate of Participation in Department of Human Resources "Other" Activities

FREQUENCIES

	0	1	2ORMORE	TOTAL
1TO5	47	33	23	103
6TO10	80	67	82	229
TOTAL	127	100	105	332

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	0	1	2ORMORE	TOTAL	N
1TO5	14.16	9.94	6.93	31.02	103.00
6TO10	24.10	20.18	24.70	68.98	229.00
TOTAL	38.25	30.12	31.63	100.00	
N	127	100	105	332	

ROW PERCENTS

	0	1	2ORMORE	TOTAL	N
1TO5	45.63	32.04	22.33	100.00	103.00
6TO10	34.93	29.26	35.81	100.00	229.00
TOTAL	38.25	30.12	31.63	100.00	
N	127	100	105	332	

COLUMN PERCENTS

	0	1	2ORMORE	TOTAL	N
1TO5	37.01	33.00	21.90	31.02	103.00
6TO10	62.99	67.00	78.10	68.98	229.00
TOTAL	100.00	100.00	100.00	100.00	
N	127	100	105	332	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	6.388	2	0.041

APPENDIX S

Chi-square and Crosstabulation of Years in Current Position by Rate of Participation in Department of Human Resources "Other" Activities

FREQUENCIES

	0	1	2ORMORE	TOTAL
A)3ORLES	56	58	59	173
B)4TO7	40	30	23	93
C)8TO14	19	10	23	52
D)15ORMO	11	2	3	16
TOTAL	126	100	108	334

PERCENTS OF TOTAL OF THIS (SUB)TABLE

	0	1	2ORMORE	TOTAL	N
A)3ORLES	16.77	17.37	17.66	51.80	173.00
B)4TO7	11.98	8.98	6.89	27.84	93.00
C)8TO14	5.69	2.99	6.89	15.57	52.00
D)15ORMO	3.29	.60	.90	4.79	16.00
TOTAL	37.72	29.94	32.34	100.00	
N	126	100	108	334	

ROW PERCENTS

	0	1	2ORMORE	TOTAL	N
A)3ORLES	32.37	33.53	34.10	100.00	173.00
B)4TO7	43.01	32.26	24.73	100.00	93.00
C)8TO14	36.54	19.23	44.23	100.00	52.00
D)15ORMO	68.75	12.50	18.75	100.00	16.00
TOTAL	37.72	29.94	32.34	100.00	
N	126	100	108	334	

COLUMN PERCENTS

	0	1	2ORMORE	TOTAL	N
A)3ORLES	44.44	58.00	54.63	51.80	173.00
B)4TO7	31.75	30.00	21.30	27.84	93.00
C)8TO14	15.08	10.00	21.30	15.57	52.00
D)15ORMO	8.73	2.00	2.78	4.79	16.00
TOTAL	100.00	100.00	100.00	100.00	
N	126	100	108	334	

TEST STATISTIC	VALUE	DF	PROB
PEARSON CHI-SQUARE	15.652	6	0.016

APPENDIX T

Clerical Staff Rankings of Perceived Benefits

PERCEIVED BENEFITS	% RANKED 1st MOST IMPORTANT	% RANKED 2nd MOST IMPORTANT	% RANKED 3rd MOST IMPORTANT
To Obtain Rewards	4.8%	8.9%	10.3%
To Improve Relationships	0.0%	2.7%	4.0%
To Enhance Performance	83.1%	66.6%	56.5%
To Develop Career	12.1%	21.6%	27.4%
To Get Needed Break	0.0%	0.3%	1.9%

Note. Total number of respondents was 460. In some cases data relating to the above were missing from returned questionnaires. Please note that rounding yields totals of 100.1% for those benefits ranked second and third most important.

APPENDIX U

Tukey HSD Test: To Obtain Rewards by Age

```
COL/
ROW      AGE$
  1   20TO29
  2   30TO39
  3   40TO49
  4   50TO59
  5   60ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF  REWARDS


USING MODEL MSE OF         .968 WITH     444. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4           5

          1       0.000
          2      -0.480       0.000
          3      -0.358       0.122       0.000
          4      -0.363       0.117      -0.004       0.000
          5      -0.515      -0.035      -0.156      -0.152       0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4           5

          1       1.000
          2       0.001       1.000
          3       0.066       0.852       1.000
          4       0.180       0.940       1.000       1.000
          5       0.190       1.000       0.963       0.975       1.000
```

APPENDIX V

Tukey HSD Test: To Obtain Rewards by Educational Background

```
COL/
ROW  EDUCAT$
   1  A)HIGHSCHOOL
   2  B)BUSINESSSC
   3  C)CEGEP
   4  D)UNIVERSITY
   5  E)OTHER

USING LEAST SQUARES MEANS.

POST HOC TEST OF  REWARDS


USING MODEL MSE OF         .970 WITH     445. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4           5

          1       0.000
          2      -0.052       0.000
          3       0.343       0.395       0.000
          4      -0.003       0.049      -0.346       0.000
          5      -0.138      -0.086      -0.481      -0.135       0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4           5

          1       1.000
          2       0.996       1.000
          3       0.113       0.023       1.000
          4       1.000       0.996       0.052       1.000
          5       0.979       0.996       0.239       0.978       1.000
```

APPENDIX W

Tukey HSD Test: To Develop Career by Faculty/Department Groupings

COL/
ROWFACGROUP$
1 ALLOTHERS
2 HEALTHSC
3 PHYSNATSC
4 SOCSCHUMART
5 UNIVADMIN&OP

USING LEAST SQUARES MEANS.

POST HOC TEST OF CAREER

USING MODEL MSE OF .609 WITH 440. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

	1	2	3	4	5
1	0.000				
2	0.219	0.000			
3	0.004	-0.215	0.000		
4	-0.134	-0.353	-0.138	0.000	
5	0.054	-0 164	0.051	0.189	0.000

TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

	1	2	3	4	5
1	1.000				
2	0.371	1.000			
3	1.000	0.370	1.000		
4	0.801	0.013	0.772	1.000	
5	0.992	0.578	0.993	0.434	1.000

APPENDIX X

Tukey HSD Test: To Obtain Rewards by Years at McGill

```
COL/
ROW MCGTENU$
   1  A)3ORLESS
   2  B)4TO7
   3  C)8TO14
   4  D)15ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF  REWARDS


USING MODEL MSE OF         .974 WITH     439. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4

          1       0.000
          2      -0.078       0.000
          3      -0.340      -0.262       0.000
          4      -0.428      -0.350      -0.088       0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4

          1       1.000
          2       0.932       1.000
          3       0.049       0.173       1.000
          4       0.010       0.045       0.917       1.000
```

APPENDIX Y

Tukey HSD Test: To Enhance Performance by Years at McGill and by Years in Current Position

YEARS AT McGILL
COL/
ROW MCGTENU$
1 A)3ORLESS
2 B)4TO7
3 C)8TO14
4 D)15ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF PERFORMA

USING MODEL MSE OF .319 WITH 443. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

	1	2	3	4
1	0.000			
2	-0.037	0.000		
3	-0.199	-0.162	0.000	
4	-0.189	-0.152	0.009	0.000

TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

	1	2	3	4
1	1.000			
2	0.959	1.000		
3	0.042	0.121	1.000	
4	0.073	0.187	0.999	1.000

YEARS IN CURRENT POSITION
COL/
ROW JOBTENU$
1 A)3ORLESS
2 B)4TO7
3 C)8TO14
4 D)15ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF PERFORMA

USING MODEL MSE OF .307 WITH 443. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

	1	2	3	4
1	0.000			
2	-0.172	0.000		
3	-0.089	0.083	0.000	
4	-0.168	0.004	-0.079	0.000

TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

	1	2	3	4
1	1.000			
2	0.030	1.000		
3	0.639	0.752	1.000	
4	0.475	1.000	0.929	1.000

APPENDIX Z

Tukey HSD Test: To Develop Career by Years at McGill

```
COL/
ROW MCGTENUS
   1  A)3ORLESS
   2  B)4TO7
   3  C)8TO14
   4  D)15ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF   CAREER


USING MODEL MSE OF         .605 WITH    439. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4

          1       0.000
          2       0.017       0.000
          3      -0.250      -0.267       0.000
          4      -0.296      -0.313      -0.046       0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4

          1       1.000
          2       0.998       1.000
          3       0.077       0.042       1.000
          4       0.032       0.016       0.973       1.000
```

APPENDIX AA

Tukey HSD Test: To Enhance Performance by Rate of Participation in Department of Human Resources Noon-time Activities

```
COL/
ROWHRNOOPAR$
   1  0
   2  1
   3  2
   4  3
   5  4
   6  5ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF PERFORMA


USING MODEL MSE OF         .276 WITH    334. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4           5

          1      0.000
          2      0.240       0.000
          3      0.204      -0.036       0.000
          4      0.248       0.008       0.044       0.000
          5      0.160      -0.080      -0.044      -0.088       0.000
          6      0.163      -0.076      -0.040      -0.085       0.004

                    6

          6      0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4           5

          1      1.000
          2      0.026       1.000
          3      0.168       0.999       1.000
          4      0.220       1.000       0.999       1.000
          5      0.687       0.986       0.999       0.990       1.000
          6      0.932       0.998       1.000       0.998       1.000

                    6

          6      1.000
```

APPENDIX BB

Tukey HSD Test: Supervisor Support by Faculty/Department Groupings

COL/
ROWFACGROUP$
1 ALLOTHERS
2 HEALTHSC
3 PHYSNATSC
4 SOCSCHUMART
5 UNIVADMIN&OP

USING LEAST SQUARES MEANS.

POST HOC TEST OF SUPERSUP

USING MODEL MSE OF .681 WITH 441. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

	1	2	3	4	5
1	0.000				
2	0.103	0.000			
3	0.422	0.320	0.000		
4	0.295	0.192	-0.128	0.000	
5	0.122	0.019	-0.300	-0.173	0.000

TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

	1	2	3	4	5
1	1.000				
2	0.930	1.000			
3	0.016	0.080	1.000		
4	0.143	0.474	0.847	1.000	
5	0.875	1.000	0.117	0.581	1.000

APPENDIX CC

Tukey HSD Test: Heavy Workload by Years at McGill

```
COL/
ROW MCGTENU$
   1  A)3ORLESS
   2  B)4TO7
   3  C)8TO14
   4  D)15ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF WORKLOAD


USING MODEL MSE OF         .970 WITH    441. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4

          1       0.000
          2      -0.096       0.000
          3       0.035       0.131       0.000
          4       0.366       0.462       0.331       0.000

TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4

          1       1.000
          2       0.880       1.000
          3       0.994       0.735       1.000
          4       0.039       0.003       0.071       1.000
```

APPENDIX DD

Tukey HSD Test: Supervisor Support by Rate of Participation in Department of Human Resources Noon-time Activities

COL/
ROWHRNOOPAR$
1 0
2 1
3 2
4 3
5 4
6 5ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF SUPERSUP

USING MODEL MSE OF .635 WITH 332. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

	1	2	3	4	5
1	0.000				
2	0.109	0.000			
3	0.230	0.122	0.000		
4	0.258	0.149	0.028	0.000	
5	0.103	-0.006	-0.127	-0.155	0.000
6	0.768	0.659	0.538	0.510	0.665

	6
6	0.000

TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

	1	2	3	4	5
1	1.000				
2	0.943	1.000			
3	0.490	0.969	1.000		
4	0.659	0.969	1.000	1.000	
5	0.989	1.000	0.986	0.982	1.000
6	0.036	0.147	0.377	0.524	0.213

	6
6	1.000

APPENDIX EE

Tukey HSD Test: Supervisor Support by Rate of Participation in Department of Human Resources "Other" Activities

```
COL/
ROW HROTHPA$
   1  0
   2  1
   3  2
   4  3
   5  4
   6  5ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF SUPERSUP


USING MODEL MSE OF         .630 WITH     332. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4           5

          1         0.000
          2         0.134       0.000
          3         0.107      -0.027       0.000
          4         0.516       0.382       0.409       0.000
          5         0.497       0.363       0.390      -0.019       0.000
          6         0.497       0.363       0.390      -0.019       0.000

                    6

          6         0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4           5

          1         1.000
          2         0.805       1.000
          3         0.956       1.000       1.000
          4         0.019       0.202       0.202       1.000
          5         0.397       0.740       0.702       1.000       1.000
          6         0.397       0.740       0.702       1.000       1.000

                    6

          6         1.000
```

APPENDIX FF

Tukey HSD Test: Supervisor Support by Rate of Participation in Computing Centre Activities

```
COL/
ROW  CCPARTS
   1  0
   2  1
   3  2
   4  3
   5  4
   6  5ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF SUPERSUP


USING MODEL MSE OF        .610 WITH    332. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1          2          3          4          5

          1      0.000
          2      0.147      0.000
          3      0.308      0.162      0.000
          4      0.160      0.013     -0.149      0.000
          5      0.791      0.644      0.483      0.631      0.000
          6     -0.209     -0.356     -0.517     -0.369     -1.000

                    6

          6      0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1          2          3          4          5

          1      1.000
          2      0.692      1.000
          3      0.149      0.847      1.000
          4      0.971      1.000      0.986      1.000
          5      0.023      0.129      0.478      0.339      1.000
          6      0.992      0.920      0.720      0.941      0.179

                    6

          6      1.000
```

APPENDIX GG

Tukey HSD Test: Heavy Workload by Rate of Participation in Department of Human Resources Noon-time Activities

```
COL/
ROWHRNOOPAR$
   1  0
   2  1
   3  2
   4  3
   5  4
   6  5ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF WORKLOAD


USING MODEL MSE OF         .962 WITH     333. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4           5

          1       0.000
          2      -0.015       0.000
          3      -0.194      -0.179       0.000
          4       0.067       0.081       0.261       0.000
          5      -0.392      -0.377      -0.198      -0.458       0.000
          6      -0.972      -0.957      -0.778      -1.038      -0.580

                    6

          6       0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4           5

          1       1.000
          2       1.000       1.000
          3       0.833       0.933       1.000
          4       1.000       0.999       0.885       1.000
          5       0.387       0.554       0.961       0.531       1.000
          6       0.028       0.048       0.202       0.051       0.600

                    6

          6       1.000
```

APPENDIX HH

Tukey HSD Test: Co-worker Support by Rate of Participation in Computing Centre Activities

```
COL/
ROW  CCPART$
   1  0
   2  1
   3  2
   4  3
   5  4
   6  5ORMORE

USING LEAST SQUARES MEANS.

POST HOC TEST OF COWORKSU


USING MODEL MSE OF        .555 WITH    329. DF.
MATRIX OF PAIRWISE MEAN DIFFERENCES:

                    1           2           3           4           5

          1      0.000
          2      0.293       0.000
          3      0.343       0.050       0.000
          4      0.100      -0.193      -0.243       0.000
          5      0.506       0.214       0.163       0.406       0.000
          6     -0.194      -0.486      -0.537      -0.294      -0.700

                    6

          6      0.000


TUKEY HSD MULTIPLE COMPARISONS.
MATRIX OF PAIRWISE COMPARISON PROBABILITIES:

                    1           2           3           4           5

          1      1.000
          2      0.028       1.000
          3      0.054       0.999       1.000
          4      0.996       0.931       0.868       1.000
          5      0.351       0.963       0.991       0.780       1.000
          6      0.993       0.712       0.641       0.973       0.542

                    6

          6      1.000
```