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Predicting Ill-Health and Turnover Intentions at the Workplace:

The Impact of Personal, Job, and Organizational Factors

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A Thesis submitted in Partial Fulfillment of the
Requirement for the Degree of Master of Science in

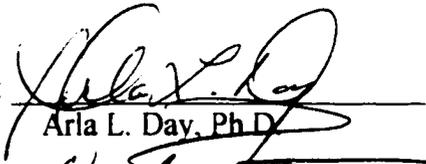
Applied Psychology (Industrial/Organizational)

Saint Mary's University

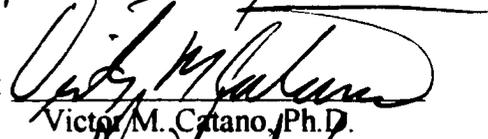
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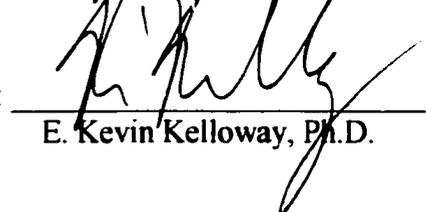
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0-612-47678-2

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Acknowledgement

For their part in the completion of this thesis I thank the following: my supervisor, Dr. Arla Day, for her guidance, expertise, and encouragement throughout the entire process; Dr. Victor Catano, Captain Alan Okros, and Dr. Kevin Kelloway who provided me with advice, suggestions, and feedback, and to whom I feel very lucky to have had as members of my thesis committee; friends and colleagues at Saint Mary's University, for invaluable friendship and support; and my immediate family, Charles, Frances, and Sarah, for their unflagging support and encouragement. Special thanks also goes out to the members of the Canadian Forces who granted me permission to conduct the current study.

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Abstract

This study examined the joint predictive ability of organizational and job-related variables that are within the control of organizations, on work satisfaction, in order to demonstrate how the work satisfaction of employees can be influenced by organizations, thereby ultimately decreasing the ill health and turnover intentions of employees. This study looked at the influence of work satisfaction on turnover intentions, and examined whether organizational commitment (affective, continuance, and normative) partially mediated this model. This study also looked at the relationship between work satisfaction and ill-health symptoms, and examined whether coping (problem-focused, emotion-focused, and maladaptive) moderated the relationship.

Controlling for gender and age, supervisory support, organizational support, career impact on family and social life, work stimulation, ambiguity, work hours, and shift work, significantly predicted work satisfaction. Organizational commitment partially mediated the relationship between work satisfaction and turnover intentions. Finally, although work satisfaction and maladaptive coping were predictive of ill-health symptoms, coping did not moderate this relationship.

The results of this study contribute to the understanding and prediction of turnover intentions and health. Moreover, these results indicate that there are variables within the control of organizations, that have the potential to jointly predict work satisfaction. This finding has implications for organizations because it suggests that there are controllable factors that can be altered in order to

increase the work satisfaction of employees, thereby, ultimately decreasing the ill-health and turnover intentions of employees.

INTRODUCTION

The workplace has undergone fundamental changes over the past few years, and there is every indication that these changes will persist into the future as work continues to redefine itself (e.g., Cascio, 1995; Haccoun & Saks, 1998; Hamel, & Prahalad, 1994). Organizations exist in increasingly complex and fast changing environments (e.g., Kanungo, 1998). Globalization, competition, socio-political revolutions, and transformations in the expectations and capabilities of employees are realities that organizations must be prepared to effectively handle (e.g., Cascio, 1995; Hackett & Kline, 1998; Latham & Sue-Chan, 1998). These challenges and changes have made organizational success much more precarious than was previously the case (Hamel & Prahalad, 1994). Although high performing employees have always been invaluable to organizations, the quality of employees' work takes on increased importance during such unstable organizational times (Cascio, 1995).

Employees can have a major impact on organizational growth and success through the influence that their knowledge, behaviours, and attitudes can have on their job performance and productivity, and ultimately, the bottom line (Cascio, 1995). Current trends suggest that skilled and knowledgeable employees will soon be at a premium, partly because of the "baby-bust" phenomenon, referring to the fact that a large segment of the working population will be retiring in the near future (Laver, 1999). As a result of the anticipated large proportion of individuals falling into the 65-and-over age group, there will be fewer working-age individuals, and fewer qualified employees (Lipovenko, 1983; Statistics Canada,

1996). The economy is expected to strengthen at the same time as this population is aging, resulting in a competition by organizations for the best employees (Laver, 1999). Consequently, the success of organizations unable to maintain productive employees, or unable to keep valued employees present at the workplace, will be in jeopardy. Understanding how to ensure that valued and skilled workers remain productive, and want to stay with their organization, is more important than ever before.

Two factors that have the potential to greatly influence the quality of employees' work, and the likelihood that employees will remain with the organization they currently work for, are ill-health (e.g., Cranwell, 1995) and turnover intentions (e.g., Sager, 1990). Ill-health and turnover intentions can be vital to the financial success of organizations through their association with job performance, and ultimately, the bottom line (e.g., Baba, Jamal, & Tourigny, 1998; Gerhart, 1990). Therefore, there is a need to identify the predictors of ill-health and turnover intentions in order to help organizations reduce these negative outcomes, thereby maintaining, or improving, organizational success. Moreover, when identifying the predictors of ill-health and turnover intentions, it is important to identify variables that are within the influence of organizations, so that organizations will have the ability to change their environments in order to decrease the ill-health and turnover intentions of their employees.

III-Health at Work

Healthy employees are more efficient, less prone to accidents, more productive, and more able to manage stress than are their counterparts who are less healthy (Health Canada, 1998a; Lee & Ashforth, 1996). Companies with health programs find that when employees feel good about their health, the work they do is better, and they don't take as much time off for sick leave (Health Canada, 1998a).

Baba et al. (1998) pointed out that work and its relationship with mental health is being afforded increasing attention due to its economic importance. Although the costs associated with poor employee health may vary from organization to organization, overall, they are strikingly large (Health Canada, 1998a). Cranwell (1995) reported that employee absence in the United States due to sickness dramatically increased over the 1985 to 1995 decade. General Motors provided health insurance to 1.6 million hourly and salaried employees in the United States in 1995, and spent 3.5 billion dollars on employee health care that year (Waldsmith, 1996).

In Canada, employees lose more work time each year due to illness or disability than to personal or family responsibilities (Statistics Canada, 1998). In 1990, almost one in five employees missed over one week of work as a result of sickness or disability, while one-third of these employees, or 6% of all employees, missed more than five weeks of work for the same reason (Health Canada, 1998b). In 1998, Canadian employees took an average of 6.6 days off for illness or disability, up from 6.2 days in 1997, and 6 days in 1993 (Walton, 1999).

When employees are sick, organizations lose financially because work is not getting done, and because many organizations continue to pay employees who are on sick leave (Shephard, 1990). Moreover, some organizations have added costs when one of their employees is sick because the nature of the job requires them to pay for a replacement employee (Health Canada, 1998b). Because replacement employees are, on average, only 75% as effective as permanent employees, productivity tends to be reduced when using replacement employees (Shephard, 1990).

Although ill-health typically leads to time away from work, some employees continue going to work while sick (Jamal, 1990). When unhealthy employees go to work, their productivity and performance is reduced because they are not contributing or working to their full ability (e.g., Health Canada, 1998a). This reduction in job performance and productivity is also characteristic of employees who have formed intentions of leaving their place of employment, and who have, as a result, mentally withdrawn from their work (e.g. Beehr & Gupta, 1978).

Turnover Intentions

Psychological withdrawal at the workplace occurs when employees mentally distance themselves from their work environment (Keavney & Nelson, 1993). Psychological withdrawal is common in employees who have formed intentions to leave the organization they are currently working for (Keavney & Nelson, 1993). Employees who have formed intentions to turnover are, in general, not working to their full potential, not as focused on their work, have reduced

performance, and are less productive than employees than employees without any notion of leaving their organization (Beehr & Gupta, 1978). As a result of the decrease in performance found in employees who have psychologically withdrawn from their work, employees with intentions to turnover are very costly to organizations (Gerhart, 1990; Sager, 1990).

In addition to the fact that employees who have formed intentions to turnover are withdrawn from their work, turnover intentions are also consistently the best predictor of actual turnover (e.g., Keaveny & Nelson, 1993; Locke & Latham, 1990; Mobley, 1977; Williams & Hazer, 1986). Steel and Orvalle (1984) conducted a meta-analysis of 34 studies relating intentions to quit and turnover. They concluded that behavioural intentions to quit are the most direct causal antecedent of turnover.

Turnover is extremely costly to organizations. Henkoff (1994) stated that in some service organizations, annual turnover rates of 100% have been reported as common. However, regardless of the severity of the rate of turnover within an organization, turnover costs for organizations are huge. The recruiting and training of replacement employees is very expensive (Gerhart, 1990; Hulin, Roznowski, & Hachiya, 1985). Sager (1990) estimated that the cost of replacing one industrial salesperson is more than \$100,000 when lost sales, training, and recruiting costs are considered.

Work Satisfaction

Because ill-health and turnover-intentions are so costly to organizations, it is imperative to understand the factors that influence these variables. The satisfaction of individuals with their work has been shown to affect individuals in a variety of ways, among which include the health and turnover intentions of employees (Locke, 1976).

Work Satisfaction and Ill-Health

Numerous studies have demonstrated a connection between work satisfaction and health (see Locke, 1976; Weiner, Vardi, & Muczyk, 1981). Kirkcaldy, Cooper, and Brown (1995) found that work satisfaction was associated with better physical and psychological health. Occupational therapists who were highly satisfied with work experienced fewer emotional and physical ill-health symptoms than did therapists who were less satisfied with their work (Wressle & Oeberg, 1998). Likewise, clinical nurses working in hospitals who were low on indices of job satisfaction, had a greater number of physical and mental ill-health symptoms than did nurses who were satisfied with their work (Lu, Shiau, & Cooper, 1997).

Despite the consistent and numerous findings linking work satisfaction to ill-health, the magnitude of the relationship between work satisfaction and ill-health has not always been very strong (e.g., Bartone, Ursano, Wright, & Ingraham, 1989). Research indicates that coping may moderate the relationship between work satisfaction and ill-health, thereby enhancing satisfaction's prediction of ill-health.

Coping

Coping has helped to explain why people adapt and react differently to different situations (e.g., Havlovic, Bouthillette, & van der Wal, 1998). Coping resources are comprised of a number of personality, attitudinal, and cognitive factors (Hall, 1997). Lazarus' cognitive theory of stress and coping states that coping is a combination of behavioural and cognitive efforts to deal with external or internal demands (Folkman & Lazarus, 1988; Lazarus & Folkman, 1984). Both Carver, Scheier, and Weintraub (1989) and Havlovic et al. (1998) emphasize that people tend to bring relatively stable coping styles to the stressful situations they encounter.

Many studies have focused on the role of coping in the relationship between stress and health. For example, Heaney, Price, and Rafferty (1995) explored the effects of a training program, designed to increase psychosocial coping resources when dealing with stressful job demands, on employees' health. They found that the presence of psychosocial coping resources significantly reduced negative health symptoms in employees. However, the role that coping plays in affecting outcome variables has not been consistent across studies (Harcourt, Rumsey, & Ambler, 1999). Some research has found direct coping effects (e.g., Havlovic et al., 1998, Lu, 1991), while other research has found indirect effects (e.g., Bartone et al., 1989). As a result of inconsistencies both across and within studies associated with coping, researchers have indicated that further research is warranted and needed, in order to enhance the current understanding of coping (e.g., Bartone et al., 1989; Harcourt et al., 1999).

Bartone et al. (1989) provided strong support for coping moderating the relationship between stressful events and health. Bartone et al. found that at high exposure to stressful situations, coping protected individuals from negative psychological and physical health effects, in that individuals who were high on coping, remained healthy under stressful conditions. Those individuals who were exposed to stressful conditions, but who were low on coping, were most at risk for negative health consequences.

A review of the literature on coping indicates that there are three prominent types of coping: problem-focused, emotion-focused, and maladaptive. Problem-focused and emotion-focused coping have proven to be quite useful in dealing with stressful or dissatisfying situations (Carver et al., 1989). Maladaptive coping, on the other hand, tends to exacerbate the effect of a stressor on an individual (Carver et al., 1989; Hall, 1997; Havlovic et al., 1998). Coping can involve more than one coping strategy, but generally, depending upon the overall coping style of the individual, and on the characteristics of the stressful environment, one strategy tends to predominate (Parkes, 1990).

Problem-Focused Coping. Problem-focused coping is aimed at problem solving, or doing something to directly alter the source of the stress that is causing the problem (Carver et al., 1989). This type of coping tends to predominate when people feel that something constructive can be done to alleviate the problem (Carver et al., 1989). An example of problem-focused coping would involve an employee making a concerted effort to change the circumstances creating the stress (Strutton & Lumpkin, 1994). The act of engaging in problem-focused

coping causes individuals to take into account their resources and knowledge of any activities that could effectively combat the stress associated with the situation (Strutton & Lumpkin, 1994).

Emotion-Focused Coping. Emotion-focused coping is aimed at reducing or managing the emotional distress that is associated with a stressful situation (Carver et al., 1989). This type of coping tends to predominate when people feel that the stressor is something that must be endured (Carver et al., 1989). Emotion-focused coping can involve individuals' efforts to distance themselves or to escape from the stressful situation (Strutton & Lumpkin, 1994).

Although problem-focused coping consistently diminishes the negative effects of stress (Begley, 1998; Carver et al., 1989; Havlovic et al, 1998; Strutton & Lumpkin, 1994), research indicates that emotion-focused coping is not as useful as problem-focused coping (e.g., Begley, 1998; Strutton & Lumpkin, 1994). For example, Domingue and Singleton (1993) found that hospital employees using problem-focused coping tended to cope more effectively with the closure of their hospital than employees using emotion-focused coping. Despite such findings, emotion-focused coping can be as useful as problem-focused coping, given the appropriate circumstances.

Fleming, Baum, and Singer (1984) argued that the usefulness of emotion-focused coping in dealing with stressful situations depends on personal control. When responding to a stressful event, individuals choose the coping style that will be most useful. If a problem is viewed as being changeable, problem-oriented coping will contribute to feelings of well-being because the prospects for solving

the problem are strong (Fleming et al., 1984). If, on the other hand, a stressful event is seen as unchangeable, emotion-focused coping will provide the best chance for well-being by regulating emotions (Fleming et al., 1984). The explanation provided by Fleming et al. regarding the usefulness of emotion-focused coping suggests that both problem-focused and emotion-focused coping have the potential to ameliorate stress (Scheier & Carver, 1987).

Maladaptive Coping. In some circumstances individuals respond to stress in ways that can be strongly maladaptive, and impede their ability to cope with a stressful situation (Carver et al., 1989). In a study of employee reactions to their organization's consolidation, Begley (1998) found that maladaptive coping (in terms of increased alcohol and drug use) predicted increased mental distress and both short- and long-term somatic complaints. Billings and Moos (1981) found that avoidance, a type of maladaptive coping, was related to anxiety, depression, and physical complaints. Tyler and Cushway (1995) found that use of avoidance coping was related to mental health, in that when people avoided dealing with a stressful situation, there was a decrease in mental well-being.

There are strong associations between work satisfaction, coping and health (e.g., Schell, Paine-Mantha, Markham, & Morrison, 1992). However, like most other research in the area of coping, the role that coping plays in the association between work satisfaction and health is not clear. The strength of the research in the area of coping is in studies such as that by Bartone et al. (1989), where it has been found that coping plays a moderating role in the relationship between certain events and health outcomes. It is the goal of the present to investigate whether

coping has the potential to improve the prediction of ill-health from work satisfaction, when problem-focused coping, emotion-focused coping, and maladaptive coping are considered as moderating variables in this relationship.

Work Satisfaction and Turnover Intentions

Work satisfaction has also been consistently linked to turnover intentions, in that dissatisfaction with work leads employees to consider the possibility of quitting (Carsten & Spector, 1987; Mobley, Horner, & Holingsworth, 1978; Porter & Steers, 1973; Randall, 1990; Williams & Hazer, 1986). Shaw (1999) found that work satisfaction significantly predicted turnover intentions in a sample of part-time and full-time employees. In a study of United States Army personnel, job satisfaction was one of the most important predictors in soldiers' intentions to remain in the Army (Lakhani & Gade, 1992). Mobley et al., (1978) found a strong correlation between work satisfaction and turnover intentions.

Despite the number of findings reporting an association between work satisfaction and turnover intentions, the relationship between work satisfaction and turnover intentions is not overly strong (e.g., George & Jones, 1996). This modest relationship is likely a result of the number of other variables, such as organizational commitment, that play roles in influencing employees' decisions to move to another job (e.g., Tett & Meyer, 1993).

Organizational commitment strongly affects turnover intentions (e.g., Randall, 1990), and is part of the explanation lying behind the relatively modest association found between work satisfaction and turnover intentions. Although research indicates that both work satisfaction and organizational commitment

directly affect turnover intentions, other research strongly suggests that organizational commitment mediates the relationship between work satisfaction and turnover intentions (e.g., Bashaw & Grant, 1994; Mathieu & Zajac, 1990; Moorman, Niehoff, and Organ, 1993; Mowday, Porter, and Steers, 1982; Porter, Steers, Mowday, & Boulian, 1974). However, it is not clear as to whether organizational commitment partially or fully mediates the relationship between work satisfaction and turnover intentions.

Organizational Commitment

Although it has been suggested that people enter jobs with a predisposition toward commitment (e.g., Lee, Ashford, Walsh, & Mowday, 1992), a substantial body of research demonstrates that organizational commitment is strongly influenced by work satisfaction (Lee & Mowday, 1987; Mottaz, 1987; Rahim & Afza, 1993; Wanous, Poland, Premack, & Davis, 1992; Williams & Hazer, 1986; Wright & Bonett, 1993). Work satisfaction influences organizational commitment, in that, satisfied employees are more likely to be committed to their organization. Employees with a high degree of organizational commitment are more likely to accept the goals and values of their organization, exert greater effort on behalf of their organization, and be more productive in their jobs (Bashaw & Grant, 1994; Moorman, et al., 1993; Mowday, Porter, and Steers, 1982). Moreover, employees with high organizational commitment are more likely to remain with their organization longer than employees with lower levels of organizational commitment (e.g., Farkas & Tetrick, 1989; Randall, 1990). In a meta-analysis of studies looking at organizational commitment and turnover

intentions, low commitment was highly correlated with intention to leave one's job (Mathieu & Zajac, 1990).

Allen and Meyer (1990) suggested that there are three different components of commitment (i.e., affective commitment, normative commitment, and continuance commitment), with different work experiences leading to each of these different components (Allen & Meyer, 1990). They proposed that all three components of commitment are negatively related to turnover intentions. They also argued that the link between commitment and turnover intentions is best displayed by simultaneously investigating the three components of commitment.

Affective commitment refers to an employee's emotional attachment to, identification with, and involvement in, the organization (Allen & Meyer, 1990). Those employees high on affective commitment would remain because they want to stay with the organization, because they identify with the organization, and because they are involved with the organization. Moreover, employees high on affective commitment would behave in a manner that they believe to be in the organization's best interest (Meyer, Allen, & Topolnytsky, 1998).

Continuance commitment refers to commitment based on the costs that employees associate with leaving the organization. Those employees high on continuance commitment would stay because they need to, in the sense that there are too many costs associated with leaving (Allen & Meyer, 1990). Employees with strong continuance commitment are at times motivated to do very little more than what is required in order for them to maintain their employment status (Meyer et al., 1998).

Normative commitment refers to employees' feelings of obligation to remain with the organization. Those high on normative commitment would stay because they feel they should stay (Allen & Meyer, 1990). Similar to those employees who are high on affective commitment (although not to the same degree), employees high on normative commitment are likely to behave in a way at work that they believe is in the best interest of the organization (Meyer et al., 1998).

Because both work satisfaction and organizational commitment are related to turnover intentions, and because there is evidence that organizational commitment mediates the relationship between work satisfaction and turnover intentions, it is expected that organizational commitment actually partially mediates this relationship between work satisfaction and turnover intentions. Therefore, the second goal of the current study is to explore the relationship between work satisfaction and turnover intentions, with the aim of contributing to the understanding of the role that organizational commitment plays in mediating this relationship.

The Prediction of Work Satisfaction Through

Organizational and Job Characteristics

Although it is important to examine work satisfaction as a predictor of ill-health and turnover intentions, organizations may be unable to increase employee work satisfaction without knowing what variables affect work satisfaction. Moreover, in order to actually take steps to indirectly decrease ill-health and

turnover intentions through work satisfaction, these variables have to be within the control of organizations.

Understanding the variables that are associated with work satisfaction is an especially salient issue in today's workplace, given that the work satisfaction of Canadian employees is declining (Statistics Canada, 1998). In 1991, 57% of the working population of Canadians (aged 15 and over) reported that they were satisfied with their employment compared to 51% of the working population in 1995 (Statistics Canada, 1998). Given that work satisfaction is associated with both ill-health and turnover intentions, this decrease in work satisfaction may cause these two costly organizational outcomes to become more prevalent.

Slovak (1978) found that work satisfaction is composed of several components that are, for the most part, independent of one another. These components included salaries, fringe benefits, promotional opportunities, equipment, and policies and procedures. Important factors leading to work satisfaction can occur at the organizational, job, and individual level. Williams and Hazer (1986) found that job expectations, age, job characteristics, and information about role performance, affect work satisfaction. Moreover, Williams and Hazer (1986) found no direct impact on the outcome variables of commitment and turnover from these predictors of work satisfaction, but found that satisfaction mediated this relationship. Similar to these findings, Netemeyer, Johnston, and Burton (1990) found that the relationship between role stressors (i.e., conflict and ambiguity) and intentions to leave an organization was indirect, and mediated by job satisfaction.

Therefore, when examining the variables that influence work satisfaction, it is important to include a combination of variables that influence employees in various ways (Netemeyer et al., 1990; Williams & Hazer, 1986). Although there are numerous factors have been identified as leading individuals to become more satisfied or dissatisfied with their jobs (see Locke, 1976), only certain variables (i.e., supervision, organizational support, support for work - non-work conflict, work stimulation, ambiguity, income, hours worked, and shift work) are within the control of organizations, are relevant to the current and future workplace, and have the potential to jointly influence work satisfaction.

Organizational Determinants of Work Satisfaction

At the organizational level, there are a number of variables that have the potential to increase the work satisfaction of employees and that are within the influence of organizations. These variables include the supervision provided to employees, organizational support, and the support that is provided to employees in areas of their lives external to work.

Supervision. Supervisors have the ability to greatly influence the work satisfaction of employees. Supervisors can play a role in mitigating the stress and negative characteristics (e.g., role overload, job insecurity, work and family/life conflict) employees experience at work (e.g., Szilagyi, 1980; Thomas & Ganster, 1995). In a study of banks in the United States, supervisors who were rated by their subordinates as being supportive of work-family balance retained employees twice as long as the bank average (Hammonds, 1996).

Work satisfaction tends to be higher when employees believe their supervisors are competent, have their best interests in mind, and when supervisors treat them with dignity and respect (Szilagyi, 1980; Trempe, Rigny, & Haccoun, 1985). Moreover, satisfaction with supervision has been linked to the ability of a supervisor to provide feedback or information to employees, as well as to supervisors who are viewed as trusting, innovative, fair, and cohesive, and who positively reinforce subordinates for good work (Elloy, Everett, & Flynn, 1995). Thomas and Ganster (1995) found that employees who had supportive supervisors experienced less job dissatisfaction than employees without supportive supervisors. In a study of employees remaining at the workplace after a downsizing, having a supportive manager was associated with increased work satisfaction (Johnson, Bernhagen, Miller, & Allen, 1996). Williams and Hazer (1986) found that the consideration of a supervisor for subordinate's feelings, problems and input for decisions, as assessed by the employee, was a significant predictor of work satisfaction.

Organizational Support. At the broader organizational level, when employees perceive high support from the organization, work satisfaction is increased (e.g., Warren & Johnson, 1995). Organizational support has often taken the form of a social exchange between the organization and employees' beliefs about the support provided by the organization (Eisenberger, Huntington, Hutchinson, & Sowa, 1986). Employees tend to contribute more to an organization that supports its employees (Morrison & Robinson, 1997).

When employees perceive high organizational support (i.e., they perceive that the organization values their contributions and cares about their well-being) they tend to experience higher work satisfaction than employees who do not perceive such support (e.g., Glass & Estes, 1996; Ray & Miller, 1994; Scandura & Lankau, 1997). Employees are more likely to fulfill exchange obligations when they feel that the organization is doing its part in fulfilling such perceived obligations. Generally, positive acts on the part of the organization towards employees are evidence that the organization cares about the well-being of employees, and as a result, employees tend to be more satisfied with various aspects of their employment (Eisenberger, Fasolo, & Davis-LaMastro., 1990). Eisenberger et al. (1986) found that perceived organizational support reduced absenteeism, but suggested that future research should investigate the relationship between perceived organizational support and job satisfaction.

Support for Work and Non-Work Conflict. The support that is provided by the organization to areas of employees' lives external to work, also influences work satisfaction. Employees say that the ability to balance work with personal and family responsibilities is of great importance in their decision to remain with an organization (Families and Work Institute, 1997). Of all U.S. workers, 85% live with family members and have immediate, day-to-day family responsibilities (Families and Work Institute, 1997). Employees experiencing conflict between work and family demands are three times more likely to consider quitting than employees without such conflict (43% versus 14%; Families and Work Institute, 1997).

Research repeatedly illustrates a reciprocal relationship between work and family: work affects family, and family affects work (e.g., Barling, 1994; Frone, Russell, & Cooper, 1992). Existing literature provides many examples of how the effect of work on one's family life can influence his or her feelings, perceptions, and attitudes about work (Barling, 1994; Burke & McKeen, 1988; Greenhaus & Beutell, 1985). When an employee feels that work is interfering with family, satisfaction with work is generally reduced (e.g., Rice, Frone, & McFarlin, 1992). Scandura and Lankau (1997) found that when employees were better able to balance work and family, they perceived less of a negative impact of their work on their family, and both work satisfaction and organizational commitment were increased. Adams, King, and King (1996) found that "work interfering with family" was significantly and negatively related to increased job satisfaction. Finally, Gignac, Kelloway, and Gottlieb (1996) found that the greater the tension and conflict between the roles of work and family, the greater the likelihood of job dissatisfaction.

Because of the profound impact that work has on the non-work lives of employees, research has been extended to examine the effect that work can have not only on "family", but on all aspects of life external to work (e.g., Rice et al., 1992). Many organizations have changed the name of their "Work and Family" programs to "Work and Life" programs in order to emphasize that work affects every facet of life external to work including social activities, exercise, education, and travel (Families and Work Institute, 1997). Therefore, when exploring the

influence of work on an individual, it is important to measure the effect of work on both family and life.

Job Characteristics

Like the organizational factors of supervision, organizational support, and support provided to areas of employees lives external to work, there are also a number of job characteristics that can affect work satisfaction and that are within the influence of organizations. These variables include work stimulation, ambiguity, income, work hours, and shift work.

Work Stimulation. Work satisfaction is also related to the degree of interest and stimulation employees find in their work (Curry, Wakefield, Price, & Mueller, 1986). When an employee does not find his or her work interesting and stimulating, work satisfaction is typically reduced. People are more satisfied with work that is challenging (although not overwhelmingly so) and not boring (Curry et al., 1986; Laver, 1999). Employees do not want to feel that they are under or overqualified for the work they are performing. Karl and Sutton (1998) found that across a wide variety of public sector workers, interesting work was valued above all other work values. Fricko and Beehr (1992) demonstrated that the more that employees' positions fit with their interests, the more satisfied they were in their jobs. In this same study, people working in fields that did not fit with their interests expressed dissatisfaction with their work.

Ambiguity. Individuals are also more satisfied when there is a lack of ambiguity associated with their jobs. In a meta-analysis of 88 studies, Abramis (1995) found that role ambiguity is significantly and negatively related to work

satisfaction. People who are uncertain about various aspects of their jobs (e.g., what is expected of them, responsibilities, how to divide their time) experience ambiguity (McGrath, 1976). Employees are more satisfied with their work when they understand what they need to do in order to successfully complete their work, than when they do not understand what they need to do in order to be successful on the job (Curry et al., 1986; Hamner & Tosi, 1974). Schaubroeck, Ganster, Sime, and Ditman (1993) conducted a study with two groups of employees in which one group received training on their areas of responsibility, and the other group did not. The group with the training experienced less dissatisfaction with their supervisors than the control group.

Income. Another, more objective job characteristic that affects work satisfaction, is income. Employees expect their organizations to adequately reward them for their work efforts (e.g., Sekaran, 1983). Financial compensation has been repeatedly linked to both psychological and work satisfaction (e.g., Barling & Sorensen, 1997; Ng, 1989; Richardsen & Burke, 1993; Simons, Lorenz, Conger, & Wu, 1992). Richards (1984) and Sekaran (1983) found that income was a significant predictor of job satisfaction. Both Freeman (1978) and Borjas (1979) found that job satisfaction ratings tend to increase with wages. Congruence between employees' expectations of income, and their actual income level, influenced the work satisfaction of these employees in that greater congruence led to higher work satisfaction (Mottaz, 1986). In a study of job values in today's workforce, Karl and Sutton (1998) found that private sector workers placed the highest value on good wages.

Researchers have suggested that because of rampant cutbacks, downsizing, pay freezes, layoffs, and increasing costs, income has taken on increased importance for many individuals (e.g., Barling & Sorensen, 1997). There is less financial government support for individuals and families than there was in the past, and changes to families (e.g., more single parents, more reconstituted families) and to organizations (e.g., increased job insecurity, increased role overload) have increased financial strain for many individuals and families (Barling & Sorensen, 1997). These organizational and familial changes may also increase the likelihood that support provided to employees by specific individuals at the workplace, and by the organizational as a whole, will play a role in predicting work satisfaction.

Work Hours. The number of hours worked by employees influences work satisfaction. Individuals who work long hours tend to experience greater job dissatisfaction than individuals who do not work such long hours (Laver, 1999). Shelley and Webb (1989) found that at the end of a clinical clerkship, job satisfaction of male medical students was influenced by work hours. The more hours the male medical students had worked, the less satisfied they were with the clerkship.

Shift Work. It is also important to consider when hours are worked, above simply examining the number of hours worked by employees. Whether or not employees work shift work contributes to job satisfaction, in that individuals working shift-work tend to experience lower job satisfaction than individuals working standard day hours (e.g., Jamal & Badawi, 1995). In a study of nurses,

employees who worked shift work tended to be more dissatisfied with work than were employees who did not work shift work (Efinger, Nelson, & Walsh, 1995). Furnham and Hughes (1999) found that in comparison to journalists, TV workers, and creatives (e.g., graphic designers, etc.) working day shifts, employees working night shifts were lower on measures of job satisfaction.

Because it is important for organizations to have the ability to control work satisfaction, thereby indirectly controlling ill-health and turnover intentions, a number of variables were identified that are each strong predictors of work satisfaction, and that are within the control of organizations: supervision, organizational support, support for work and non-work conflict, income, work stimulation, ambiguity, work hours, and shift work. The third goal of the present study is to examine the joint predictive ability of work satisfaction by supervision, organizational support, work and family/life conflict, work stimulation, ambiguity, income, work hours, and shift work. The importance of these variables as predictors of work satisfaction lies in the fact that they cover a broad range of areas found to be important in predicting work satisfaction. Moreover, these variables are all ones that can be controlled by organizations.

Summary of Research

Because health and turnover intentions influence the ability for organizations to retain valued employees, thereby heavily influencing organizational profitability (e.g., Cooper & Cartwright, 1994; Mathieu & Zajac, 1990), it is important to understand what factors predict these two variables. Work satisfaction has the potential to influence both ill-health and turnover intentions

(e.g., Carsten & Spector, 1987; Weiner et al., 1981). Although organizational commitment mediates the relationship between work satisfaction and turnover intentions (i.e., Farkas & Tetrick, 1989), more research is needed to show whether organizational commitment fully or partially mediates this relationship.

Understanding whether organizational commitment partially or fully mediates the relationship between work satisfaction and turnover intentions would contribute to our knowledge and prediction of turnover intentions. Moreover, although coping is related to health, the manner in which coping influences health is unclear. However, there is reason to predict that coping may moderate the relationship between work satisfaction and ill-health. Because organizations need to be aware of what they can do in order to decrease the ill-health and turnover intentions of employees, several variables that are within the control of organizations (i.e., supervision, organizational support, support for work and non-work conflict, work stimulation, ambiguity, income, work hours, and shift work) were identified as having the potential to jointly predict work satisfaction.

Hypotheses of the Current Study

The purpose of the current study is to contribute to the understanding of the variables that predict ill-health and turnover intentions. The hypotheses of the present study are:

1. Supervisory support, organizational support, career impact on family and social life, work stimulation, ambiguity, income, work hours, and shift work will jointly predict work satisfaction. That is, greater supervisory support, higher organizational support, more positive career impact on family and social life,

greater work stimulation, lower ambiguity, higher income, fewer work hours, and not working shift work, will be associated with higher work satisfaction.

2. Organizational commitment will partially mediate the relationship between work satisfaction and turnover intentions. Higher work satisfaction will be associated with higher affective, higher normative, and lower continuance commitment. It is also expected that higher work satisfaction will be associated with lower turnover intentions. The three components of organizational commitment will be related to turnover intentions, in that higher affective, normative, and continuance commitment will be associated with lower turnover intentions.

3. Coping will moderate the relationship between work satisfaction and ill-health symptoms. That is, individuals experiencing high work satisfaction are hypothesized to be low on ill-health symptoms, regardless of coping ability. However, for individuals with low work satisfaction, ill-health symptoms will decrease when individuals use more problem-focused or emotion-focused coping. It is further hypothesized that high maladaptive coping will moderate the relationship between work satisfaction and ill-health symptoms, in that for individuals with low work satisfaction, ill-health symptoms will tend to increase if maladaptive coping is used.

METHOD

Participants

The data used in this research were collected as part of the Canadian Forces (CF) 1997 Personnel Survey (Personnel Research Team, 1997). The survey was sent to a stratified random sample of 1,000 members of the Regular Force of the CF across Canada. Female CF members constitute just 10% of the entire CF population, therefore, 25% of the questionnaires were sent to female CF members, and 75% were sent to male CF members, so the final sample would result in an over-representation of females for statistical purposes (Personnel Research Team, 1997). Of these 1,000 CF members who were sent questionnaires, 620 of them chose to respond (response rate 62%). Participants anonymously returned their surveys by mail to the Canadian Forces' Personnel Research Team in Ottawa, Ontario. To ensure confidentiality, participants were instructed not to write their names, service numbers, or any other identifying information on the questionnaire (see Appendix A for survey instructions to participants).

Due to missing data, the sample in the current study consists of 450 participants (332 males and 118 females; 73.7% males and 26.2% females). Because of the large proportion of missing data, comparisons on demographic variables (i.e., age, gender, language, rank, and education) were made for those individuals with and without missing data. There were no significant discrepancies between those individuals who had completed all questions and between those with missing data. In order to ensure that missing data was not

omitted in any consistent manner throughout the survey, a correlation between the total number of missing data on each item was correlated with order of items on the survey, and it was found that this correlation was non-significant ($r = .03$).

The age range of this sample is 20 to 54 years, with a mean age of 35.9 years ($SD = 6.7$). The rank profile of this sample was very similar to the actual rank structure of the CF in 1997. The rank structure of this sample consisted of approximately 11% Senior Officers, 21% Junior Officers, 23% Senior Non-Commissioned Officers, and 45% Junior Non-Commissioned Officers.

Approximately 97% of this sample worked full-time for the CF, and 89% of this sample reported English as their first language. Forty-six percent of this sample reported that some high school or high school was their highest level of education. Nineteen percent reported that some college, CEGEP, or a college diploma was their highest level. Twenty-five percent reported that some university, or CEGEP, or a university degree was their highest level of education, and 10% reported that some graduate school or a graduate degree was their highest level of education.

Materials

The Canadian Forces 1997 Personnel Survey

The Canadian Forces 1997 Personnel Survey was designed by the Canadian Force's Personnel Research Team in order to gather Canadian Forces personnel information. The results of this survey are used in the development of policies and programs relating to the Canadian Forces, to Canadian Forces' members, and to member's families. The questionnaire contained the following

scales and measures¹:

Demographics

Respondents were asked to indicate their sex, age, rank, first language, education, whether they worked part-time or full-time for the CF, how many hours they worked each week, and whether or not they worked shift work (see Appendix B).

Supervisory Support

Supervisory support was measured using ten items on the Conditions of Service and Quality of Life Questionnaire on the Personnel Survey (Personnel Research Team, 1997). This scale was designed by the Personnel Research Team in order to assess employees' satisfaction with the support provided to them by their current immediate supervisors (e.g., "How satisfied are you that your supervisor provides constructive feedback on performance?"; "How satisfied are you that your supervisor is interested in your well-being?"). This scale has a 5-point Likert-type response format, with options ranging from "very dissatisfied" (1) to "very satisfied" (5). In the present study, Cronbach's alpha for this scale was .95 (see Appendix C).

Organizational Support

Organizational support was assessed using Eisenberger et al.'s (1990) Organizational Support Scale. This scale consists of 16 items, with a 7-point Likert-type response scale with options ranging from "strongly disagree" (1) to

¹ Note: This questionnaire contained other scales not used in the current study.

“strongly agree” (7). Higher scores indicate more organizational support. The questions were re-worded so that they directly referred to the CF rather than a general organization (e.g., “The CF values my contribution to its performance”). In the present study, Cronbach’s alpha for this scale was .91 (see Appendix D).

Career Impact on Family and Social Life

In order to measure the degree of career impact on family and social life, two items from the ‘Satisfaction with Employment’ component on the Conditions of Service and Quality of Life Questionnaire on the Personnel Survey (Personnel Research Team, 1997) were used. These two items (i.e., “How would you describe the effect of your military career on your family life in general” and “How would you describe the effect of your military career on your social life”), were measured with a 5-point Likert-type response scale with options ranging from “very negative” (1) to “very positive” (5). These two items were significantly and positively correlated ($r = .442$; $p < .000$) (see Appendix E).

Work Stimulation

Work stimulation was assessed using a ten-item scale (Osipow & Spokane, 1983). These items measured the fit between employees and their jobs in terms of how interesting and challenging the employees find their jobs (e.g., “my career is progressing as I had hoped”; “I am able to satisfy my needs for success and recognition in my work”; “I am bored with my work” (reverse coded)). This scale has a 5-point Likert-type response format, with options ranging from “rarely or never” (1) to “most of the time” (5). In the present study, Cronbach’s alpha for this scale was .85 (see Appendix F).

Ambiguity

Ambiguity was assessed using a ten-item scale (Osipow & Spokane, 1983). These items measured how well employees understood what they are supposed to be doing at work (e.g., "I am uncertain about what I am supposed to accomplish in my work"; "It is clear to me what I have to do to get ahead in my career"; reverse coded). This scale has a 5-point Likert-type response format, with options ranging from "rarely or never" (1) to "most of the time" (5). In the present study, Cronbach's alpha for this scale was .76 (see Appendix G).

Income

In the current study, rank is used in order to assess income of participants because income in the CF is commensurate with rank. The average annual pay of a Private or equivalent is \$21,330. The average annual salary of Junior Non-Commissioned Officers and Senior Non-Commissioned Officers is \$39,240 and \$44,664, respectively. The average annual salary for the Master Warrant Officer/Chief Petty Officer 2 to Chief Warrant Officer/Chief Petty Officer 1 rank range is \$52,542. An Officer Cadet earns an average salary of \$32,178, while Junior Officers, Senior Officers, and General Officers earn, on average, \$44,718, \$68,838, and \$74,208, respectively (see Appendix B).

Work Hours

Work hours were assessed using one item from the Conditions of Service and Quality of Life Questionnaire on the Personnel Survey: "How many hours per week, on average, did you work over the past 12 months?" (Personnel Research Team, 1997). The response scale ranged from 1 to 4 (1 = less than 40

hours, 2 = 40-49 hours, 3 = 50-59 hours, and 4 = 60 hours or more) (see Appendix B).

Shift Work

Shift work was assessed using one item from the Conditions of Service and Quality of Life Questionnaire on the Personnel Survey (Personnel Research Team, 1997). This item asked respondents if they worked shift work (i.e., "Do you work shift work?"). The response scale consisted of 1 (yes) and 2 (no). Responses were recoded so that higher scores were indicative of the presence of shift work (see Appendix B).

Work Satisfaction

Work satisfaction was assessed using nine items from the Conditions of Service and Quality of Life Questionnaire on the Personnel Survey (Personnel Research Team, 1997). These nine items were designed by the Personnel Research Team in order to assess CF members' satisfaction with various components of their job (e.g., "How satisfied are you overall with your current job?"). The response scale was a 5-point Likert-type scale with options ranging from "very dissatisfied" (1) to "very satisfied" (5). Cronbach's alpha for this scale was .82 in the present study (see Appendix H).

Organizational Commitment

Organizational commitment was assessed using items from Allen and Meyer's (1990) affective and continuance commitment scales. These scales were re-worded so that they directly referred to the CF rather than a general organization. The affective commitment scale consisted of eight items (e.g., "I

feel a strong sense of belonging to the CF.”), as did the continuance scale (e.g., “Right now, staying with the CF is as much a matter of necessity as of desire.”). In order to assess normative commitment, four items were created by the Personnel Research Team (1997) based on Allen and Meyer’s normative commitment scale (e.g., “I would not leave the CF right now because I have a sense of obligation to the people in it.”). A factor analysis was conducted in order to examine the factor loadings of the commitment items. It was found that there were three distinct factors with the affective items loading on one factor, the continuance items loading on a second factor, and the normative items loading on a third. In the current study, Cronbach’s alpha was .85 for the affective commitment scale, .80 for the continuance commitment scale, and .79 for the normative commitment scale. All commitment response scales employed 7-point Likert-type response scales with options ranging from “strongly disagree” (1) to “strongly agree” (7) (see Appendix I).

Turnover Intentions

Turnover intentions were assessed using two items from the Conditions of Service and Quality of Life Questionnaire on the Personnel Survey (e.g., “I will stay in the CF for as long as I can.” (reverse scored) and “I will leave the CF if another job becomes available”; Personnel Research Team, 1997). The response scale was a 4-point Likert-type scale with options ranging from “never” (1) to “very often” (4). The correlation between these two items was .44 ($p < .001$) and higher scores are indicative of higher turnover intentions (see Appendix J).

Ill-Health Symptoms

Despite the fact that the construct of health has been defined and measured in many different ways across studies, research has demonstrated that perceived health status is a good indicator of actual health status, and is actually a better indicator of happiness, morale, and life satisfaction than objective health measures (Health Canada, 1998a). Perceived health status also yields a higher correlation with mortality than physician ratings (Health Canada, 1998a). In the current study, ill-health symptoms were assessed using a psychiatric and physical health symptom checklist (Bartone et al., 1989). This checklist originally consisted of 20 items (Bartone et al., 1989). For the current study, sixteen items were added to this scale by the Personnel Research Team (1997), resulting in a scale of 36 items. Using a 4-point Likert-type response scale (1 = "never"; 4 = "very often"), respondents were asked to indicate how often they had experienced several troubles or complaints over the past few weeks (e.g., common cold or flu, feeling down or blue or depressed, difficulty concentrating). In the present study, Cronbach's alpha for this 36-item scale was .94 (see Appendix K).

Coping

Coping was assessed using Carver et al.'s (1989) COPE Scale. This scale consists of 56 items, with a 4-point Likert-type response scale with options ranging from "I usually don't do this at all" (1) to "I usually do this a lot" (4). Carver et al. (1989) explored the relationships among 14 coping sub-scales (see Appendix L for intercorrelations of coping sub-scales in the current study). In the current study the sub-scales are grouped into three distinct types of coping in

order to assess coping ability. Problem-focused coping is comprised of five sub-scales: active coping, planning, suppression of competing activities, restraint coping, and seeking of instrumental social support. Emotional-focused coping is also comprised of five sub-scales: seeking of emotional social support, positive reinterpretation and growth, acceptance, turning to religion, and focus on and venting of emotions. Maladaptive coping is comprised of four sub-scales: denial, behavioural disengagement, mental disengagement, and drug and alcohol use. Cronbach's alpha was .86 for the problem-focused coping scale (e.g., "I concentrate my efforts on doing something about it"), .82 for the emotional-focused coping (e.g., "I try to get emotional support from friends or relatives"), and .79 for maladaptive coping (e.g., "I drink alcohol or take drugs, in order to think about it less") (see Appendix M).

Data Analysis

To assess the characteristics of the sample, descriptive statistics were examined with respect to subgroup differences. Zero-order correlations were computed to assess linear relationships between variables. The three hypotheses of the current study were tested using three regression analyses. In the first analysis, work satisfaction was regressed onto gender and age on the first step (to control for these variables), and supervisory support, organizational support, career impact on family and social life, work stimulation, ambiguity, income, work hours, and shift work on the second step. The aim of this analysis was to assess the joint impact of supervisory support, organizational support, career

impact on family and social life, work stimulation, ambiguity, income, work hours, and shift work on work satisfaction.

In the second analysis, in order to test whether organizational commitment partially mediated the relationship between work satisfaction and turnover intentions, regression analyses were conducted using procedures recommended by Baron and Kenny (1986) for testing mediational hypotheses. Baron and Kenny specify that the predictor variable must significantly influence the outcome variable. Therefore, a regression analysis was undertaken in order to determine whether work satisfaction impacted on turnover intentions. Secondly, the predictor variable must significantly affect the mediator variable. Therefore, a regression analysis was conducted to determine whether work satisfaction impacted on organizational commitment. In addition, in order to show a partial mediating effect, both the predictor and the mediator variable must be significantly related to the outcome variable, and the coefficient for the predictor variable must be smaller than it was when the predictor variable predicted the outcome variable. Therefore, both work satisfaction and organizational commitment were used to predict turnover intentions. When work satisfaction and organizational commitment are jointly considered in the prediction of turnover intentions, the impact of work satisfaction must be weaker than in the original test when organizational commitment was not included, and organizational commitment must remain a significant predictor of turnover intentions. A partial mediation would exist when the direct effect between work satisfaction and

turnover intentions is reduced in magnitude, but remains different from zero, when controlling for organizational commitment.

In the third analysis, ill-health was regressed onto gender and age on the first step, work satisfaction on the second, the three types of coping on the third, and on the fourth step, the three interaction terms consisting of each type of coping by work satisfaction. The goal of this analysis was to determine if problem-focused coping, emotion-focused coping, and maladaptive coping moderated the relationship between work satisfaction and ill-health symptoms.

Multiple Regression Assumptions

Before conducting the multiple regression analyses, the data provided by the current sample was inspected with regards to assumptions associated with multiple regression. The variables must be measured on an interval scale (see MacEwen & Barling, 1991; Pedhazur, 1982). This assumption was met by all variables except for income. Although the rating scale associated with income is a shortcoming to the current analyses, because income did not deviate significantly from linearity with work satisfaction (see Appendix N), the severity of this violation was reduced (Pedhazur, 1982).

There should be an absence of multicollinearity among the variables involved in a multiple regression (see MacEwen & Barling, 1991; Pedhazur, 1982). In the current study multicollinearity was not a concern as the correlations between variables (see Table 2) were all less than .8 (Lewis-Beck, 1980). The variables must also be assumed to be free of measurement error (see MacEwen & Barling, 1991; Pedhazur, 1982). Absolute absence of measurement error is

essentially impossible to achieve (MacEwen & Barling, 1991). However, based on the coefficients obtained for the internal consistencies of all measures, it is assumed that the scales showed adequate reliability, thereby demonstrating a low degree of measurement error.

The relationships between independent and dependent variables must be linear (see MacEwen & Barling, 1991; Pedhazur, 1982). This assumption was achieved for all but one of the variables in the current study. Only the relationship between continuance commitment and turnover intentions deviated significantly in linearity (see Appendix N). The scatter plot of continuance commitment by turnover intentions was investigated. Because the relationship between these continuance commitment and turnover intentions was not one of a curvilinear, multiplicative, or interactive nature (see Pedhazur, 1982), the violation of linearity was not considered to be sufficiently serious to significantly limit the results of the multiple regression. Because the multiple regression assumptions were adequately met, it was possible to examine the hypothesized relationships.

RESULTS

Descriptive Statistics for the Personnel Survey

The relationships between gender and age and all study variables are presented in Table 1. Gender (males were coded as low and females were coded as high) was significantly correlated with only two of the study variables: emotion-focused coping, and maladaptive coping. These correlations indicated that females were more likely to use both emotion-focused and maladaptive coping than males. Age, on the other hand, was significantly correlated with a

Table 1

Correlations Among Gender¹ and Age and all Other Study Variables

	Gender	Age
1. Satisfaction with Supervision	-.07	.01
2. Organizational Support	-.08	.12**
3. Career Impact on Family/Life	.07	.09*
4. Work Stimulation	.07	-.18**
5. Ambiguity	-.01	-.07
6. Income	-.00	.51**
7. Work Hours	-.04	-.00
8. Shift Work	.04	.21**
9. Work Satisfaction	-.03	.19**
10. Affective Commitment	-.05	.12**
11. Continuance Commit.	-.01	-.12**
12. Normative Commitment	-.04	.08
13. Turnover Intentions	.08	.08*
14. Ill-Health Symptoms	.07	-.02
15. Problem-Focused Coping	.03	.13**
16. Emotion-Focused Coping	.23**	-.04
17. Maladaptive Coping	.13**	-.16**

N = 450

* = $p < .05$, ** = $p < .01$ ¹Note: Males were coded as 1 and females were coded as 2.

number of study variables including organizational support, career impact on family and social life, work stimulation, income, shift work, work satisfaction, affective commitment, continuance commitment, turnover intentions, problem-focused coping, and maladaptive coping.

Relationships Among Variables

Means, standard deviations, and intercorrelations for all study variables are presented in Table 2. The correlations between the proposed predictors of work satisfaction (i.e., supervisory support, organizational support, career impact on family and social life, work stimulation, ambiguity, income, work hours, and shift work) were examined in order to determine the intercorrelations among these variables. For the most part, these variables significantly, although only moderately, correlated with one another. In addition, each of the predictors were significantly correlated with work satisfaction.

The three components of organizational commitment (i.e., affective commitment, continuance commitment, and normative commitment) were examined in order to assess the intercorrelations among these variables. The three components of organizational commitment were significantly intercorrelated with one another. Affective and normative commitment were positively related, and both were negatively related to continuance commitment. All three components of commitment were significantly correlated to work satisfaction and turnover intentions. Moreover, work satisfaction and turnover intentions were negatively and significantly correlated.

Table 2

Means, standard deviations, and intercorrelations of study variables

	X	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Career Impact	3.10	0.80	-																
2. Income	44,707.01	6,642.76	.00	-															
3. Supervisory Support	3.62	0.86	.12**	.07	-														
4. Organizational Support	4.03	1.42	.32**	.21**	.29**	-													
5. Ambiguity	2.17	0.58	-.21**	-.04	-.43**	-.37**	-												
6. Work Stimulation	2.73	0.78	.22**	.23**	.38**	.48**	-.45**	-											
7. Work Hours	1.67	1.09	-.19**	-.18**	-.03	-.15**	.04	-.16**	-										
8. Shift Work	1.76	0.46	-.15**	-.27**	-.05	-.19**	.11*	-.20**	.70**	-									
9. Work Satisfaction	3.70	0.70	.29**	.22**	.37**	.49**	-.43**	.66**	-.15**	-.21**	-								
10. Affective Commitment	4.29	1.37	.30**	.20**	.12**	.49**	-.25**	.32**	-.18**	-.17**	.44**	-							
11. Continuance Commit.	4.32	1.13	-.01	-.14**	-.05	-.16**	.10*	-.11*	.15**	.19**	-.14**	-.13**	-						
12. Normative Commitment	3.78	1.36	.18**	.18**	.15**	.44**	-.19**	.28**	-.11*	-.09*	.38**	.67**	-.04	-					
13. Turnover Intentions	3.54	1.11	-.26**	.10*	-.17**	-.19**	.18**	-.20**	.00	.01	-.32**	-.44**	-.20**	-.35**	-				
14. Ill-Health Symptoms	1.69	1.38	-.26**	-.09*	-.18**	-.28**	.35**	-.23**	.07	.09*	-.28**	-.19**	.14**	-.06	.18**	-			
15. Problem Coping	2.94	0.42	.00	.18**	.08*	.06	-.28**	.16**	-.06	-.11*	.17**	.08	-.14**	.11**	.01	-.07	-		
16. Emotion Coping	2.17	0.39	-.08*	.06	-.01	.01	-.06	.01	.06	-.01	-.03	-.02	.00	.05	.04	.13**	.46**	-	
17. Maladaptive Coping	1.72	0.41	-.21**	-.12**	-.15**	-.26**	.30**	-.23**	.08	-.12**	-.32**	-.18**	.17**	-.11**	.11**	.45**	-.14*	.36**	-

N = 450

*= $p < .05$, **= $p < .01$

All three types of coping were significantly intercorrelated. Emotion-focused coping was positively related to problem-focused coping, and to maladaptive coping. Problem-focused coping and maladaptive coping were negatively related. Work satisfaction was negatively and significantly correlated with ill-health symptoms. Both emotion-focused coping and maladaptive coping were significantly correlated with ill-health symptoms.

Regression Analyses

In order to assess the hypothesized relationships between variables, three analyses were conducted. To test the first hypothesis that higher supervisory support, higher organizational support, higher (i.e., more positive) career impact on family and social life, greater work stimulation, lower ambiguity, higher income, fewer work hours, and lower shift work (i.e., not working shift work) would be jointly related to higher work satisfaction, work satisfaction was regressed on these eight predictors, while controlling for gender and age (see Table 3).

Gender and age were entered on the first step to control for these factors. These variables accounted for a small, but significant, amount of variance in work satisfaction ($R^2 = .04$, $p < .001$). The beta weight associated with gender was not significant ($\beta = -.02$, $p = .72$). However, the beta weight associated with age was significant ($\beta = .19$, $p < .001$). These beta weights associated with gender and age suggest that the impact on work satisfaction derived from these two variables is probably due almost entirely to age, with an association between higher the age

Table 3

Effect of Supervisory Support, Organizational Support, Career Impact on Family and Social Life, Work Stimulation, Ambiguity, Income, Work Hours, and Shift Work on Work Satisfaction

Step	Independent Variables	β	ΔR^2	R^2
1	Gender	-.02	.04***	.04***
	Age	.19***		
2	Supervisory Support	.10*	.48***	.52***
	Organizational Support	.17***		
	Career Impact on Family/Life	.10*		
	Stimulating Work	.47***		
	Ambiguity	-.12**		
	Income	.02		
	Hours Worked	.00		
	Shift Work	.00		

N = 450

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

greater work satisfaction. On the second step, satisfaction with supervision, organizational support, career impact on family and social life, work stimulation, ambiguity, income, hours worked, and shift work were entered. These eight predictor variables produced a significant change in R^2 , accounting for an additional 49% of the variance in work satisfaction. Except for income ($\beta = .02$, $p = .60$), work hours ($\beta = .00$, $p = .97$), and shift work ($\beta = .00$, $p = .99$), the beta weights associated with these predictors were significant ($\beta = .10$, $p < .05$; $\beta = .17$, $p < .001$; $\beta = .10$, $p < .05$; $\beta = .47$, $p < .001$; $\beta = -.12$, $p < .01$, for supervisory

support, organizational support, career impact on family and social life, work stimulation, and ambiguity, and respectively). All variables, except for ambiguity, were associated with increased work satisfaction.

To test the second hypothesis of this study that organizational commitment partially mediates the relationship between work satisfaction and turnover intentions, a test for mediation was conducted using procedures recommended by Baron and Kenny (1986). According to the logic of Baron and Kenny's mediational method, in order to consider the work satisfaction – turnover intentions relationship as mediated by organizational commitment, three conditions must be met. First, work satisfaction (the predictor variable) must impact on organizational commitment (the proposed mediator variable). Second, organizational commitment must impact on turnover intentions (the outcome variable). Finally, when both work satisfaction and organizational commitment are considered in the prediction of turnover intentions, the influence of work satisfaction on turnover intentions must be weaker than when organizational commitment was not included, and organizational commitment must remain a significant predictor of turnover intentions. Partial mediation exists when the direct effects of work satisfaction on turnover intentions are reduced in magnitude, yet remain different from zero.

This mediational prediction was tested using the three components of organizational commitment – affective, continuance, and normative commitment. Analyses indicated that work satisfaction significantly affected turnover intentions

($\beta = -.32, p < .001$). The three components of organizational commitment were regressed onto work satisfaction, and work satisfaction was significantly related to affective ($\beta = .44, p < .001$), continuance ($\beta = -.14, p < .001$), and normative ($\beta = .38, p < .001$) commitment. Turnover intentions were regressed onto the three components of organizational commitment. Affective and continuance commitment were significantly related to turnover intentions ($\beta = -.41, p < .001$; $\beta = -.25, p < .001$, respectively), although normative commitment was not. Because Baron and Kenny's first two conditions for a mediator were met for affective and continuance commitment only, the third condition, that the inclusion of the mediator variable weakens the regression coefficient representing the relationship between the predictor and outcome variable (i.e., work satisfaction and turnover intentions) was tested for affective and continuance commitment only.

Including affective and continuance commitment was expected to substantially weaken the regression coefficient found in the previous analysis in which the predictive value of work satisfaction on turnover intentions, not controlling for affective and continuance commitment, was found. When affective and continuance commitment were included as potential mediators in the regression, the regression coefficient weakened (from $\beta = -.32$ to $\beta = -.19$) (see Table 4). This indicated that the direct effects were reduced, but still different from zero, therefore suggesting that the relationship between work satisfaction and turnover intentions was partially mediated by these two components of organizational commitment.

Table 4

Partial Mediation of Work Satisfaction and Turnover Intentions by Affective and Continuanace Commitment

Independent Variables	β	R ²	Significance of Reduction (z)
Work Satisfaction	-.32***	.10***	
Work Satisfaction (controlling for Affective and Continuanace Commitment)	-.19***	.28***	
Affective Commitment			2.13*
Continuanace Commitment			2.11*

N = 450

* = $p < .05$; ** = $p < .01$; *** = $p < .001$

To examine the significance of the partial mediation effects, a test was conducted, as proscribed by Baron and Kenny (1986) in order to determine whether organizational commitment significantly reduced the size of the direct effects on turnover intentions. This test is conducted in order to confirm that the decrease in the coefficient is significant (i.e., a significant portion of the impact of work satisfaction on turnover intentions is mediated via organizational commitment). This decrease represented significant reductions in the effect of work satisfaction on turnover intentions, when both affective and continuance commitment were controlled ($z = 2.13$, $p < .05$; $z = 2.11$, $p < .05$, respectively),

indicating that both affective and continuance commitment partially mediated the relationship between work satisfaction and turnover intentions.

The final analysis was conducted in order to determine if problem-focused coping, emotion-focused coping, and maladaptive coping moderated the relationship between work satisfaction and ill-health symptoms. Before conducting the regression analysis, the predictor variables were standardized (as proscribed by Aiken and West (1991)) in order to test for interaction effects, due to the fact that multicollinearity of variables may obscure interaction effects. By cross-multiplying the standardized predictors of work satisfaction and coping, interaction terms were computed. Gender and age were entered on the first step in order to control for these variables. Work satisfaction was entered on the second step, and the three types of coping were entered on the third step. On the fourth step, the work satisfaction and coping interaction terms were entered (see Table 5).

The variance accounted for in ill-health symptoms by gender and age ($R^2 = 1\%$) was non-significant. Moreover, neither gender nor age uniquely contributed to the prediction of ill-health symptoms ($\beta = .07$; $p = .14$ and $\beta = -.02$; $p = .67$ for gender and age, respectively). Work satisfaction, entered on the second step, accounted for an additional 8% of the variance in ill-health symptoms and was significant in predicting ill-health symptoms ($\beta = -.29$; $p < .001$), in that higher work satisfaction was related to fewer ill-health symptoms. On the third

Table 5

Coping as a Moderator of the Relationship Between Work Satisfaction and Ill-Health Symptoms

Step	Independent Variables	β	ΔR^2	R^2
1	Gender Age	-.02 .07	.00	.01
2	Work Satisfaction	-.28***	.08***	.09***
3	Problem-Focused Coping Emotion-Focused Coping Maladaptive Coping	.00 -.03 .43***	.15***	.24***
4	Work Satisfaction x Problem-Focused Coping Work Satisfaction x Emotion-Focused Coping Work Satisfaction x Maladaptive Coping	.03 -.03 -.02	.00***	.24

N=450

* = $p < .05$, **= $p < .01$, ***= $p < .001$

step, problem-focused coping, emotion-focused coping, and maladaptive coping accounted for an additional 15% ($p < .001$) of the variance in ill-health symptoms. However, only the beta weight associated with maladaptive coping was significant ($\beta = .43$; $p < .001$), indicating this variable was probably uniquely contributing to most of the variance in ill-health symptoms explained by coping,

and that higher maladaptive coping was associated with higher ill-health symptoms.

The three work satisfaction by coping interaction terms were entered on the last step. However, no added variance was accounted for by these interaction terms, and none of the individual beta weights were significant for these terms.

Summary of Results

The present results lend partial support to the hypotheses in the current study. Five of the proposed organizational and job-related determinants of work satisfaction (i.e., supervisory support, organizational support, career impact on family and social life, ambiguity, and stimulating work) were significantly related to work satisfaction and, overall, the predictors of work satisfaction accounted for a considerable amount of the variance in work satisfaction. Support was found for the partial mediation of work satisfaction and turnover intentions by affective, and continuance commitment. Although not one of the three types of coping played a moderating role in the relationship between work satisfaction and ill-health symptoms, results indicated that work satisfaction was negatively associated with ill-health symptoms, and that maladaptive coping shared a direct positive relationship with ill-health symptoms.

DISCUSSION

Summary of Research Findings

The primary purpose of this study was to contribute to the understanding of the prediction of ill-health and turnover intentions in order to contribute to the research in the area of ill-health and turnover intentions, as well as to provide

organizations with information regarding how they can influence employee ill-health and turnover intentions. The findings provide support for the hypothesis that organizational commitment (i.e., affective and continuance commitment) partially mediates the relationship between work satisfaction and turnover intentions. The relationship among work satisfaction, coping, and ill-health was examined in order to assess whether coping moderated the relationship between work satisfaction and ill-health. Moreover, eight organizational and job-related variables that are within the ability of organizations to influence, were examined in order to assess their joint predictive ability of work satisfaction.

The regression analysis conducted to assess the predictive ability of eight organizational and job-related predictors of work satisfaction controlled for gender and age. Gender and age significantly predicted work satisfaction. Because age, and not gender, was uniquely associated with work satisfaction, it is probable that most of the predictive ability was a result of age rather than gender.

The joint effect of higher supervisory support, greater organizational support, higher (i.e., more positive) career impact on family and social life, greater work stimulation, lower ambiguity, higher income, fewer work hours, and lower (i.e., not working) shift work accounted for a significant proportion of the variance in work satisfaction. Supervisory support, organizational support, career impact on family and social life, stimulating work, and ambiguity were each uniquely significant in predicting work satisfaction, suggesting that these variables were accounting for most of the variance in work satisfaction.

Income and age are highly correlated in this study. It is likely that this strong association between income and age is why income was not significant in uniquely predicting work satisfaction. Because age was entered on the first step of the hierarchical regression analysis, it is likely taking away from the variance in work satisfaction that would have been explained by income. These results did not demonstrate a relationship between work hours and work satisfaction, and between shift work and work satisfaction as previous research has found (Efinger et al., 1995; Shelley & Webb, 1989). Part of the explanation for the lack of contribution towards the prediction of work satisfaction from work hours and shift work may be do to the fact that these two variables are highly correlated, and highly correlated with work satisfaction, thereby reducing the likelihood that they would uniquely contribute to the variance in work satisfaction.

Participants who were older, who perceived higher supervisory support, higher organizational support, more of a positive career impact on family and social life, more stimulating work, and lower ambiguity, also tended to be more satisfied with work. These results support previous research that has found that supervision, organizational support, work and family/life conflict, work stimulation, and ambiguity are associated with work satisfaction (e.g., Freeman, 1978; Glass & Estes, 1996; Rice et al., 1992; Thomas & Ganster, 1995).

Previous research supports a mediated relationship when considering the role that organizational commitment plays in the relationship between work satisfaction and turnover intentions (Farkas & Tetrick, 1989; Mobley, 1977). However, research does not clearly specify whether this relationship is fully or

partially mediated by commitment. Therefore, a test for the mediation of work satisfaction and turnover intentions by organizational commitment was conducted and evidence was found that supported a partial mediation of work satisfaction and turnover intentions by affective and continuance commitment.

There was a positive relationship between work satisfaction and affective commitment, and between work satisfaction and normative commitment. There was a negative relationship between work satisfaction and continuance commitment, and between work satisfaction and turnover intentions. People who are higher on work satisfaction are more likely to be committed to their organization and are less likely to have turnover intentions. These findings support previous research that found work satisfaction is associated with organizational commitment and with turnover intentions (e.g., Lee & Mowday, 1987; Williams & Hazer, 1986).

Two of the three components of commitment were associated with turnover intentions, in that higher affective and continuance commitment were related to lower turnover intentions. The findings that affective and continuance commitment affect turnover intentions support previous research (Allen & Meyer, 1990). A finding of the present study that was not in line with previous research (i.e., Allen & Meyer, 1990), was that normative commitment was not uniquely related to turnover intentions when all three components of commitment were jointly tested in order to assess their influence on turnover intentions. However, the zero-order correlations indicated that all three components of organizational commitment were significantly associated with turnover intentions. Normative

commitment was likely not uniquely related to turnover intentions when all three components of organizational commitment were jointly tested due to the strong correlation between normative and affective commitment.

The hypothesis that coping would act as a moderating variable in the relationship between work satisfaction and ill-health symptoms was not supported. However, individuals who engaged in higher maladaptive coping were more likely to have more ill-health symptoms, a finding that has been found in previous research (e.g., Begley, 1998). However, due to the intercorrelations among the three types of coping, problem- and emotion-focused coping may actually play more of a role in the relationship between work satisfaction and ill-health than suggested by the current study. Although the zero-order correlations did not indicate a significant association between problem-focused coping and health, there was a significant correlation between emotion-focused coping and ill-health symptoms. Work satisfaction accounted for a significant proportion of the variance in ill-health symptoms, supporting previous research (e.g., Weiner et al., 1981).

Although previous research in the area of coping is not consistent, findings suggest that coping is a stable characteristic and does have the potential to play a moderating role in the relationship between work satisfaction and health (e.g., Bartone et al., 1989). The finding that coping did not moderate the relationship between work satisfaction and ill-health symptoms may be partially explained by the fact that there are a number of measurement issues associated with coping. In particular, when examining coping, longitudinal studies may be more appropriate.

The assessment of coping in a cross-sectional study can only gain an approximation of the general coping style of the individual, not of how an individual copes with a specific event.

Because the findings associated with coping were not clear, a post hoc factor analysis was conducted in order to examine the possibility that a different factor structure of coping would have been more appropriate. Although previous research indicates that including problem-focused, emotion-focused, and maladaptive coping in an examination of coping is useful (e.g., Begley, 1998; Carver et al., 1989), the exploratory factor analysis indicated that these three factors may not be most appropriate when examining coping. Carver et al. (1989) discussed a number of different factor structures of coping including the three-factor structure that was used in the current study. However, Carver et al. also discussed fourteen distinct coping scales, and two similar four-factor structures.

In the post hoc analysis of coping in this study, support was gathered for both a four and seven structure model of coping that were similar, although not identical to the variations discussed by Carver et al. (1989). The four factor model proposed by Carver et al. included one factor that incorporated active coping, planning, and suppression of competing activities. The second factor was composed of instrumental social support, emotional social support, and focus on emotions. The third factor consisted of acceptance, restraint, positive reinterpretation and growth. The final factor was composed of denial, mental disengagement, behavioural disengagement, and turning to religion (although some of Carver et al.'s data suggest that religion is a unique factor).

The first factor in the four structure model found in the post hoc analysis of coping in this study was the same as that proposed by Carver et al., but also included positive reinterpretation and growth, acceptance and restraint. The second factor found in the post hoc analysis was the same as that found by Carver et al. The third factor in the post hoc analysis was similar to Carver et al.'s fourth factor but did not include religion. The religion items loaded onto one factor separately in the post hoc factor analysis.

The seven factor structure found in the post hoc analysis was also similar in certain aspects to that found by Carver et al. (1989). The first factor was the same as Carver et al.'s but also included positive reinterpretation and growth. The second factor included both types of support only. The third factor was similar to Carver et al.'s although only included acceptance and restraint. The fourth factor consisted of both types of disengagement. Religion, alcohol and drug use, and focus on emotions all loaded on to separate factors creating the final three factors.

This post hoc factor analysis, in combination with Carver et al.'s (1989) findings indicate that there are consistencies across coping scales, but also discrepancies that need further research attention. Active coping, planning, and suppression of competing activities are consistently related to one another. The two types of disengagement also are strongly related across studies, as are the two types of coping. In this post hoc analysis religion was consistently a unique factor, a finding supported by some of Carver et al.'s data. However, other aspects of coping play varying roles, and need further research attention in order to refine the assessment of coping.

Limitations and Recommendations

The sample used in this study was from a specific workplace with a number of unique characteristics. This uniqueness of this sample may limit the generalizability of these results to other organizations. For example, participants in the sample used in the current study are all are paid on a set scale.

Organizations where income is entirely commensurate with performance rather than position, might find an even stronger relationship between income and work satisfaction, as income would then be more of a reflection of the ability and effort of the individual than it was in the current study. Therefore, before extrapolating these findings to a wider population, care should be taken to understand the unique characteristics of the organization being studied, and how these characteristics might play a part in the findings.

Because a cross-sectional methodology was employed to measure all variables in this study, caution must be taken in drawing any conclusions about causality. Moreover, the goal of this study was to examine the relationships among a specific group of variables, and therefore it is very likely that there are other variables that may also be important. Future research should focus on finding the variables that are most important and relevant for inclusion, given the specific characteristics of the sample, and of the organization being studied (e.g., Meyer et al, 1998).

Self-report measures are subject to potential biases from common method variance, and the data in the current study involved this method of assessment. Therefore, shared method variance may have inflated the relations between the

variables. Multiple methods of assessment (i.e., ratings by observers) would provide valuable added insight in future research.

Implications and Future Research

Despite the aforementioned limitations to the present study, these results provide support for the notion that there are a number of controllable factors that combine to indirectly influence the costly organizational outcomes of turnover intentions and ill-health symptoms. The results of this study suggest that organizations may be able to indirectly exert a certain degree of control over turnover intentions and ill-health symptoms. Organizations can focus on these factors on in order to increase work satisfaction, thereby decreasing turnover intentions and ill-health symptoms.

Organizations can focus on improving support provided to employees by supervisors, and by the organizational as a whole. Previous research suggests that when organizations appear to care about their employees, and fulfil their end of the psychological contract, employees are more satisfied (e.g., Morrison & Robinson, 1997). Research also suggests that when supervisors are competent in their jobs and supportive of subordinates, employees will tend to be more satisfied in their jobs (e.g., Johnson et al., 1996). Organizations must continue to focus on creating environments that promote work satisfaction in order to ensure a high level of employee performance and organizational productivity.

Organizations can help to alleviate career interference with family and social life by ensuring the existence of policies and procedures that assist employees in balancing work and non-work. Organizations might want to

consider options such as providing child- and/or elder-care services for employees' families, or flexible working hours to assist employees in balancing work with life. Work and family/life programs within organizations are gaining popularity, and have been argued to be powerful tools in helping to attract and retain employees, and in strengthening employee commitment (Families and Work Institute, 1997).

Organizations can make sure that employee salaries are within the expected ranges for particular positions, or are appropriate for the particular work environment. Cascio (1995) points out that in today's organizations, traditional pay systems are starting to be questioned. It is becoming more common for workers to be paid by the number of jobs they are capable of doing or on the depth of their knowledge. Workers at some companies can increase their salaries by increasing their skills. Cascio states that 70%-88% of organizations with such programs reported higher job satisfaction, product quality, or productivity, and 70% to 75% of these organizations reported lower operating costs or reduced turnover. Additionally, organizations might want to consider options such as providing bonuses to employees (Laver, 1999).

Organizations should also be concerned with ensuring that job characteristics promote work satisfaction. Organizations should aim to provide employees with work that is stimulating. This might be an issue of considerable concern for organizations where de-skilling is occurring (e.g., Cascio, 1995). Organizations should ensure that there is a match between the interests and abilities of employees, and the particular job. Organizations should also ensure

that there is a lack of ambiguity regarding what the employee should be doing on the job. Organizations should make sure that both organizational and supervisory expectations for employees are clear.

Although coping did not moderate the relationship between work satisfaction and ill-health symptoms, it is recommended the future research continue to explore the role that coping may play in helping individuals deal with stressful or dissatisfying work conditions. The zero-order correlations indicated that there was significant associations between emotion-focused and maladaptive coping and ill-health symptoms. As well, work satisfaction was significantly correlated with problem-focused and maladaptive coping. If the role of coping at the workplace was better understood, then organizations could begin to offer training programs in different types of coping in order to help employees deal with stressful and dissatisfying work conditions.

Concluding Remarks

In conclusion, supervisory support, organizational support, career impact on family and social life, ambiguity, and work stimulation were significantly related to work satisfaction, and indirectly, ill-health and turnover intentions. Moreover, because it is expected that age was eliminating the predictive ability of income due to the similarity of these two variables in the current study, it is expected that income does play a role in influencing work satisfaction. Because age is not a variable that can be controlled by organizations, organizations, and future research, should not neglect income when predicting work satisfaction.

These results further our understanding of the role that these organizational and job-related variables can play in influencing work satisfaction. These results suggest that a variety of organizational and job-related factors are important in predicting turnover intentions and ill-health symptoms through their direct relationship with work satisfaction. Moreover, these results contribute to the knowledge and research in this area, and provide a solid framework for continuing research in this area.

In these times of high organizational uncertainty and competitiveness, there is a potential for costly organizational repercussions resulting from increased turnover intentions and ill health. Organizations would be wise to focus on the organizational and job-related factors explored in the current study. By paying attention to the variables in this study found to influence work satisfaction organizations may be able to increase the work satisfaction of employees, ultimately decreasing turnover intentions and ill-health symptoms, and saving huge amounts of money.

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Appendix A

Personnel Survey 1997

Personnel Research Team
National Defence Headquarters
Mgen George R. Pearkes Building
Ottawa, ON K1A 0K2

Introduction

The CF 1997 Personnel Survey has been designed by Personnel Research Team (PRT) to gather data in support of CF personnel programmes.

You have been selected, as part of a random sample of service members, to participate in this survey. Completed questionnaires are analyzed by PRT researchers and the results of these analyses will be made available to NDHQ and the Commands.

This is an anonymous survey: you are assured of complete confidentiality. To ensure your anonymity please do not write your name, service number, or make any identifying marks anywhere on the questionnaire.

Participation in the survey is voluntary. However, the results of this survey are valuable and are used in the development of policies and programmes that benefit the CF, its members, and their families. For this reason, we ask you to take the time to complete the survey and return it to us. Thank you in advance for your cooperation.

General Instructions

- Please note that this survey is not a test. There are no right or wrong answers. It is important, however, that your answers reflect your experiences and opinions as accurately as possible.
- Read each question carefully. When several responses are provided, read all of the choices before selecting your answer.
- Record your answer with a standard HB lead pencil. Circle the appropriate letter, number or word. Write directly on the survey, but please don't make unnecessary marks.
- Should you wish to change your answer, erase it completely before making your new response.

- Do not return to earlier portions of the survey to change your answers once you have finished.
- Please return the survey to PRT no later than 30 June 1997.
- Once you have completed your survey, please seal it in the envelope provided with your questionnaire and place it in your unit's internal mail.
- Should the envelope be missing, please seal your questionnaire in a standard 8" by 11" envelope and address it to:

Personnel Research Team
National Defence Headquarters
Mgen George R. Pearkes Building
Ottawa, Ontario
K1A 0K2

Attention: Capt. C. Tomlinson
Personnel Support Survey Coordinator

Appendix C

Supervisory Support

Consider your relationship with **your current Immediate supervisor.**

How satisfied are you with:

		Very Dissatisfied	Dissatisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
His/her...						
a.	technical knowledge	1	2	3	4	5
That she/he...						
b.	accepts advice	1	2	3	4	5
c.	provides constructive feedback on performance	1	2	3	4	5
d.	encourages commitment to the CF	1	2	3	4	5
e.	is supportive	1	2	3	4	5
f.	maintains high standards of performance	1	2	3	4	5
g.	can be trusted	1	2	3	4	5
h.	is interested in my well-being	1	2	3	4	5
i.	delegates appropriate authority	1	2	3	4	5
j.	supports equal treatment of all, regardless of differences (e.g., gender, race, lanaguage, culture, religion, sexual orientation)	1	2	3	4	5

Appendix D

Organizational Support

Instructions: Below are a number of statements about the Canadian Forces (CF), each of which you may agree or disagree with depending on your own judgment. Please indicate the degree of your agreement or disagreement with each statement by circling a number from 1 to 7 according to the given scale.

	1 Strongly Disagree	2 Disagree	3 Mildly Disagree	4 Neither Agree nor Disagree	5 Mildly Agree	6 Agree	7 Strongly Agree
1.						1	2 3 4 5 6 7
1.						1	2 3 4 5 6 7
3.						1	2 3 4 5 6 7
4.						1	2 3 4 5 6 7
5.						1	2 3 4 5 6 7
6.						1	2 3 4 5 6 7
7.						1	2 3 4 5 6 7
8.						1	2 3 4 5 6 7
9.						1	2 3 4 5 6 7
10.						1	2 3 4 5 6 7
11.						1	2 3 4 5 6 7
12.						1	2 3 4 5 6 7
13.						1	2 3 4 5 6 7
14.						1	2 3 4 5 6 7
15.						1	2 3 4 5 6 7
16.						1	2 3 4 5 6 7

(R) = reversed coded items

Appendix E

Career Impact on Family and Social Life

How would you describe the **effect of your military career** on the following:

		Very Negative	Negative	Neither Positive Nor Negative	Positive	Very Positive
a.	family life in general	1	2	3	4	5
b.	social life	1	2	3	4	5

Appendix F

Work Stimulation

	Rarely or Never	Occasionally	Often	Usually	Most of the time
1. My career is progressing about as I had hoped.	1	2	3	4	5
2. My work fits my interests and skills.	1	2	3	4	5
3. I am bored with my work. (R)	1	2	3	4	5
4. I have enough responsibility in my work.	1	2	3	4	5
5. My talents are being used in my work.	1	2	3	4	5
6. My job has a good future.	1	2	3	4	5
7. I am able to satisfy my needs for success and recognition in my work.	1	2	3	4	5
8. I am overqualified for my work. (R)	1	2	3	4	5
9. I learn new skills in my work.	1	2	3	4	5
8. I have to perform tasks that are beneath my ability. (R)	1	2	3	4	5

(R) = reverse coded items

Appendix G

Ambiguity

	Rarely or Never	Occasionally	Often	Usually	Most of the time
1. My supervisor provides me with useful feedback about my performance. (R)	1	2	3	4	5
2. It is clear to me what I have to do to get ahead in my career. (R)	1	2	3	4	5
3. I am uncertain about what I am supposed to accomplish in my work.	1	2	3	4	5
4. When faced with several tasks at once I know which should be done first. (R)	1	2	3	4	5
5. I know where to begin a new task when it is assigned to me. (R)	1	2	3	4	5
6. My supervisor asks for one thing but really wants another.	1	2	3	4	5
7. I understand what is acceptable personal behavior on the job (for example, dress, language). (R)	1	2	3	4	5
8. The priorities of my work are clear to me. (R)	1	2	3	4	5
9. I have a clear understanding of how my supervisor wants me to spend my time. (R)	1	2	3	4	5
10. I understand how my work performance is evaluated. (R)	1	2	3	4	5

(R) = reverse coded items

Appendix H

Work Satisfaction

1. How satisfied are you **overall** with your:

	Very Dissatisfied	Dissatisfied	Neither Satisfied Nor Dissatisfied	Satisfied	Very Satisfied
a. life in the CF	1	2	3	4	5
b. CF career	1	2	3	4	5
c. present MOC	1	2	3	4	5
d. current unit	1	2	3	4	5
e. current job	1	2	3	4	5
f. present geographic location	1	2	3	4	5

2. How satisfied are you **overall** with your career:

a. variety	1	2	3	4	5
b. challenge	1	2	3	4	5
c. responsibility	1	2	3	4	5

Appendix I

Organizational Commitment

Instructions: Below are a number of statements about the Canadian Forces (CF), each of which you may agree or disagree with depending on your own judgment. Please indicate the degree of your agreement or disagreement with each statement by circling a number from 1 to 7 according to the given scale.

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Mildly Disagree	Neither Agree nor Disagree	Mildly Agree	Agree	Strongly Agree

Affective Commitment

- | | | |
|----|---|---------------|
| 1. | I feel a strong sense of belonging to the CF. | 1 2 3 4 5 6 7 |
| 2. | I do not feel emotionally attached to the CF. (R) | 1 2 3 4 5 6 7 |
| 3. | The CF has a great deal of personal meaning for me. | 1 2 3 4 5 6 7 |
| 4. | I do not feel like "part of the family" in the CF. (R) | 1 2 3 4 5 6 7 |
| 5. | I would be very happy to spend the rest of my working life in the military. | 1 2 3 4 5 6 7 |
| 6. | I enjoy discussing the CF with people outside it. | 1 2 3 4 5 6 7 |
| 7. | I really feel as if the problems of the CF are my own. | 1 2 3 4 5 6 7 |
| 8. | I think I could easily become as attached to another organization as I am to this one. (R) | 1 2 3 4 5 6 7 |

Continuance Commitment

- | | | |
|----|--|---------------|
| 1. | Right now, staying with the CF is as much a matter of necessity as of desire. | 1 2 3 4 5 6 7 |
| 2. | One of the major reasons I continue to stay with this organization is that leaving would require considerable personal sacrifice – another organization may not match the overall benefits I have. | 1 2 3 4 5 6 7 |
| 3. | I have too few options to consider leaving the military. | 1 2 3 4 5 6 7 |
| 4. | One of the few negative consequences of leaving the military would be the scarcity of available alternatives. | 1 2 3 4 5 6 7 |
| 5. | It would be hard for me to leave the CF right now, even if I wanted to. | 1 2 3 4 5 6 7 |

- | | | | | | | | | |
|----|---|---|---|---|---|---|---|---|
| 6. | Too much of my life would be disrupted if I decided to leave the military now. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. | It wouldn't be too costly for me to leave the CF in the near future. (R) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. | I'm not afraid of what might happen if I quit without having another job lined up. (R) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Normative Commitment

- | | | | | | | | | |
|----|--|---|---|---|---|---|---|---|
| 1. | I would feel guilty if I left the CF now. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. | This organization deserves my loyalty. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. | I would not leave the CF right now because I have a sense of obligation to the people in it. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | I owe a great deal to this organization. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

(R) = reversed coded items

Appendix J

Turnover Intentions

How likely are the following:

	Highly Unlikely	Unlikely	Neither Likely Nor Unlikely	Likely	Highly Likely
a. I will stay in the CF for as long as I can. (R)	1	2	3	4	5
b. I will leave the CF if another job becomes available.	1	2	3	4	5

(R) = reversed coded items

Appendix K

III-Health Symptoms

Instructions: Here is a list of troubles or complaints people sometimes have. Using the given scale, please indicate how often you have experienced each of these over the last few weeks.

	1	2	3	4
	Never	Sometimes	Often	Very Often
1. Common cold or flu.	1	2	3	4
2. Dizziness or faintness.	1	2	3	4
3. General aches or pains.	1	2	3	4
4. Sweating hands, feeling wet and clammy.	1	2	3	4
5. Headaches.	1	2	3	4
6. Muscle twitching or trembling.	1	2	3	4
7. Nervousness or tenseness.	1	2	3	4
8. Rapid heartbeat (while not exercising or working hard).	1	2	3	4
9. Shortness of breath (while not exercising or working hard).	1	2	3	4
10. Skin rashes or itching.	1	2	3	4
11. Upset stomach.	1	2	3	4
12. Trouble sleeping.	1	2	3	4
13. Feeling down or blue or depressed.	1	2	3	4
14. Difficulty concentrating.	1	2	3	4
15. Crying.	1	2	3	4
16. Lack of appetite.	1	2	3	4
17. Loss of weight.	1	2	3	4
18. Taking medication to sleep or calm down.	1	2	3	4
19. Overly tired/lack of energy.	1	2	3	4

- | | | | | | |
|-----|---|---|---|---|---|
| 20. | Loss of interest in things, such as TV, news and friends. | 1 | 2 | 3 | 4 |
| 21. | Feeling life is pointless. | 1 | 2 | 3 | 4 |
| 22. | Feeling bored. | 1 | 2 | 3 | 4 |
| 23. | Minor accidents. | 1 | 2 | 3 | 4 |
| 24. | Increased smoking. | 1 | 2 | 3 | 4 |
| 25. | Thoughts of ending your life. | 1 | 2 | 3 | 4 |
| 26. | Wanting to be alone. | 1 | 2 | 3 | 4 |
| 27. | Mental confusion. | 1 | 2 | 3 | 4 |
| 28. | Being jumpy/easily startled. | 1 | 2 | 3 | 4 |
| 29. | Being cranky/easily annoyed. | 1 | 2 | 3 | 4 |
| 30. | Bad dreams/nightmares. | 1 | 2 | 3 | 4 |
| 31. | Difficulty relating to others. | 1 | 2 | 3 | 4 |
| 32. | Loss of self-confidence. | 1 | 2 | 3 | 4 |
| 33. | Difficulty making decisions. | 1 | 2 | 3 | 4 |
| 34. | Feeling anxious or worried. | 1 | 2 | 3 | 4 |
| 35. | Pains in the heart or chest. | 1 | 2 | 3 | 4 |
| 36. | Feeling trapped or confined. | 1 | 2 | 3 | 4 |

Appendix L

Intercorrelations of coping sub-scales

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<u>Problem-Focused Coping</u>														
1. Active	-													
2. Planning	.75**	-												
3. Suppression	.59**	.56**	-											
4. Restraint	.30**	.37**	.36**	-										
5. Seeking of Instrumental Support	.37**	.39**	.34**	.29**	-									
<u>Emotion-Focused Coping</u>														
6. Seeking of Emotional Support	.15**	.14**	.12**	.20**	.52**	-								
7. Positive Reinterpretation and Growth	.52**	.55**	.42**	.39**	.39**	.33**	-							
8. Acceptance	.22**	.20**	.32**	.29**	.23**	.12**	.35**	-						
9. Turning to Religion	.04	.08	.07	.19**	.09**	.23**	.20**	.20**	-					
10. Focus on Emotions	.01	-.05	.03	.00	.18**	.41**	.02	.03	.15**	-				
<u>Maladaptive Coping</u>														
11. Denial	-.19**	-.19**	-.11**	.11*	-.07	.16**	-.07	.11*	.17**	.16**	-			
12. Behavioural Disengagement	-.32**	-.33**	-.14**	.04	-.15**	.12**	-.25**	.18**	.10*	.12**	.48**	-		
13. Mental Disengagement	-.15**	-.14**	-.06	.09*	.02	.28**	-.00	.16**	.16**	.28**	.35**	.46**	-	
14. Alcohol and Drug Use	-.15**	-.11**	-.05	-.02	-.05	.15**	-.07	.02	.07	.15**	.21**	.20**	.25**	-

N = 450; * = $p < .05$, ** = $p < .01$, *** = $p < .001$

Appendix M

COPE Scale

Instructions: This section considers how you have attempted to deal with the various problems and difficult situations that arise during service life, be they personality clashes, operational demands or lack of communication. There are many ways in which service personnel deal with these situations. Different events will bring out different responses, so think about the many ways you have tended to react when faced with difficulties. Please indicate what you generally have done and how you have generally responded when faced with difficult and trying events. Use the given scale to indicate your responses.

1	2	3	4
I usually don't do this at all	I usually do this a little bit	I usually do this a medium amount	I usually do this a lot

Problem-Focused Coping

- | | | | | | |
|-----|--|---|---|---|---|
| 1. | I take additional action to try to get rid of the problem. | 1 | 2 | 3 | 4 |
| 2. | I try to come up with a strategy about what to do. | 1 | 2 | 3 | 4 |
| 3. | I put aside other activities in order to concentrate on the main problem. | 1 | 2 | 3 | 4 |
| 4. | I force myself to wait for the right time to do something. | 1 | 2 | 3 | 4 |
| 5. | I ask people who have had similar experiences what they did. | 1 | 2 | 3 | 4 |
| 6. | I concentrate my efforts on doing something about my concerns. | 1 | 2 | 3 | 4 |
| 7. | I make a plan of action. | 1 | 2 | 3 | 4 |
| 8. | I focus on dealing with the main problem, and if necessary let other things slide by a little. | 1 | 2 | 3 | 4 |
| 9. | I hold off doing anything until the situation permits. | 1 | 2 | 3 | 4 |
| 10. | I try to get advice from someone about what to do. | 1 | 2 | 3 | 4 |
| 11. | I do what has to be done, one step at a time. | 1 | 2 | 3 | 4 |
| 12. | I think hard about what steps to take. | 1 | 2 | 3 | 4 |
| 13. | I stop myself from getting distracted by other thoughts or activities. | 1 | 2 | 3 | 4 |
| 14. | I make sure not to make matters worse by acting too soon. | 1 | 2 | 3 | 4 |
| 15. | I talk to someone to find out more about the situation. | 1 | 2 | 3 | 4 |

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|-----|--|---|---|---|---|
| 16. | I take direct action to resolve problems. | 1 | 2 | 3 | 4 |
| 17. | I think about how I might best handle my problems. | 1 | 2 | 3 | 4 |
| 18. | I try hard to prevent other things from interfering with my efforts to deal with my main problems. | 1 | 2 | 3 | 4 |
| 19. | I restrain myself from doing anything too quickly. | 1 | 2 | 3 | 4 |
| 20. | I talk to someone who could do something concrete about my situation. | 1 | 2 | 3 | 4 |

Emotional-Focused Coping

- | | | | | | |
|-----|--|---|---|---|---|
| 1. | I talk to someone about how I feel. | 1 | 2 | 3 | 4 |
| 2. | I look for something good in what is happening. | 1 | 2 | 3 | 4 |
| 3. | I learn to live with it. | 1 | 2 | 3 | 4 |
| 4. | I seek God's help. | 1 | 2 | 3 | 4 |
| 5. | I refuse to believe that it has happened. | 1 | 2 | 3 | 4 |
| 6. | I try to get personal support from friends or relatives. | 1 | 2 | 3 | 4 |
| 7. | I try to see things in a different light, to make things seem more positive. | 1 | 2 | 3 | 4 |
| 8. | I accept what has happened and that things can't be changed. | 1 | 2 | 3 | 4 |
| 9. | I put my trust in God. | 1 | 2 | 3 | 4 |
| 10. | I pretend that things haven't really happened. | 1 | 2 | 3 | 4 |
| 11. | I discuss how I feel with someone. | 1 | 2 | 3 | 4 |
| 12. | I try to learn something from negative experiences. | 1 | 2 | 3 | 4 |
| 13. | I get used to the idea that negative events do happen. | 1 | 2 | 3 | 4 |
| 14. | I try to find comfort in my religion. | 1 | 2 | 3 | 4 |
| 15. | I act as though negative events haven't really happened. | 1 | 2 | 3 | 4 |
| 16. | I seek understanding from someone. | 1 | 2 | 3 | 4 |
| 17. | I try to develop as a person as a result of my experience. | 1 | 2 | 3 | 4 |
| 18. | I accept the reality of the fact that these things have happened. | 1 | 2 | 3 | 4 |

19. I pray more than usual. 1 2 3 4
20. I say to myself: "This isn't real". 1 2 3 4

Maladaptive Coping

1. I get upset and let my emotions out. 1 2 3 4
2. I give up trying to get what I want. 1 2 3 4
3. I turn to work or other substitute activities to take my mind off things. 1 2 3 4
4. I drink alcohol in order to think less about my concerns. 1 2 3 4
5. I let my feelings out. 1 2 3 4
6. I just give up trying to reach my goal or have my concerns satisfied. 1 2 3 4
7. I try to watch a video, listen to music or read, to think less about things. 1 2 3 4
8. I take prescribed drugs in order to think less about my concerns. 1 2 3 4
9. I find myself venting my stress a lot. 1 2 3 4
10. I admit to myself that I can't deal with my concerns, and quit trying. 1 2 3 4
11. I daydream about things other than my difficulties. 1 2 3 4
12. I go on a drinking binge when I can. 1 2 3 4
13. I get upset, and am really aware of how upset I am. 1 2 3 4
14. I reduce the amount of effort I put into solving my problems. 1 2 3 4
15. I sleep more than usual. 1 2 3 4
16. I take non-prescribed drugs in order to think about my concerns less. 1 2 3 4

Appendix N

Table

Testing for Deviation from Linearity

	F(deviation from linearity)	df	p
Work Satisfaction by Career Impact	1.32	7,441	.24
Work Satisfaction by Income	2.02	5,443	.11
Work Satisfaction by Satisfaction with Supervision	1.21	38,410	.19
Work Satisfaction by Organizational Support	0.91	70,378	.69
Work Satisfaction by Stimulation	0.976	24,424	.52
Work Satisfaction by Ambiguity	1.55	32,417	.06
Work Satisfaction by Shift Work	1.21	50,398	.81
Work Satisfaction by Work Hours	0.91	22,426	.11
Affective Commitment by Work Satisfaction	0.85	28,420	.69
Continuance Commitment by Work Satisfaction	1.01	28,420	.45
Normative Commitment by Work Satisfaction	1.03	28,420	.42
Turnover Intentions by Affective Commitment	1.00	44,404	.48
Turnover Intentions by Continuance Commitment	1.73	44,404	.00
Turnover Intentions by Normative Commitment	0.98	23,425	.49
Turnover Intentions by Work Satisfaction	1.07	28,420	.37
Ill-Health Symptoms by Problem-Focused Coping	0.87	39,410	.69
Ill-Health Symptoms by Emotion-Focused Coping	1.17	44,405	.22
Ill-Health Symptoms by Maladaptive Coping	1.50	32,417	.43

N=450