

**AN EXAMINATION OF THE IMPLICATIONS AND COSTS
OF WORK-LIFE CONFLICT IN CANADA**

Submitted to:
Health Canada

by:

Duxbury, Higgins and Associates

Linda Duxbury, Ph. D.

Chris Higgins, Ph.D.

Karen L. Johnson, M.M.S.

First draft: March 1999

Revised: May, 1999

Final: June, 1999

Executive Summary

This report frames work-life conflict in terms of its potential costs to the individual, to the organization, and to the health care system. The later two costs are estimated in monetary terms. It uses survey data which was collected by Duxbury and Higgins between 1991 and 1998 to address the following specific questions:

- 1) What are the costs of work-life conflict in terms of:
 - a. The individual employee (work-family overload and interference, depressed mood, perceived stress, "burnout", life satisfaction, and physical health)?
 - b. The employing organization (absenteeism, turnover, performance, job satisfaction, commitment, and quality of work relationships)?
 - c. The Canadian health care system?
- 2) What is the prevalence of work-life conflict among Canadian employees? Which groups are at particularly high risk for work-life conflict (i.e., how is work-life conflict related to gender, job type, dependant care status)?
- 3) What are the implications of these costs for the formulation of organizational and public policy?

The following observations were made in the report:

- C slightly more than one in three Canadian employees (35.6% to 40% of those sampled) experience a high level of work-life conflict.
- C one third of Canadian employees report high levels of depressed mood;
- C half of Canadian employees experience high levels of perceived stress;
- C one quarter of Canadian employees feel "burned out" from their jobs
- C the number of Canadian employees who report high levels of work-life conflict, and perceived stress has increased since 1991-92
- C the number of work absences and physician visits are on the rise
- C the number of Canadian employees who report high job satisfaction, life satisfaction and that they are in good health is decreasing,
- C women report substantially more work-life conflict than men, regardless of job type or dependent care status,

- C men and women who perform managerial or professional work report substantially more conflict between work and non-work than their counterparts in non-professional positions,
- C men and women with dependent care responsibilities (i.e. childcare, eldercare) report substantially more work-life conflict than their counterparts without such obligations
- C approximately half of the mothers who work in managerial and professional positions and almost 40% of mothers employed in non-professional positions report high work-life conflict. These percentages have remained very stable over time.
- C the amount of work-life conflict reported by men appears to have increased substantially over time
- C High work life conflict is associated with:
 - ↳ decreased wellness in terms of greater perceived stress, depressed mood, and burnout; and poorer physical health,
 - ↳ reduced job satisfaction and organizational commitment.
 - ↳ greater use of the Canadian medical system (i.e., increased number of physician visits, increased illness), and
 - ↳ increased absence from work
- C Workers with high work-life conflict registered 13.2 days of absence per year, compared to only 5.9 days per year in the low work-conflict group
- C 35% of employees with high work-life conflict visited their physician in a 12 month period versus 24% of employees in the low work-conflict group
- C employees with high work family conflict made an average of 4.62 visits to the physician in a 12 month period; employees with low work family conflict made an average of 3.17 visits
- C In 1997, excess work absence among Canadians working under conditions of high work-life conflict was estimated at roughly 19.8 million workdays. At output equal to average earnings of \$135 per day¹, this represents a loss to Canadian organizations of at least \$2.7 billion dollars.

¹

Assuming average annual earnings of \$37,000 (Statistics Canada 1999d).

- C In 1997 excess physician visits among Canadians working under conditions of high work-life conflict was estimated to total 86.9 million. At an average cost of \$35 per visit, this represents public health care expenditures of at least \$425.8 million to treat individuals for problems related to work-life conflict.

Taken together these observations suggest that:

- C Canadian organizations have not yet provided employees with the types of support they need to balance work and non-work obligations and roles,
- C Work-life challenges are mounting for men (i.e. work-life balance is becoming an issue for all employees with dependent care responsibilities rather than a “women’s issue”)
- C Canadian individuals, organizations and society itself is paying a high cost for not addressing the issue of work-life balance.

Acknowledgments

The authors would like to thank the Childhood and Youth Division at Health Canada for funding this research. In particular we would like to thank Jane Corville-Smith and Helen McElroy for their efforts in delivering this final product. We would also like to acknowledge SSHRC who provided the funding for much of this research as well as the Government of Saskatchewan who championed the study of this topic in their province.

TABLE OF CONTENTS

INTRODUCTION	1
Why study work-life conflict?	1
Why study the health implications of work-life conflict?	2
Why study the <i>costs</i> of work-life conflict?	4
1. SETTING THE CONTEXT	6
1.1 Changes in the work world	7
1.2 Challenges in the health care system	12
1.3 Implications	14
2. DEFINITIONS AND CONCEPTS	16
2.1 Definitions	16
2.2 An ecological model of stress and health	17
3. SOURCES OF STRESS	20
3.1 Stress in the work domain	20
3.2 Stress at home	23
3.3 Stress at the interface: work-life conflict	24
4. MODERATORS OF WORK-LIFE CONFLICT AND THE STRESS RESPONSE	28
4.1 Gender	29
4.2 Job type	30
4.3 Social support	30
4.4 Personality and coping style	31
4.5 Control	31
4.6 Summary	33
5. OUTCOMES OF WORK-LIFE CONFLICT AND THE STRESS RESPONSE	35
5.1 Individual outcomes	35
5.2 Organizational outcomes	43

6.	PREVALENCE OF WORK-LIFE CONFLICT: A PORTRAIT OF CANADIAN EMPLOYEES	53
6.1	Description of the studies	54
6.2	Overview of the findings	57
6.3	Who's at risk for work-life conflict and health problems?	59
6.4	The effect of work-life conflict on individual and organizational outcomes	64
6.5	The effect of work-life control on work-life conflict and individual and organizational outcomes	66
6.6	Summary	68
7.	AN ESTIMATE OF THE COST OF WORK-LIFE CONFLICT TO CANADIAN EMPLOYERS AND THE HEALTH CARE SYSTEM	70
7.1	Model for socio-economic assessment of work-life conflict	70
7.2	Methodology	72
7.3	Summary	80
7.4	Limitations of the estimates	81
8.	CONCLUSIONS AND RECOMMENDATIONS	83
8.1	The organization's role in reducing work-life conflict	84
8.2	Governments' role in reducing work-life conflict	89
	REFERENCES	91
	APPENDIX A: MEASURES	100

INTRODUCTION

Why study work-life conflict?

Canada's workforce has undergone dramatic changes in the last thirty years. Traditionally, employees have been males with homemaker wives to see to the needs of the family. Today's workforce, however, is a mosaic of different genders, ages, races, ethnic groups, religions, and lifestyles (Esty, Griffin & Schoor Hirsch, 1995). Women have joined the paid labour force in unprecedented numbers, and many workers, both men and women, now face dual roles as employees and caregivers. With the aging of the population, caregiving has been extended to include not only children, but also elderly and disabled family members. These remarkable demographic and social changes mean a host of new challenges for today's workers as they struggle to cope with the often competing pressures of work demands and personal responsibilities. Clearly, the old model of coordinating work and family, which has assumed that one's work role is separate from (and takes precedence over) one's family role, is no longer valid for a majority of the labour force.

Interrole conflict has been identified as a key component of stress (Kompier & Levi, 1995). We all play many roles: employee, boss, subordinate, spouse, parent, sibling, friend, and community member. Each of these roles imposes demands on their incumbents requiring time, energy and commitment. Work-family conflict² occurs when the cumulative demands of multiple roles at home and at work become too great to manage comfortably (Kahn, Wolfe, Quinn, Snoek & Rosenthal, 1964). This conflict results in strain of two types: *role overload* (too much to do; too little time!); and *role interference* (when incompatible demands make it difficult to perform the roles, such as occurs when an employee needs to be in two places at the same time). Given the ever-increasing demands on today's worker, it is

²

Recently, the expression, "work and family" has been replaced by the term, "work and lifestyle". This shift in terminology occurred when it became apparent that non-work responsibilities take many forms, including volunteer pursuits and education, as well as the care of dependants. In its newer sense, then, interrole conflict can potentially affect *all* workers, not just caregivers. In this report, the broader term, "work-life", will be used to refer to all forms of conflict between work and personal life, including work-family stressors.

therefore not surprising that the topic of work-life conflict has been drawing increasing attention from employers, academics, labour and governments as a potential threat to employee health and well-being (Duxbury & Higgins, 1998; Frone, Russell, & Cooper, 1997; Johnson, Duxbury & Higgins, 1997).

Why study the health implications of work-life conflict?

As in most transition periods, changing behaviours have outpaced social and organizational readiness. Such is the case for today's employees who have largely felt the burden of working and caring for dependents in a world that has been unresponsive to their realities. Dealing with the needs of this changing workforce is new ground for many organizations who have traditionally relied on a "one size fits all" approach to their human resources management (Esty et al., 1995). Competitive pressures to streamline and boost productivity make matters worse, as organizations find themselves with fewer resources available to develop and implement initiatives that might help their employees obtain a better balance. Accordingly, employers have been slow to respond to the needs of the new work force, and the continuing pressures on employees has contributed to a growing incidence of stress and "burnout".

With the existing low level of employer support for employees with work-life conflict, Canadians can expect a lower quality of work and family life and an increased risk for stress-related health problems. Work-family conflict, stress and burnout have been linked as causal factors in both physical disease and poor mental health. The CMHA reports that the combination of work stress and domestic stress threaten an individual's sense of control, efficacy and competence, which in turn, contribute to perceptions of diminished "wellness". Moreover, the protracted inability to control the work/non-work interface has been associated with elevated serum cholesterol levels, cardiovascular and gastrointestinal disorders, allergy, and migraine in both men and women (Duxbury, Higgins, Lee & Mills, 1991).

The threat of work-life conflict to employee well-being, therefore, has implications not only for the many workers who must cope with stress and illness, but also for organizations,

governments, and society on the whole. From the employer's perspective, the inability to balance work and family demands has been linked to reduced work performance, increased absenteeism, high turnover, and poor morale (Duxbury & Higgins, 1998). Work-life conflict has also been linked to productivity decreases associated with lateness, unscheduled days off, emergency time off, excessive use of the telephone, missed meetings, and difficulty concentrating on the job (Bureau of National Affairs, 1990). Estimates indicate that at least one quarter of the human resource challenges faced by Canadian organizations are the result of employees having to manage dual responsibilities at home and at work (MacBride-King, 1990).

From the perspective of governments, the current challenges facing Canada's health care system suggest that provincial and federal policy makers can also ill afford to overlook the significant links between work-life conflict and health. Although the state of health of the population in Canada is unarguably among the best in the world, Canada is in a less enviable position with respect to health expenditures (Contandriopoulos, 1998). Canada devotes between 9 and 10% of its GDP to health; compared to other OECD countries, only the U.S. spends a higher share of its GDP on health care than we do (National Forum on Health, 1996). Concern with the mounting costs of medical resources in this country have led to recent reviews of the health care systems at both the provincial and federal levels, and a strong effort to contain costs (Ibid., 1996). Cost-containment strategies have generated considerable concern and debate over the financing and delivery of health care services, to the point where many Canadians have come to view Canada's health care system as being in "perpetual crisis" (National Forum on Health, 1996).

Whereas it is critical that governments respond to the health care "crisis" by continuing to explore new ways of achieving efficiencies, it may be equally important to step back from the debate in order to investigate ways of reducing the demand for health care services in the first place. It may be a propitious time, therefore, to be more proactive in terms of health promotion. Reducing the level of work-life conflict among Canada's workforce may represent an important step toward improving the quality of work and family life for Canadians, reducing the costs to organizations, and decreasing the burden on the health care system.

Why study the costs of work-life conflict?

The purpose of attempting to assess the costs of work-life conflict in socio-economic terms is based on the observation that market systems create “externalities”: significant costs that are not borne by the members of society who reap the benefits (Levi & Lunde-Jensen, 1996). To date, it has been the business sector who has reaped the benefits of *not* responding to the work-family needs of employees. The “costs” of organizational inaction are “paid” by individuals who suffer from the health consequences of work-life conflict, and a public health care system which pays for their treatment. The purpose of this report, therefore, is to provide a more balanced examination of some of these “hidden” costs by exploring the effects of work-life conflict from the multiple perspectives of the various stakeholders, including individual employees, organizations, and governments.

Objectives of this report

This report will frame work-life conflict in terms of its potential costs to the individual, to the organization, and to the health care system. It will address the following specific questions:

1. What are the costs of work-life conflict in terms of:
 - a. The individual employee (work-family overload and interference, depressed mood, perceived stress, “burnout”, life satisfaction, and physical health)?
 - b. The employing organization (absenteeism, turnover, performance, job satisfaction, commitment, and quality of work relationships)?
 - c. The Canadian health care system?

2. What is the prevalence of work-life conflict among Canadian employees? Which groups are at particularly high risk for work-life conflict (i.e., how is work-life conflict related to gender, job type, dependant care status)?

3. What are the implications of these costs for the formulation of organizational and public policy?

Outline of the report

This report is divided into eight sections. The first section established the context of the study. Definitions and the theoretical framework used in this analysis are presented in section two. Sources of work, family and work-family stress are identified and discussed in the third section while information on the moderators (i.e. gender, job type, parental status) and consequences (ie. stress, depression, absence) of work-life conflict are presented in sections four and five respectively. Section 6 documents the potential effects of work stress and work-life conflict on the health and well-being of employees. Estimates of the costs of work-life conflict due to absence from work and visits to the physician are presented in Section 7. Relevant conclusions are drawn and recommendations given in Section 8.

1. SETTING THE CONTEXT

A little more than a decade ago the Hudson Institute caught the attention of organizational and government decision-makers with its publication of *Workforce 2000* (Johnston & Packer, 1987), a compelling description of changes in the work world and changes in the demographic profile of today's workers. The report painted a portrait of a new workforce — aging, ethnically diverse, and with growing proportions of women and parents— a portrait which departed radically from images of the male dominated workforce of the past. Although demographers had been tracking these changes for years, *Workforce 2000* awakened policy makers to the risks inherent in ignoring the needs of this new workforce if they were to meet the challenges of the new global economy.

The declining labour pool and skills shortages predicted in the report meant that organizations would be competing for a shrinking number of skilled employees, many of whom would have personal, cultural and family needs that would not be well served by traditional “one-size fits all” (Esty et al., 1995) human resource policies. Moreover, in a global marketplace, Canada too would be competing to retain top talent, and would be at risk for a “brain drain” should it be unable to respond to the needs of this diverse workforce.

Recognition of the issues raised in *Workforce 2000* and elsewhere (e.g., Drucker, 1989; Towers Perrin & Hudson Institute, 1991) has prompted policy makers to reexamine antiquated HR policies designed at a time when female workers were a relative minority, and male workers could leave personal and family issues at home (Rodgers & Rodgers, 1989). With the advent of the dual-income family, employees of both sexes are now coping with caregiving and household responsibilities that were once managed by a stay-at-home spouse (Morgan & Milliken, 1993). Traditional HR policies which can impose rigid time and place constraints on employees, and promotional practices which reward long work hours at the expense of personal time can generate stress, and detract from the pleasures of parenting and the simple enjoyment of personal life (Galinsky, Freedman & Hernandez, 1991). Increasingly, therefore, researchers, business planners, and government policy makers are

turning their attention to the potential adverse effects of work stress and work-life conflict on employee health and productivity.

This section of the report explores the changing needs of both the Canadian workforce and the Canadian health care system. The first part traces historic and anticipated industry and labour force trends that have contributed to the “new world of work”, and describes some of the threats this environment may pose to employee health and well-being. The second part outlines some of the recent challenges faced by the Canadian health care system as it strives to maintain a high standard of health care in a climate of constraint. The analysis concludes with a discussion of the implications of these trends for the “health” of employees, organizations and the health care system in general.

1.1 Changes in the work world

Dramatic demographic, social and economic changes of the past few decades have led to what has aptly been described as a work and lifestyle “revolution” (Vanderkolk & Young, 1991). The changing profile of the labour force, driven largely by the continuing influx of women and mothers into the labour market, means that many employees have new responsibilities and priorities, and accordingly, new attitudes toward work and the role it should play in their lives. Employers, too, are being forced to reexamine their approach to people management, as competitive pressures drive them to streamline and to demand greater output from a smaller workforce. Following is a brief discussion excerpted from Johnson, Duxbury and Higgins (1997) which describes some of the key factors that have transformed the Canadian workplace.

1.1.1 Population aging

Canada’s population is aging, influenced largely by the baby boom of the 1950’s and early 1960’s, followed by the baby bust of the late 1960’s and early 1970’s (Foot, 1996). A continuing low rate of fertility has resulted in an age distribution characterized by an overrepresentation of people in their prime working years, and a diminishing pool of young adults aged 15-24. Between 1981 and 1996, the proportion of Canadians aged 25-44

increased from 29% of the population to 33% (Devereaux, 1990; Statistics Canada, 1997a). Conversely, the proportion of young adults aged 15-24 fell from 19% to 14% (ibid.). Fewer Canadians aged 15 to 24 means fewer labour force entrants.

Forecasts suggest that the shrinking of the labour force entry pool will continue into the next century. Estimates indicate that by the year 2016, this group will have shrunk to 12% of the population (Statistics Canada, 1997a). As the pool of traditional labour force entrants declines, forecasts indicate an increased reliance on women, recent immigrants and visible minorities as the primary sources of new labour. Employees in these demographic groups have personal, family, and cultural orientations that may conflict with traditional work cultures and career paths. These trends indicate that work-life conflict is not going to just “go away” as mid-career boomers complete their families and approach retirement age. Instead, work-life conflict may well become even more commonplace.

1.1.2 Women in the work force and changing family patterns

The growing involvement of women in the paid labour force represents one of the most significant demographic trends in Canadian society (Ghulam, 1993). Between 1977 and 1996, women’s labour force participation rate³ increased from 43% to 57%, whereas men’s participation rate declined from 81% to 74% over the same period (Statistics Canada, 1997b). For women with children— especially young children— the growth in labour force participation rates has been even more dramatic. Between 1976 and 1994 (the most recent year for which family composition data are available), the participation rate of women with a youngest child aged 6 to 15 increased from 50% to 70% (Lero, Goelman, Pence, Brockman & Nuttall, 1992; Statistics Canada, 1997c). During the same period, the rate for women with a youngest child aged 3 to 5 increased from 41% to 67%, and the rate for mothers of infants and toddlers under age 3 nearly doubled, from 32% in 1976 to 62% in 1994 (ibid.).

³

Participation rate represents the labour force expressed as a percentage of the total population 15 years of age and over. The participation rate for a particular group (by age, sex, marital status, etc.) is the labour force in that group expressed as a percentage of the population for that group.

As women continue their involvement in the paid labour force, family demographics have shifted accordingly. In 1967, only 34% of two-partner families in Canada were families in which both spouses worked for pay (Moore, 1990); by 1995 this proportion had increased to 64% (Statistics Canada, 1997d). Labour market demand, however, is only one of many factors that have contributed to women's increasing labour force participation. Other contributors to this trend include higher educational attainment among women, greater social acceptance of maternal employment, and not least of all, financial need (Ghulam, 1993; Lero, Brockman, Pence, Goelman & Johnson, 1993).

Recent Statistics Canada data suggest that a second income may be necessary in the '90s simply to keep a family from losing ground financially. When adjusted for inflation, the average 1995 pre-tax income of dual-income families was \$69,000 (roughly \$45,000 after tax), virtually unchanged from the 1989 level. Had this family been a single-earner family, however, they would have seen their pre-tax income *fall* over the same period to an average of \$50,000 in 1995, 11% *lower* than in 1989 (Statistics Canada, 1997d).

For families with very limited financial resources, a second income may mean the difference between poverty and an adequate standard of living. Statistics Canada indicates that in 1995, 5% of dual-income families were classified as low-income. Without the contribution of the female partner's earnings, the low-income rate would have more than tripled to 18% (Statistics Canada, 1997d). This data suggests that the dual-income family today not only allows both men and women to fulfill their personal and professional needs but also provides a critical buffer against financial hardship during precarious economic times. Women work not only because they want to, but, in many cases because they need to.

A second family configuration that is rapidly increasing in prevalence is the lone-parent household. In 1996, 15% of all families in Canada were lone-parent families, compared to 13% in 1991 (Statistics Canada, 1997e). The number of lone-parent families reached 1.1 million in 1996, up 19% from 1991 and 33% from 1986. Although these figures include both male- and female-headed households, lone parenthood is largely the domain of women. In 1996, lone-parent families headed by women outnumbered those headed by men by more than four to one (Ibid.).

Roughly half of female lone parents work for pay (Lero & Johnson, 1994). Lone parents in the labour force face considerable challenges in terms of balancing their work and home lives. Like parents in dual-income families, they must cope with the combined demands of their paid work and their domestic responsibilities. Unlike parents in two-partner families, however, they often must do so without the assistance and emotional support of a spouse, and often under the additional burden of financial stress. In 1993 for example, sixty percent of female-led lone-parent families lived below the low-income cutoff⁴ (Statistics Canada, 1995).

1.1.3 Competitive pressures and the push for productivity

Concomitant to these social and demographic trends has been an unprecedented rate of environmental change for organizations. Betcherman, McMullen, Leckie & Carron, (1996) describe three environmental forces impinging on today's organization. First is a competitive pressure resulting from a change both in the degree of competition (increasing domestically and internationally), and in the nature of competition (a shift from high-volume, standardized output to specialized "niche" products and services). Second is the rapid proliferation of computer-based technologies, and the upward pressure this growth has placed on employee skills and training needs. Third is the increasing complexity of the regulatory framework governing HR issues, including more stringent standards related to human rights, harassment, gender-neutral workplaces, equity, employment insurance, and health and safety. Combined, these factors have forced Canadian businesses to rethink how they position themselves in the marketplace, how they do business, and especially, how they manage their people.

Many organizations have responded to these pressures by streamlining and moving to flatter, more flexible structures better suited to operating in a rapidly changing and uncertain environment (Betcherman et al., 1996; Galbraith & Lawler, 1993; Mohrman,

4

"Statistics Canada's Low Income Cut-offs are used to classify families and unattached individuals into "low income" and "other" groups. Families or individuals are classified as "low income" if they spend, on average, at least 20% points more of their pre-tax income than the Canadian average on food, shelter and clothing. The number of people in the family and the size of the urban or rural area where the family resides are also taken into consideration" (Statistics Canada, 1995, pg. 86).

Cohen, & Mohrman, 1995). Such attempts at redesign have often translated to major work force reductions (Kochan & McKersie, 1992), and a growing need to obtain maximum output from the remaining core of employees.

At a time when technology was supposed to be reducing the work week and freeing up leisure time, a large segment of employees are instead working *longer* hours. Canadian labour force survey data indicate that between 1976 and 1995, the proportion of workers putting in a regular 35-40 hour week fell from 65% to 54%; and the proportion usually working 41 hours or more climbed to 22% from 19% (Statistics Canada, 1997f).

Data on overtime work reflect a similar trend. In the first quarter of 1997, one fifth of the Canadian workforce— roughly 2 million employees— reported overtime hours (Ibid.). In addition, overtime workers put in fairly long hours over and above their regular week, averaging over 9 extra hours a week. Six in ten of these employees received no pay for these extra hours (Ibid.).

The combination of heavy work demands, long hours, and the anxiety associated with fearing “your job might be next” are likely to impose considerable hardships on today’s employees. As expressed by demographer David Foot, the trend toward “leaner and meaner” can often translate into “smaller and angrier”, or worse yet, “weaker and frightened” (Foot, 1996, p.65). Heavy work demands and job security ambiguity have generated an unprecedented level of stress for today’s employee (Duxbury and Higgins, 1998). Add to this work stress a growing level of family and financial pressures from the home domain, and you have a recipe for psychological distress and stress-related illness.

1.1.4 Slow corporate response

Research suggests that Canadian organizations have, for some time, been aware of the growing level of stress and work-family conflict among employees. A study conducted 10 years ago by the Conference Board of Canada indicated that 50% of surveyed employers believed that work-family conflict was generating stress for their workers, and a nearly equal proportion of respondents reported morale and recruitment problems (Paris, 1989).

Some organizations concerned with employee health (as well as “bottom line” effects of stress, such as turnover, absences, and productivity loss) have turned to “family-friendly” work arrangements, such as flextime or telework, to help their employees achieve a better balance. National survey data, however, indicate that employer response has been extremely slow. Estimates indicate that flextime is available to only one in four Canadian workers (Akyeampong, 1997), compressed work week to less than one in five (Duxbury et al., 1991), and fewer than one in ten employees have access to a telework option (Akyeampong, 1997).

It appears that, from the employer’s perspective, the highly visible (monetary) costs of implementing such programs have outweighed their less tangible (social and psychological) benefits. Organizational inertia, therefore, has exacerbated the problem for many workers, who for the most part, have been left on their own to cope with the new realities of the workplace.

1.2 Challenges in the health care system

Canadian workers and their employers have not been the only ones to suffer the social and financial pressures of the ‘90s. The last decade has been one of great turbulence for the Canadian health care system as well. Escalating resource costs combined with the need for fiscal restraint have prompted governments to rethink program and policy to seek more efficient ways to finance and deliver health care to Canadians (National Forum on Health, 1996). Although an analysis of health care issues is beyond the scope of this report, some mention of the challenges facing the system seem warranted as a backdrop to the discussion. Following is a brief outline of some of these challenges. Unless otherwise indicated, all of the statistics cited below were drawn from Contrandriopoulos (1998).

1.2.1 Health care expenditures

Although the state of health of the population of Canada is among the best in the world (as measured in standard indicators of infant mortality rates and life expectancy), it comes at a considerable investment of public funds. Over 70% of health care expenditures in Canada are financed from public sources, the remainder coming from private sources, such as private

insurance premiums and out-of-pocket expenditures. Although the ratio of public to private funds is in fact comparable to the average of industrialized countries, Canada spends considerably more on health care as expressed in either per capita or GDP terms.

In 1996, Canada spent roughly \$75 billion for health care, representing 9.2% of GDP, or \$2,513 per person⁵ (Canadian Institute for Health Information, 1999). Preliminary data for 1998 suggest an increase to roughly \$80 billion (Ibid.) International comparisons indicate that, as compared to other industrialized countries, Canada's health expenditures are high- - in per capita terms, it ranks third of 24 OECD countries in terms of expenditures (surpassed only by the U.S. and Switzerland). The relationship, however, between high expenditures and the health status of the population is weak. Japan- - the healthiest country in the world-- spends 3 percentage points *less* of its GDP on health care than does Canada. Conversely, the U.S., which by some standards is considerably less healthy and trails many industrialized nations on health status indicators, spends 4 percentage points *more* of its GDP on health care than does Canada. In other words, spending more on health care does not seem to translate into more health (National Forum on Health, 1996). Many factors come into play in the health spending-health status relationship, including the cost of resources.

1.2.2 Rising costs of medical resources

In spite of the comparatively high level of health care expenditures in Canada, Canada uses *fewer* medical resources than is the average in other OECD countries. Consistent with international trends, the number of beds per 1,000 population declined between 1989 and 1993 to roughly 6 in Canada, compared to highs of 20 in Switzerland and 16 in Iceland and Japan. As measured by the number of physicians, Canada also does not appear to be at either extreme, ranking 17th of the 24 countries (representing roughly 2.2 physicians per 1,000 population). Again, it is not the healthiest countries which make use of the greatest resources. Japan, with its high standard of population health, had one of the smallest numbers

⁵

This data may not be directly comparable to the figures from Contrandriopoulos' international comparisons due to the shift in data source and some changes in methodology.

of physicians (roughly 1.6 per 1,000 population). Such comparisons have led some experts to conclude that, since Canada's *quantity* of medical resources appears to be under control, it must be the *price* of these resources that is exerting upward pressure on health care expenditures. It has also been suggested, that given Canada's proximity to the U.S. (where resource prices are even higher), it may be very difficult for Canada to implement policy to freeze or reduce the costs of its resources (National Forum on Health, 1996; National Institute for Health Information, 1998).

1.3 Implications

The preceding sections paint a picture of a growing rift between the personal needs of Canadian workers and the responsiveness of their employers. Social trends and demographic forecasts, however, promise that work-lifestyle issues, particularly work and family issues, will continue to figure prominently in the lives of Canadian employees for years to come, as the baby boom generation moves through its senior career years and becomes "sandwiched" between the need to care for children and the need to care for aging parents. And lest we assume work-family issues to be an anomalous by-product of this generation of employees, demographics also remind us that the "echo boom" will be quick on the boomers' heels, reaching employment age in the first half of the next decade (Foot, 1996).

Without greater support for employees and their families, Canada can expect to see an ever-increasing level of work-life conflict and stress-related illness. For individuals, the cost is high. Protracted stress and work-life conflict have been linked with depression, anxiety, and "burnout", as well as psychosocially mediated medical conditions, such as cardiovascular and gastrointestinal disorders, allergy, and migraine (Duxbury & Higgins, 1998). For family members, employee stress can mean poor parenting, interference with family relationships, and increased reliance on social and counselling services (Bolger, DeLongis, Kessler & Wethington, 1989). For organizations, employee stress and conflict have been associated with a host of unfavourable work attitudes and behaviours, including increased absence, turnover, and productivity loss (Duxbury & Higgins, 1998).

Employee stress and work-life conflict also pose challenges to Canada's health care system, should prolonged stress translate to psychological and physical illness. Boomers concentrated in the "full-nest" stage of the life cycle (roughly 30 to 54 years of age) now represent nearly 40% of the population⁶. This represents an extremely large cohort at risk for work-related stress and illness. Given an already high level of health care expenditure, Canada's ability to cope with a growing proportion of young adults seeking treatment for stress-related illness may be limited.

Canada's comparative performance in terms of health expenditures and resource use suggest that the quest for greater efficiencies may be on governments' agendas for some time. With limited ability to reduce the *prices* of medical resources, mechanisms which can reduce the *demand* for resources would seem worthwhile investments. In this sense, investigating the potential costs of work-life conflict (and, hence, the potential savings associated with a prevention strategy) seems appropriate.

The next sections of the report take a closer look at the individual and organizational costs of workplace stress and work-life conflict in the context of the theoretical and empirical literature.

⁶

Statistics Canada, 1998, CANSIM Matrix 6367.

2. DEFINITIONS AND CONCEPTS

“Work-life conflict”, as a relatively new concept, has rarely been studied directly in the context of health effects (for exceptions, see Frone, Russell & Cooper, 1997; and Thomas & Ganster, 1995). This section of the report, therefore, will examine work-family conflict under the broader umbrella of stress-response theory. First described by Walter B. Cannon (1929) near the turn of the century, the stress response has been the topic of extensive theoretical and empirical research over the intervening years (for a review, see Quick, Nelson & Hurrell, 1997). An abundant literature is available, therefore, to help understand the mechanisms by which stress (and work-life conflict as a subcomponent of stress) can manifest itself in ill health.

The following discussion provides a theoretical backdrop to the report by briefly defining terminology and introducing the stress response model.

2.1 Definitions

The word “stress” is in such popular use today that it has come to mean different things to different people. We say that commuting is too much “stress” to bother with, that we work in a “high stress” environment, or that public speaking “stresses us out”. In these varied contexts, it can be seen that the word “stress” has evolved to refer to both the *source* of some event and the *reaction* to it. Scientifically, however, “stress” refers to the broad domain concerned with how individuals adjust to their environments (Quick et al., 1997). Before looking at a theoretical model, therefore, it is important to first establish a common language by distinguishing among the various components of stress: the *stress response*, *stressors*, and *distress*. Following are some definitions given by Quick:

Stress Response The stress response is the generalized, unconscious mobilization of the body’s natural energy resources when confronted with a stressor. It is characterized by a biological activation of the hormonal and sympathetic nervous systems, and is often manifested in elevated heart rate, increased respiration and perspiration, and muscle tightening. All of these actions are

designed to prepare the individual to fight or run, hence the description of the stress response as the “fight or flight” response.

Stressor The stressor is the physical or psychological stimulus which generates the stress response. It serves as the trigger for the mind-body activities described above.

Distress (Strain) Distress (also referred to as “strain”) is the *adverse outcome* of the stress response. It refers to the individual’s degree of physiological, psychological and behavioural deviation from normal healthy functioning.

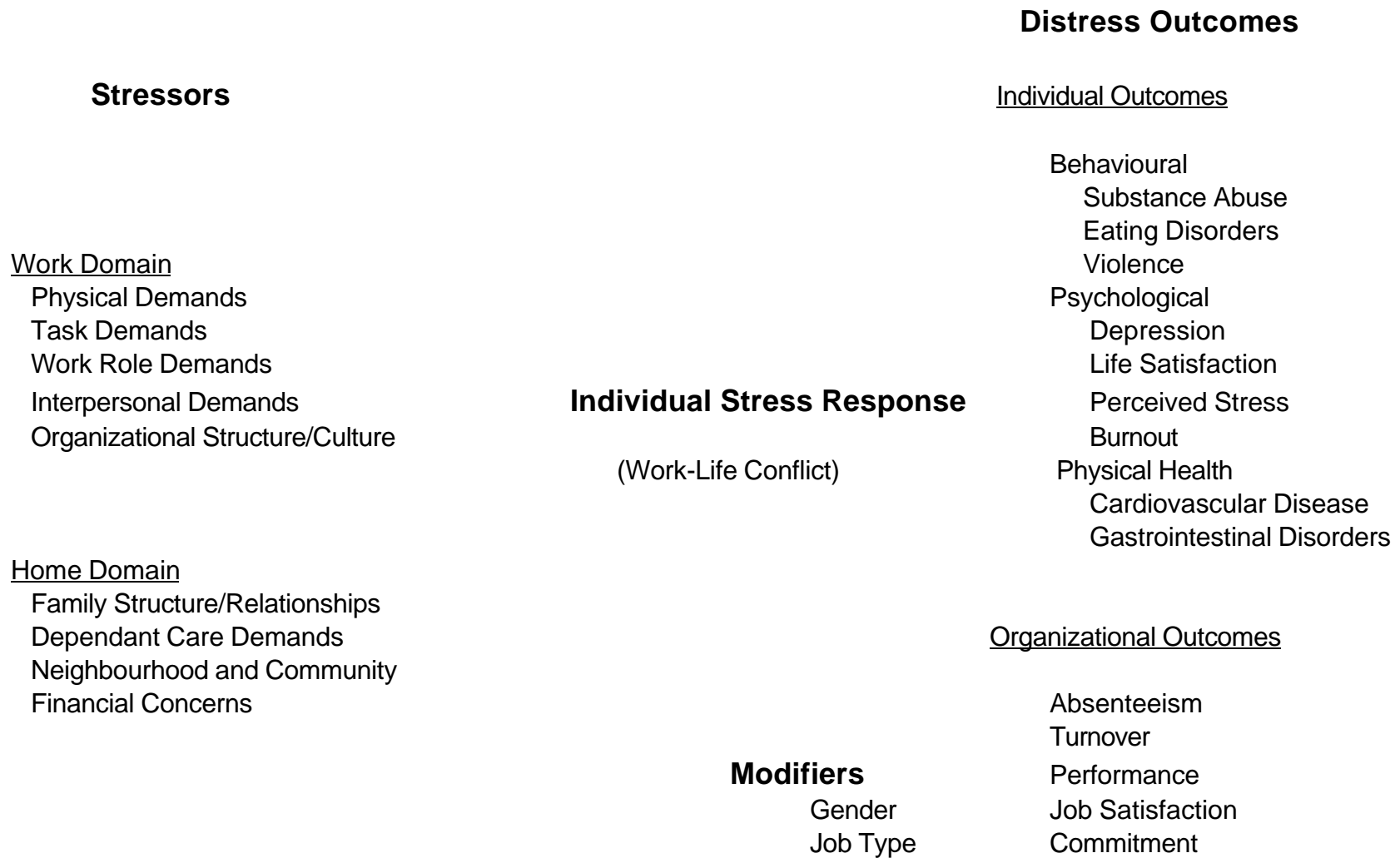
“Distress”, therefore, is what we generally mean when we talk about experiencing a high level of “stress”. It is important to note that not all stress responses are unhealthy. “Healthy” stress responses (labelled “*eustress*”; Selye, 1976a) refer to the moderate level of arousal that is required to increase performance. Stress in its evolutionary context of “fight or flight” is one of humans’ best assets for managing legitimate emergencies and achieving peak performance in vital tasks and activities (Quick et al., 1997). It is only when the stress response exceeds this optimum level that the load becomes too great and performance is depressed. Recognition that the stress response can be either adaptive or maladaptive leads us to appreciate that “stress is inevitable; *distress* is not” (Quick et al., 1997, p. xvii).

2.2 An ecological model of stress and health

The stress response is best understood through an ecological approach which examines the whole spectrum of psychological, sociological, and physiological events that make stimulus demands on an individual (Cooper & Davidson, 1987). Figure 1 provides a multifaceted model of the various domains that constitute possible sources of stress (stressors), and subsequent stress outcomes (distress).

According to the model, psychosocial stressors emanate from both work and non-work domains. The individual’s response to these stressors is moderated by the individual’s genetic “psychobiological program” (i.e., propensity to react), as well as sex, personality factors, and various other variables related to social support, control, and

Figure 1: An Ecological Model of Stress and Health



Social Support
Relationships (co-
workers/managers)
Control
Personality/Coping

Style

coping. These predisposing, moderating variables may promote “healthy stress” responses, or, conversely, may result in “distress” outcomes in the behavioural, psychological or physical domains. All of these processes take place in a “human-environment ecosystem” (Levi & Lunde-Jensen, 1996), a cybernetic system with multiple feedback loops. Accordingly, distress which has occurred in an individual can feed back into the structures and processes (e.g., at the workplace or in non-work life), affect the individual’s next stress response, or alter the modifiers themselves (Ibid.).

An ecosystems approach is especially important in the study of work-life conflict as it highlights the interdependence and bidirectionality of the various contributors to stress in an individual’s life. In this model, we have positioned work-life conflict at the junction of work and non-work (home) stressors (see Figure 1), as it can be viewed as a specific type of stress response triggered by the combined effects of stressors from these two domains. Although stressors from the home domain have been recognized in the occupational stress literature, often the models developed in this literature have relegated personal and family influences to a category such as “extraorganizational stressors”, or have included them as a subcategory of work-role demands (see for example, Matteson & Ivancevich, 1987; Quick et al., 1997). Such an approach may fail to capture the subtle interactions between work demands, home demands, and the perceived congruence between the two.

The next three sections of the report expand on the stress-response model by discussing in greater detail the antecedents (stressors), moderators, and outcomes of stress (distress and strain), with particular emphasis on work-life conflict.

3. SOURCES OF STRESS

The ecological model introduced in the previous section identified two broad categories of stressors in a worker's environment: those emanating from the work domain, and those from the non-work (home) domain. This section of the report outlines the nature of the potential stressors in each domain, and concludes with a discussion of what may happen "when worlds meet": work-life conflict.

3.1 Stress in the workplace

Although the stress response is an individualized experience, there are, without a doubt, a wide variety of pressures in today's work settings with the potential to generate adverse stress reactions (distress) for many employees. Following is a brief description of some of the more common sources of stress in the workplace. Unless otherwise stated, this summary has been drawn from Quick et al. (1997).

3.1.1 Physical demands

Some occupations, by their very nature, are characterized by a high number of stressors emanating from the physical environment. Physical stressors include those normally associated with blue collar occupations, such as heavy lifting, climbing, and exposure to potentially hazardous conditions or substances. Physical stressors are not limited to the non-professional occupations, however. Today, white collar jobs involve a new set of stressors that may also be physically demanding. Computer work is one such stressor, and has been associated with repetitive strain as well as problems related to excessive exposure to video display terminals. Inadequate lighting, noise, and poor indoor air quality are also potential sources of problems in today's work environments

3.1.2 Task demands

Although we normally tend to equate heavy task demands with stress, the stress response model suggests that tasks demands at either end of the spectrum may be perceived as stressful. Optimal performance is associated with an optimal level of stimulation. Many situations in working life, however, are characterized by either over- or under-stimulation, or worse, both. The last situation can occur when workload is high (e.g., many actions or observations per unit time), but the tasks to perform are so extremely simple as to be almost “an insult to the human brain” (Levi & Lunde-Jensen, 1996, p. 15). Task characteristics can be stressful, therefore, when they demand too little of an employee (such as in mass assembly or keyboarding), or when they demand too much (as in hectic front-line service positions or work requiring continuous technology learning and upgrading).

3.1.3 Work role demands

Whereas task demands are concerned with specific work activities which characterize the job, role factors are related to the behaviour others expect of employees as they fulfill their organizational functions. Individuals must fulfill expectations in multiple work roles, simultaneously acting as supervisor, subordinate, team member and friend. These roles may not always be consistent or compatible. Incompatibility may take the form of *role conflict* or *role ambiguity*. Role conflict occurs when two or more roles cannot be performed simultaneously (such as in a matrixed organization where an individual must satisfy the demands of two or more teams or supervisors). Role ambiguity occurs when there is inadequate, unclear or confusing information about expected role behaviours (due to poor communication of expectations, poor communication of rewards, or ambiguous technical jargon).

3.1.4 Interpersonal demands

Individuals also may encounter work stressors in the form of social, personal, and working relationships. Interpersonal stressors may result from personality differences, team pressures, and differences in leadership styles. In today’s workplace, diversity issues have

become another source of stress for many, as employees who are different in culture, gender, age, and ability may encounter interpersonal conflict and career barriers.

3.1.5 Organizational structure and culture

As rapidly changing business environments force organizations to “right-size”, “down-size”, and “delayer” (i.e. downsize at the middle management level of the organization), new pressures are emerging for today’s employee. Some of these challenges emanate from the breakdown in the “psychological contract’ between employers and employees, which traditionally has afforded employees some degree of permanence in the workplace, as long as they performed their jobs adequately (Duxbury & Higgins, 1998). Today, employees who survive the down-sizing live with the fear that their job, or their entire work unit, may be the next to go. In addition, much of the downsizing has been done without sufficient attention to the structures and processes that remain. As layers, particularly mid-management layers, have been removed, new mechanisms for reward, support, and communication have not always been built into the new systems. As a result, many workers are expected to do the work formally done by two or three employees, often with very limited resources. Levi & Lund-Jensen (1996) provide a list of cultural stressors which are often found in organizations in transition:

- < lack of clear job descriptions or chain of command
- < absence of recognition of or reward for good performance
- < lack of opportunity to voice complaints
- < lack of feedback over the finished product
- < job insecurity due to short-term contracts, downsizing, and mergers
- < concerns related to one’s responsibilities for other employees
- < the manager cannot adequately supervise the work of his/or her subordinates because they have too many people reporting to them (i.e. too high a span of control)
- < chances that a small error or momentary lapse of attention may have serious, or even disastrous, consequences.

3.2 Stress at home

Individuals can find stress in the workplace, or they can take it there (Duxbury et al., 1991). Even before the dual-income family became the norm, pressures from the home domain have followed employees to their paid work. Non-work stressors include family structure and the quality of family relationships, dependant care demands, the nature of the community in which one lives, and financial concerns (Johnson, 1997). The home can be a relief from job stress and a sanctuary in which to regenerate, or it can be a source of turmoil (Matteson & Ivancevich, 1987). Because work and home are such salient features of every employee's life, it is easy to see how unsatisfactory resolution of problems at home can interact with, and sensitize an individual to, stressors at work.

3.2.1 Family structure and family relationships

Stressors in the family environment include not only discrete "crisis" events, but also long-term patterns of marital and family interaction that can affect the individual's ability to cope with stressful events. Examples of crisis events may included divorce, separation, death, illness of a family member, or a move to a new house or community (McCubbin, Joy, Cauble, Comeau, Patterson & Needle, 1980). Long-term interactive patterns which may affect coping ability include the quality of marital and parent-child relationships, the nature of decision-making and problem solving, and the existence of abusive relationships and behavioural problems (Ibid.). Stressors may also arise over time from significant changes in family roles and relationships associated with life-cycle stages, such as the transition to parenthood; and the "empty nest" period (Ibid.).

3.2.2 Dependant care demands

The number and ages of children in the family is a significant determinant of the level of stressors in the home. Both large numbers of children and the presence of very young children in the home have been associated with family role strain (Katz and Piotrkowski, 1983; Lero et al., 1992). Similarly, the need to care for aging parents or other elderly relatives is

becoming a reality for many employees today, leaving many in the so-called “sandwich generation” with responsibility for the care of both children and parents (Duxbury & Higgins, 1998).

3.2.3 Neighbourhood and community

Although neighbours and community provide an important means of social support, they also can increase the level of stressors in an individual’s home environment (Johnson, 1997). Neighbourhoods differ in the level of service they offer to individuals, such as access to recreation, shopping and entertainment facilities, or the availability of counselling services (ibid.). They also differ in terms of orderliness, natural beauty, cleanliness, safety, transportation, and road conditions (Matteson & Ivancevich, 1987). Rural life poses unique challenges, including not only a lower level of family-related services, but also the very practical time demands for employees who need to commute to urban centres (Duxbury & Higgins, 1998).

3.2.4 Financial concerns

Given the rising cost of living over the past decade with no concomitant increase in real family income, financial worries are a reality for many families today. As discussed in Section 1, in many instances, two incomes are necessary just to make ends meet. Financial hardship can be an ongoing stressor when individuals must face the challenges of providing for a family in uncertain economic times. In addition, the lack of monetary resources greatly reduces the coping options available to individuals in almost any stressful transaction as it can limit access to legal, medical, financial, or other professional assistance (Lazarus & Folkman, 1984).

3.3 Stress at the interface: Work-life conflict

The distinction between the demands of workplace and the demands of home is conceptual, and in many ways, artificial (Quick et al., 1997). Work and home life are each so salient a feature of everyday life and so closely enmeshed that it is nearly impossible to tease out one or the other as the source of any given stress response (i.e., is the family a source of

distress at work, or is work a source of distress in family relationships?). The two domains interact so strongly that a circular relationship prevails (Matteson & Ivancevich, 1987). Moreover, antecedent conditions in work and family domains may or may not be highly stressful when considered alone, but their *joint* occurrence is apt to produce distress (Bedeian, Burke & Moffett, 1988), suggesting an additive effect (Frone, Russell & Cooper, 1992).

It is perhaps the awareness of this additive relationship that has given rise to the increasing interest in work-life conflict as a separate construct (Frone et al., 1992). What may be most important in the study of work-life and health outcomes is not so much in which of the two domains a stressor originates, but what happens “when worlds collide”.

Work-life conflict occurs when the demands of work and non-work life are incompatible in some respect so that participation in either role is made more difficult by participation in the other role (Greenhaus & Beutell, 1985). It can emanate from two aspects of the work-life interface: factors associated with the time required to perform work and non-work roles, and the psychological spillover of gratification (or distress) from one role domain to the other (Voydanoff, 1988). Since most often work and family duties are performed in separate locations, individuals are generally *physically* unavailable to perform both sets of duties simultaneously (Ibid.). The “spillover” effect means that individuals may also encounter *psychological* unavailability if the energy required for the performance of one role depletes the energy required to perform the other role (Ibid.). In this sense, then, work-life conflict can be seen to have two major components: the practical aspects associated with time crunches and scheduling conflicts, and the perceptual aspect of feeling overwhelmed or overloaded by the pressures of multiple roles.

The remainder of this section briefly outlines some of the factors that might be considered to be “interface” stressors. Although some of these factors also might rightly be classified as characteristics of “work” or “family”, they heavily rely on an interplay between the two domains.

3.3.1 Amount and scheduling of work time

Work is the cornerstone around which other activities must be made to fit (Duxbury & Higgins, 1998). Time spent in the work role is necessarily unavailable for family, education, leisure, or community. The scheduling of work hours also contributes to conflict when evening or weekend work prevents employees from being available for family activities which occur at specific times (Voydanoff, 1988).

3.3.2 Division of family labour

The time crunch associated with combined work and family roles is dependent not only on hours in paid work, but also on the distribution of domestic work (including the care of the children) within the home. Research suggests that although women have made strides in the workplace, the division of labour at home falls along pretty traditional lines. In terms of the actual time spent in various roles, men generally spend more time in the paid work role, and women spend more time in family roles (Galinsky, 1986). When combined, however, women spend more of their time working (paid work plus domestic work) than do men (Pleck, 1983; Higgins, Duxbury & Lee, 1996; Rexroat & Shehan, 1987). In addition, women retain primary responsibility for overseeing household work, regardless of who carries out the task (Barnett & Baruch, 1983; Duxbury & Higgins, 1998). These patterns suggest that women are more likely than men to encounter stressors from this aspect of the work-family interface. Not only do they devote longer hours to their combined work roles (the *physical* aspect of work-family conflict), they also retain the responsibility for seeing that the work gets done (the *psychological* aspect of conflict).

3.3.3 Child and elder care demands

Although dependant care responsibilities impinge on individuals who are not in the workforce, the presence of children or elderly dependants raises a unique stressor for employed parents: the need to arrange alternate care to cover work hours. In 1988 (the most recent year for which national data are available), fully half of employed parents in Canada reported difficulties finding or maintaining appropriate child care (Lero & Johnson, 1994). A

Conference Board of Canada study conducted in the same year indicated that one third of employees who provided care to both children and elderly family members (i.e. members of the sandwich generation) found it very difficult to balance paid work and home responsibilities. The need to arrange care (and in many cases orchestrate multiple child and elder care arrangements!) provides a considerable source of stress for many employees, and is a good example of the “greater than additive” effect of stressors at the interface of home and work life. While no national data could be found indicating what percent of Canadian workers are presently in the sandwich generation, recent work in Saskatchewan (Duxbury and Higgins, 1998) indicate that approximately 20% of employees in that province spend time each week looking after children as well as elderly dependents. This percent can be expected to increase as the parents of the baby-boomers age.

4. MODERATORS OF WORK-LIFE CONFLICT AND THE STRESS RESPONSE

The conceptual model presented in Figure 1 shows that a range of family and work stressors may lead to a variety of behavioural, psychological, and physical consequences by way of the stress response. Why is it, however, that the stress of combined work and family demands may manifest in hypertension in one individual, depression in another, and have virtually no observable consequence for a third individual? Work-life conflict, and ultimately individual health, cannot be understood solely on the basis of antecedent conditions, for people differ considerably with regard to how they are affected by the same environmental conditions.

Differences in individual stress response presumably are the result of differences in the ways people respond to life challenges - - that is, the resources, actions, and perceptions they mobilize as they seek to avoid or minimize distress (Pearlin, Lieberman, Menaghan & Mullan, 1981). Potential modifiers of the stress response may include basic individual and demographic differences (e.g., gender, job type), personal resources (e.g., coping styles, personality differences), social resources in the work and non-work environments (e.g., relationships with supervisors or family members), and perceived control over these environments. In other words, it is the *subjective* interpretation of stressors at the interface of work and family - - not employment and family conditions per se - - that is the critical determinant of individual well-being (Williams & Alliger, 1994).

This section of the report briefly outlines some of the potential modifiers of work-life conflict. This list is by no means exhaustive, but it is intended to provide readers with an overview of some of the key factors that have been identified in the literature as moderating the perception of conflict at the work-family interface. An understanding of these modifiers is critical if we are to identify individuals who may be at greatest risk for conflict and stress-related health disorders.

4.1 Gender

There is a large body of literature to attest to the fact that women experience higher levels of work-family conflict than do men (Duxbury & Higgins, 1991; Duxbury et al., 1991; Gutek, Searle & Kelpa, 1991; Higgins, Duxbury & Lee, 1992; Lero et al., 1992; Nock & Kingston, 1988). Why this is so is still the topic of some debate.

Some suggest that women may be biologically “programmed” (through sex-based hormonal systems, for example) to respond differently to stressors (for a discussion, see Matteson & Ivancevich, 1987). This hypothesis is borne out by differences in symptomatology shown by women versus men, wherein women tend to exhibit emotional symptoms, such as depression, mental illness, and general psychological discomfort, men tend to manifest physiological disease, such as heart disease and cirrhosis (Jick & Mitz, 1985).

Others argue that gender differences in stress response are attributable to differences in socialization processes and differences in role expectations that expose women to a higher level of stressors. In the home domain, women, irrespective of their involvement in paid work, have been found to be significantly more likely than men to bear primary responsibility for homechores and child care (Duxbury et al., 1991; Gutek et al., 1991; Lero et al., 1992; Higgins et al., 1992; Nock & Kingston, 1988). At the workplace, women have been found to be disproportionately represented in occupations with “built-in strain” such as clerical work, which couples high work demands with little discretionary control (Cranor, Karasek, & Carlin, 1981; Wilkins & Beaudet, 1998).

Although it is difficult to determine which of these mechanisms is most responsible for women’s differential response to stress, there is little doubt that women are exposed to different, if not more, stressors at both work and at home (Matteson & Ivancevich, 1987). This literature provides rather strong evidence, therefore, that women are at particularly high risk for work-family conflict and stress-related disorders.

4.2 Job type

Job type is a potential moderator of work-life conflict due to inherent demographic and work context differences between individuals in various occupational groups (i.e., those in managerial and professional work versus employees in clerical, sales, service and blue-collar positions). Although the moderating effect of occupation on work stress has been studied frequently (for a review, see Quick et al., 1997), its relationship to work-life conflict is less well known.

O'Neil and Greenberger (1994) suggest that managers and professionals are more likely to occupy occupations which afford more flexibility and personal control over the timing of work, facilitating the commitments of parenting and other non-work activities. They also note that professionals may have an advantage in balancing work and home life as their jobs offer greater extrinsic rewards (e.g., salary) which can offset some of the "costs" that demanding jobs entail and allow them to purchase services to help them cope.

Job type may also act as a surrogate measure for other important demographic context variables such as education, income, commitment, and identification with the work role. Professionals have been reported to be more highly educated, to receive greater remuneration, to spend more time and energy in the work role, and to be more highly committed to and involved in their work than their counterparts in non-professional positions (Duxbury et al., 1991). Each of these factors has been linked to an increased ability to cope with work-family conflict (Voydanoff, 1988), suggesting job type as an important moderator of the work-life response.

4.3 Social support

Social support has been consistently found to lessen the effects of work-life conflict (Galinsky, 1986). Social support derives from a variety of social relationships at work, at home, and in the community (Quick et al., 1997). At home, social support stems from spouse, children, friends and extended family. At work, it may take the form of support from one's coworkers or supervisor. Supervisor support, in particular, has been identified as a critical moderator of work-life conflict (Thomas & Ganster, 1995). Quick et al. (1997) note that social support in the workplace may be playing an increasingly important role as a moderator of

stress, as traditional societal structures such as the extended family and the township are being attenuated, and individual mobility continues to rise.

4.4 Personality and coping style

Individuals differ not only in the environments they encounter, but also in their ability to cope with stressful events. Coping has been described as the adaptational techniques used by an individual to master a major psychological threat and its attendant negative feelings (Galinsky, 1986). Coping style has received considerable attention in the stress-health literature, and has been associated with various personality characteristics, including tolerance for ambiguity (Ivancevich & Matteson, 1980), introversion-extraversion (Brief, Schuler, & Van Sell, 1981), and the presence of "Type A" response patterns (i.e., harried and competitive, and high on aggression and hostility; Howard, Cunningham & Rechnitzer, 1976).

Coping style has not been directly explored in the context of work-life conflict. Its importance to the stress response, however, indicates that it may also be a critical determinant of perceived conflict in the work-life arena. Work-life conflict is largely a perceptual phenomenon, describing an individual's *interpretation* of potentially competing environmental demands. Since coping refers to the process by which an individual *appraises* a stressful situation and decides among alternative strategies to manage it (Lazarus & Folkman, 1984), its role as a mediator in appraising work-life conflicts is apparent.

4.5 Control

Closely related to coping style is the individual's perceived ability to control stressful events. Control is defined as the belief that one can exert some influence over the environment, either directly or indirectly, so that the environment becomes more rewarding or less threatening (Ganster & Fusilier, 1989). Control over the work environment has been identified as a critical factor in reducing adverse stress responses, and in improving psychological and physical health outcomes (Kompart & Levi, 1995).

Seminal work by Karasek (1979) has suggested that an employee’s level of distress (which he refers to as job “strain”) is a function of both work demands and the perceived level of control the employee has over these demands. According to Karasek, it is not the psychological demands of work, including time pressures and heavy output demands, that pose the greatest health risk (Karasek & Theorell, 1990). Instead, the primary work-related risk factor appears to be lack of control over how one meets these job demands and how one uses one’s skills (Ibid.). Karasek (1979; 1990) maintains that, demanding jobs only pose a health risk when they occur in combination conditions of low job control.

Karasek (1979) developed a well-known model (Figure 2) to illustrate the relationships between control, demand, and distress or job strain. According to this model, two conditions are associated with distress. The most distressing condition (“high strain”) occurs when high job demands are combined with low control (lower left quadrant of the model). High job strain, he claims, is typical of such occupations as waiter, assembly line worker, and keypuncher, where a high level of output is demanded, but employees have little or no decision latitude as to how the job is performed (Karasek notes that high strain jobs are very often those in which there is a disproportionate number of women). The second most distressing condition occurs when control is low, but so are work demands (lower right quadrant). These jobs Karasek labels as “passive”, as they are typically those which require little more than routine responses to the environment, such as the jobs held by billing clerks, janitors and security guards.

Figure 2: Karasek’s Demand-Control Model (Karasek & Theorell, 1990)

		Demands	
		High	Low
Control	High	Moderate strain	Low strain
	Low	High strain	Mod-high strain

Karasek's demand-control model has implications for the study of work-life conflict. It implies that the ability to balance work and non-work life may be enhanced in instances where individuals are able to exert some control over either the work environment or the home environment, or at the interface. For example, perceived control over the work environment may be obtained when individuals have the autonomy to decide how to approach their work tasks or what resources they will draw on to complete them. At home, individual control is obtained through a strong family support network, or through having adequate financial resources to purchase services (Barnett & Baruch, 1987). At the interface of work and family, flexibility in work time (such as the ability to work a compressed work schedule), or in work place (for example, telework) may buffer the effects of work-life conflict. Thus, the relationships between work and family stressors and perceived work-life conflict should be weaker for employees with high control and stronger for those with low control (Voydanoff, 1988).

4.6 Summary

This section of the report has presented a brief overview of some of the potential moderators of work-life conflict. Although, for clarity, these moderators have been discussed as discrete and independent constructs, the ecological model presented in Figure 1 reminds us that in everyday life these factors are overlapping and highly interrelated. Gender, for example, may affect the perception of work-family conflict directly if it implies a sex-linked hormonal predisposition. It may also contribute to work-family conflict indirectly by increasing the probability that an individual is employed in a high strain job such as clerical work or keypunching (Karasek, 1979; 1990).

This discussion has also treated these variables as if they exert their influence only at the work-life junction (i.e., at the point of the "individual response" in Figure 1). Again, this depiction of moderators is oversimplified. Moderators can exert their influence at any point in the chain from stressor to health outcome (Pearlin et al., 1981). Recognition of the interconnectedness of the moderators of work-life conflict is essential in both the identification of high risk individuals, and in designing prevention and intervention strategies (for example,

a preventive approach might strive to eliminate the stressors, change the way that stressors are appraised by the individual, or might promote social support and control as “buffers” against stressor exposure; Levi & Lunde-Jensen, 1996).

As concluded by Matteson & Ivancevich (1987):

“It is impossible to overstate the importance of individual differences. In a very real sense, it is not stressors that produce stress; what produces stress is the significance, meaning, and interpretation that individuals assign to stressors. And that interpretation is what it is because of individual differences” (p. 91).

Fundamental individual differences, therefore, contribute greatly to the variability in employee responses to work and family environments. The host of behavioural, psychological, physical, and organizational outcomes that are associated with work stress and work-family conflict are the topic of the next section.

5. OUTCOMES OF WORK-LIFE CONFLICT AND THE STRESS RESPONSE

As illustrated in the ecological model, distress can manifest at the level of the individual employee in terms of a variety of adverse behavioural, psychological, and physical reactions. Individual distress can also have unfavourable consequences at the organizational level, ranging from the direct costs of preventable accidents and stress-related work absences to the somewhat less tangible effects on job satisfaction and other employee work attitudes.

This section of the report provides a brief overview of some of these consequences of the stress response. Although there is considerable literature available on the individual and organizational effects of work stress in general, research on the effects of work-life conflict is much more sparse. The following summary, therefore, is organized so that each outcome is explored first in the broader context of work stress, followed by an overview of available research specifically in the work-life domain.

5.1 Individual outcomes

The manifestation of distress at the individual level can be divided into three classes: observable behavioural consequences, such as changes in eating, smoking, or drinking behaviours; psychological consequences, including depression and burnout; and physical health consequences, most often those associated with cardiovascular disease and gastrointestinal disorders.

5.1.1 Behavioural consequences

Workplace stress has been identified as a major contributing factor to a wide range of adverse behaviours, including increased cigarette smoking, the abuse of alcohol and other drugs, accident proneness, violent behaviour, and eating disorders (for a review, see Quick et al., 1997). Very little research has been done specifically on the behavioural consequences of work-life conflict, but work by Frone, Russell & Cooper (1993; 1997) has strongly suggested a connection with increased alcohol consumption.

Although a thorough review of this research is beyond the scope of this paper, two observations relevant to health costs should be made. First, when distress is manifested as an overt behaviour (as opposed to an internalized response, such as depression), the effects extend well beyond the individual. For example, not only has work-related stress been linked to an increased incidence of industrial accidents (Webb, Redman, Hennrikus, Kelman, Givverd & Sanson, 1994), it also has been shown to increase the likelihood of automobile and domestic accidents (Whitlock, Stoll, & Rekh Dahl, 1977). In addition, abusive behaviours, such as alcoholism and violence, have obvious implications for the well-being of others in the individual's work and family environments. These "ripple" effects imply much higher social and economic costs than are apparent when the individual is the sole unit of analysis. Second, the behaviours themselves become risk factors for physical illness, as is the case with smoking and coronary heart disease, or alcoholism and cirrhosis (Quick et al., 1997).

5.1.2 Psychological consequences

Although often viewed as "personal" problems that can be resolved by the individual employee, emotional disorders and psychiatric illness place a considerable burden on the Canadian health care system. In 1993, Canada spent over \$5 billion to treat individuals with some form of mental illness (Moore et al., 1997). This represented 11% of the direct costs⁷ of treating all illnesses in Canada, second only to expenditures on cardiovascular disease (Ibid.). Workplace stress has been identified as a significant contributor to reduced psychological functioning, and the psychological effects of workplace stress have been well documented (for a review, see Quick et al., 1997). Among the problems associated with distress are depression, reduced life satisfaction, perceived stress⁸, and "burnout".

7

Direct costs include the costs of hospital care, drugs, research, and medical services provided by a physician.

8

As is the case in everyday usage, the term "stress" has had a variety of connotations in the literature. Many authors have used it synonymously with "*distress*" to refer only to the maladaptive stress response. To be consistent with the literature, in this section we use the term "perceived stress" to refer to a set of maladaptive responses to stressors (e.g., feeling irritated, nervous, unable to cope).

5.1.2.1 Depression

Depressed mood is defined as a state characterized by low energy and persistent feelings of helplessness and hopelessness (Duxbury & Higgins, 1998). In 1995, over 1.5 million Canadians sought treatment for depression (Statistics Canada, 1999a). Depression represents the single most common psychological condition seen by the family physician (Quick et al., 1997). It is estimated that depression is two to three times more prevalent among women than among men (Matteson & Ivancevich, 1987).

Although it is suggested that depression has a genetic or biological component, environmental stressors are believed to trigger it (Davison & Neale, 1978). Psychological theory maintains that depression emanates from feelings of personal helplessness in the face of persistent and uncontrollable stressors (Seligman, 1974). Seligman's theory of "learned helplessness" can be seen to closely resemble Karasek's (1979) control model of workplace strain discussed in Section 4.5. Both psychological and organizational theory, therefore, implicate high stress-low control work settings in the etiology of depression.

The potential contribution of chronic stressors to the etiology of depression has received very little attention in the work stress literature (Matteson & Ivancevich, 1987). The few existing studies have looked primarily at gender differences (e.g., Dohrenwend, Krasnoff, Askensay & Dohrenwend, 1978; Jick & Mitz, 1985), and, consistent with national incidence data, find depression rates for women to be two to three times higher than those for men.

Given the persistent, and often irreconcilable, time demands of the work and family roles, it is not surprising that work-life conflict has been shown to be a significant contributor to depressed mood (Burden & Googins, 1987; Duxbury et al., 1991; Frone, Russell, & Cooper, 1992; Frone, Russell, & Cooper, 1997; Higgins et al., 1992; Thomas & Ganster, 1995). Consistent with Karasek's and Seligman's work, control over the work-family interface has been shown to significantly reduce the likelihood of depressive symptomatology (Thomas & Ganster, 1995).

5.1.2.2 Life satisfaction

In contrast to other health outcomes, life satisfaction has not been studied in the context of work-related stress, but has received some attention in the work-life literature. Work-life researchers reason that, because of the interactive and reciprocal nature of the relationships between work and family domains, work-related role stress might combine with work-family demands to exert considerable influence on an employee's overall perception of life satisfaction (Bedeian et al., 1988). Further, it is assumed that improvements in the quality of work-life (e.g., increased work-time or work-location flexibility) will produce corresponding improvements in the quality of life as it makes it easier for employees to reduce the strains of managing the modern family (Duxbury & Higgins, 1998). Generally, the research has supported these contentions. High work-life conflict has consistently been associated with a reduction in overall life satisfaction (Aryee, 1992; Bedeian et al., 1988; Duxbury & Higgins, 1998; Rice, Frone & McFarlin, 1992).

5.1.2.3 Perceived stress

Perceived stress refers to the extent to which one perceives one's situation to be uncontrollable and burdensome. Individuals who report high levels of perceived stress generally are manifesting the symptoms we associate with "*distress*", including nervousness, frustration, irritability, and generalized anxiety. Perceived stress has been linked to job dissatisfaction, depressed feelings, work absence, and turnover. It is highest among women, especially those working in service occupations (Wilkins & Beaudet, 1998). Perceptions of stress have been shown to be particularly high among employees who have difficulty balancing work and non-work demands (Duxbury et al., 1991; Higgins et al., 1992; Lero & Johnson, 1994; MacBride-King, 1990; Williams & Alliger, 1994).

5.1.2.4 Burnout

Burnout is a concept which dates to the late 1970s, and is characterized as a state of physical, emotional, and mental exhaustion (Maslach, 1978). It is most commonly associated with "white collar professions" (Karasek & Theorell, 1990) which combine a high

level of interpersonal involvement with exposure to emotionally demanding situations. Such situations are prevalent particularly in the human services professions and in public service and managerial positions where clients impose constant demands for attention (Duxbury & Higgins, 1998). Burnout is closely linked to depression, and research has shown that, like depression, burnout is most common in high-demand, low control work settings (Karasek & Theorell, 1990). In addition to its draining effect on individuals, burnout is strongly correlated with unfavourable organizational outcomes, including reduced job satisfaction and increased job conflict (Duxbury & Higgins, 1998).

Chronic daily stressors, rather than unique critical life events, are regarded as central factors in generating burnout (Duxbury & Higgins, 1998). Given the persistent time demands on employees who are trying to juggle competing work and family responsibilities, it is not surprising that burnout has been significantly associated with work-life conflict (Ibid.).

5.1.3 Physical health consequences

Although the behavioural and psychological effects of work-related stress are themselves immense, they may in turn have a potentially more devastating effect on an individual's medical health (Quick et al., 1997). The physical health consequences of distress appear to result from the frequent or intense arousal of the stress response, particularly the psychological arousal that is induced by repeated exposure to stressors (Ibid.). It is believed that, with prolonged exposure to stressors, chronic arousal of the sympathetic and endocrine systems may contribute to the development of more serious medical conditions (Matteson & Ivancevich, 1987), including cardiovascular disease (e.g., heart attack, hypertension, stroke, migraine), gastrointestinal disorders (e.g., peptic ulcer), arthritis, allergy, skin disease, and backpain; Quick et al., 1997). In fact, these physical disorders are so closely related to distress that Selye labelled them the "diseases of adaptation" (Selye, 1976b). Following is a summary of the literature on the physical effects of work-related stress in general, and work-life conflict in particular.

5.1.3.1 Cardiovascular disease

Perhaps the most frequently studied medical condition in the work stress literature is cardiovascular disease (CVD). Distress causes changes in almost every aspect of cardiovascular functioning, so it is directly involved in the etiology of most CVD states (Matteson & Ivancevich, 1987). CVD has several manifestations, all characterized by an interruption in the flow of blood within the system (Ibid.). Included in the CVD category are hypertension (high blood pressure), cardiovascular accidents (stroke), myocardial infarctions (heart attack), metabolic necrosis (death of the heart muscle), and arrhythmia (irregularity in cardiac rhythm; Karasek & Theorell, 1990). Distress is also believed to contribute to peripheral vascular diseases, such as migraine (Matteson & Ivancevich, 1987).

CVD is one of the leading causes of death, second only to cancer: in 1995, CVD was responsible for 73,000 deaths in Canada (Statistics Canada, 1999b). It is estimated that in the same year, \$7.3 billion was spent to treat individuals with CVD, representing 17% of the direct costs of all illness in Canada (Moore et al., 1997).

Karasek & Theorell (1990) believe that work-related stress plays a role in three different pathways to CVD: (1) it contributes to several long-term physiological processes, such as hypertension; (2) it may be involved in the acute triggering mechanism for coronary heart disease; and (3) it aggravates the effects of conventional risk factors, such as increased smoking or fat intake. In fact, Karasek & Theorell argue that work stress contributes almost as much to the statistical risk of coronary heart disease as do the conventional risk factors.

Quick et al. (1997) review a large number of studies (primarily American and European) which suggest that work-related stress is a major contributor to CVD, particularly coronary heart disease. Very recent work by Statistics Canada (Wilkins & Beaudet, 1998) looked at the relationships between job strain (which they defined as high demand, low control jobs) and two manifestations of CVD (hypertension and migraine) in the Canadian labour force. They estimated that roughly 5% of Canadian employees, both male and female, suffered from high blood pressure. They also collected data on migraine and found it to be three times more prevalent among women than among men (migraine was reported by 12% of women versus 4% of men). Migraine was found to be significantly related to job strain

among men, and to job insecurity among women. No significant relationships were found for hypertension, a finding contrary to the research reviewed by the authors of the study.⁹

Only two studies were identified which looked at CVD as a function of work-life conflict. Both examined hypertension. In a cross-sectional study of female health professionals (who recorded their own blood pressure readings), Thomas & Ganster (1995) found no links between work-family conflict and hypertension. On the other hand, Frone et al. (1997) in a longitudinal study of a random community sample of 260 employed mothers and fathers found that interference from family to work was significantly associated with an increased incidence of hypertension, as measured by the researchers over a four-year period. Although few conclusions can be drawn from two studies, these findings provide some support for a relationship between work-life conflict and CVD. Frone et al.'s significant findings are particularly important, as longitudinal studies are better able than cross-sectional research to provide evidence of causal links.

5.1.3.2 Gastrointestinal disorders

Another purported consequence of stress is gastrointestinal (GI) disorder (Matteson & Ivancevich, 1987). GI problems include anything from repeated episodes of heartburn to peptic ulcer (Ibid.). In 1995, GI-related health problems accounted for 32 million physician visits in Canada, representing 12% of all visits (Moore et al, 1997). It is estimated that in 1993 (the most recent year for which data are available), \$3.3 billion was spent to treat digestive diseases, representing 8% of the direct costs of all illness in Canada (Ibid.).

Peptic ulcer disease has been one of the most commonly studied GI disorders in the work stress literature (for a review see Quick et al., 1997). Cause-effect relationships between stress and peptic ulcer have remained elusive. Although case studies strongly suggest ulcer disease surfaces or worsens during times of stress, large-scale

⁹

The authors note that they used a self-report measure of recall ("Have you ever had a diagnosis of high blood pressure?") which was insensitive to the timing of the diagnosis. In addition, other research has used actual blood pressure readings rather than recall. Research on the relationships between hypertension and work-related stress have yielded some of the more equivocal findings in the CVD literature (Quick et al., 1997).

epidemiological studies have been unconvincing (Ibid.). Early studies were unable to control for the relationship between ulcer disease and associated risk behaviours, such as smoking, and family history (Ibid.) Recent studies have been confounded by the growing belief that peptic ulcer may be related to bacterial infection (Ibid). Although, to date, a causal link has not been established between distress and peptic ulcer disease, clinical experience and the prevalence of peptic ulcer among high-strain occupations (e.g., air traffic controller, executives) suggest that work stress may at least precipitate or exacerbate ulcer disease (Quick et al.,1997).

Stronger relationships have been found between the stress response and other GI problems, including irritable bowel syndrome, and ulcerative colitis (Quick et al., 1997). In both cases, psychological distress has been associated with the onset or worsening of symptoms (Ibid.)

No literature was identified on the relationship between work-life conflict and GI disorders.

5.1.4 Summary of individual consequences of work-life conflict and the stress response

Individual response to stressors in the work and work-life environments can be seen to take a wide variety of forms. The preceding review suggests that there is strong correlational evidence that work-related stress and work-life conflict manifest in psychological symptoms of some magnitude. Causal connections to these and more serious medical problems, however, remain difficult to demonstrate. As was discussed in Section 4, there is such individual variation with regard to stressors, stress, and consequences, and so many intervening variables that it may be virtually impossible to forge the links necessary to claim that distress “causes” mental and physical illness.

The large body of clinical research and correlational evidence, however, makes it safe to conclude that distress at least precipitates or exacerbates disease (Quick et al., 1997). It may be that work- and work-life stressors, like other sources of stress, have cumulative effects that contribute to the development of many common causes of mental and physical

disorders. Genetics, biological development, and many other factors influence the appearance and course of these diseases, but distress plays a role in hastening the appearance of disease and worsening its impact (Ibid.)

5.2 Organizational outcomes

Problems with work-related stress and work-life conflict affect not only individual employees, but also their employers. Both organizations and individuals benefit from an optimum level of stress, and both pay a price for mismanaged stress and distress (Quick et al., 1997). The consequences of an optimal “healthy” level of stress in organizations include high performance and vitality (Ibid.). The unhealthy consequences of excessive or mismanaged stress take the form of “organizational distress” (Ibid., p. 89).

Signs of organizational distress range from increased absence and turnover due to illness and the inability to manage work-related stress to decrements in job satisfaction, commitment and productivity (Duxbury et al., 1991; Higgins et al., 1992). Some of these consequences are quantifiable in dollars and cents (e.g., time lost due to illness); others are somewhat less tangible, and are primarily those which reflect deterioration in employee attitudes toward their work and the employing organization (e.g., reduced job satisfaction and employee commitment).

Quick et al. (1997) have compiled a summary of potential organizational consequences of work-related stress, dividing them into “direct costs”, and “indirect costs” (Figure 3). Direct costs include the loss of an individual through absence or turnover; and productivity declines while in the workplace. “Indirect” costs reflect the “intangibles”: loss of organizational vitality, and deterioration in the quality of work relationships.

Figure 3: Costs of organizational distress (adapted from Quick et al. 1997)

Direct costs	Indirect costs
<p>Participation and membership</p> <ul style="list-style-type: none"> - absenteeism - turnover - strikes/work stoppages <p>Performance on the job</p> <ul style="list-style-type: none"> - quality/quantity of output - accidents 	<p>Loss of vitality</p> <ul style="list-style-type: none"> - job dissatisfaction - low commitment <p>Reduced quality of relationships</p> <ul style="list-style-type: none"> - distrust - animosity - aggressiveness

The remainder of this section looks at some of these consequences in more detail. As in Section 5.1, outcomes related to work stress in general will be discussed first, followed by relevant information on outcomes from the work-life literature.

5.2.1 Direct costs

5.2.1.1 Absenteeism

In 1997, full-time employees in Canada missed an average of 7.4 days from work, representing an estimated loss of 66 million workdays (Akyeampong, 1998). A rudimentary calculation based on average daily earnings of \$135¹⁰, suggests that absenteeism may cost Canadian organizations as much as \$8.9 billion annually. Since it has been estimated that work absences in Canada can cost an organization 1.75 times the absent worker's wage rate (May, 1987), the total costs to employers may be substantially greater than this estimate suggests.

¹⁰

Interpolated from 1996 average annual worker earnings of \$37,000 (Statistics Canada, Catalogue 13-217XPB).

It is difficult to estimate what proportion of this lost work time is attributable to employee work stress per se. American and UK estimates suggest as much as 50% of absenteeism may be in some way stress related (Cooper, Liukkonen, & Cartwright, 1996; Elkin & Rosch, 1990). Statistics Canada data indicate that employees who report exposure to excessive job demands miss 30% more work time than is the average (calculated from Text Table 6-B, Statistics Canada, 1994).

The strong relationships between work stress and physical illness discussed in Section 5.1 suggest that the effect of work stress on work absence may be rather indirect, and hence, more difficult to measure: adverse stress responses may increase the risk of illness, which in turn, increases the rate of absence. Determining the contribution of stress to absence is further complicated by the fact that factors other than stress and illness may contribute to absence rates. Bhagat, McQuaid, Lindholm & Segovis, 1985) suggest that absenteeism even during stressful conditions may reflect market opportunities more than the consequences of stress itself (i.e., during economic downturns, employees feel too insecure to risk being absent even when ill). This phenomenon led Cooper et al. (1996) to coin the term, “presenteeism”, to draw attention to the potential productivity loss incurred when people come to work in spite of not feeling well!

In contrast to some of the difficulties inherent in linking absenteeism to work stress, researchers have had somewhat more success in demonstrating its relationship to work-life conflict. Although work-life conflict may contribute indirectly to illness absence due to the stresses of balancing work and non-work life, often it leads directly to absences that are *not* illness-related. Such is the case when an employee takes time to accompany a child to a sports event, or to care for a sick child or elderly parent. In these cases, researchers can ask employees how many days they were absent for reasons other than illness.

Statistics Canada has expanded its labour force survey to collect data on reasons for absence. National data indicate that in 1997, 1.2 of the 7.4 days lost per employee was due to personal or family responsibilities (Akyeampong, 1998). Applying the average earnings calculation used earlier, a conservative estimate of the cost to Canadian organizations of time lost for personal and family reasons is roughly \$1.4 billion. Add to this the costs of illness

absence that may have been indirectly attributable to work-family stressors (see section seven of this report), and the cost to Canadian organizations is substantial.

Absence data collected through self-report measures, however, are subject to bias due to under-reporting. This is particularly so when employees are asked to estimate time lost due to reasons other than illness, as employees are understandably reluctant to disclose this information (Galinsky, Freedman & Hernandez, 1991). In addition, it has been found that employees who are reluctant to disclose child care problems often use their own sick days to stay home with their children (MacBride-King, 1990). This suggests that the proportion of absences categorized as personal illness may be inflated by the inclusion of days off for family.

The problem of under-reporting family-related absence is avoided in other approaches to studying work-life conflict. One such approach is to collect data on all work absences (irrespective of reason), and then correlate the number of absences with various demographic and psychological indicators collected through survey. For example, the Conference Board in a study of 7,000 employees across Canada (MacBride-King, 1990) correlated days absent with the age of the children of the family, and found that absences for parents of children under 13 were significantly higher than those for non-parents or parents of teen-agers. "Dual-caregivers" (those with responsibility for the care of both children and other dependants) had the highest rates of absence of any group.

Absenteeism can also be correlated with scores on formal measures of work-life conflict collected through survey. Duxbury & Higgins (1998) divided their sample of 5,000 Saskatchewan employees into those who reported high work-life conflict and those who reported low work-life conflict. The number of days absent per year in the high work-life conflict group was over three times that in the low conflict group (9.5 days versus 2.5). MacBride-King (1990) obtained similar results in the Conference Board Study after grouping her respondents into high- and low-conflict categories (5 days for high conflict employees versus 2.5 for low). Combined with the labour force survey data presented earlier, these empirical studies provide strong evidence of a link between work-life conflict and absence.

5.2.1.2 Turnover

Although a certain level of turnover is essential to organizational vitality (Quick et al., 1997), the costs associated with replacement mean most organizations strive to keep turnover to a minimum (Robbins, 1993). The cost of turnover includes not only the obvious loss of the productivity of the qualified employee, but also the hidden costs of recruiting, hiring, and training a replacement (MacBride-King, 1990). Estimates indicate that the ratio of turnover costs to annual salary ranges from 1.2 to 2, with the average at about 1.5 (Robbins, 1993). The range reflects differences in position level, organizational function, and relocation costs (Ibid.). Using the Canadian average annual earnings figure of \$37,000 (Statistics Canada 1999d) the loss of even one employee at an “average” level in the organization, can cost an employer \$55,000. This cost increases when professional employees in the knowledge sector leave the organization (i.e. higher salaries, greater recruitment and replacement costs).

As expected, research has linked work-related stress and burnout to increased turnover (Cooper et al., 1996; Karasek & Theorell, 1990). Work has also been done in the context of work-life conflict. In the Conference Board study, 12% of Canadian employees said they had left a previous employer due to family responsibilities; 14% had considered leaving their current employer (MacBride-King, 1990). Women were about four times (20%) more likely than men (6%) to report having left a previous employer for this reason. Recent work by Duxbury & Higgins (1998) with Saskatchewan employees indicated that 30% of employees with high work-family conflict would consider leaving their jobs for one with a better “balance”, compared to only 4% of a low conflict group. The authors caution that high turnover is a particular threat to organizational health, as the employees who leave are those who are most “marketable”, and accordingly, are those with skills the employer can least afford to lose.

5.2.1.3 Strikes/work stoppages

High strain work situations have also been connected to work interruptions due to strikes and stoppages (Quick et al., 1997). In 1996, Canada experienced 327 strikes and lockouts, involving 284,000 workers and over 3 million lost workdays (International Labour Office; 1996). Work interruptions of this nature involve not only the direct costs associated with

loss of production and replacement of personnel, but also the indirect costs of lost opportunities and disruption of relations with suppliers, clients, and others in the task environment (Ibid.).

The relationship between work-life issues and labour actions has not been explored. To date, organized labour's stand on work-life issues has been somewhat mixed. On the one hand, improving the quality of life for members through workplace modifications is consistent with the goals of union leaders. On the other hand, some of the modifications that might reduce work-life conflict for members (e.g., voluntary part-time and reduced hour arrangements) are perceived as threats to the "full-time-job-for-life" model which labour has traditionally worked to obtain and preserve. Although work-life conflict may not constitute a direct source of labour unrest, its potential to indirectly contribute to overall work-related stress and dissatisfaction remains an important consideration.

5.2.1.4 Performance

There is a considerable body of literature to suggest that the hyperarousal associated with work-related stress is a major contributor to accidents and performance decrements (for a review see Quick et al., 1997). Although much of this literature is beyond the scope of this paper, it should be noted that distress due to work-life conflict may well have similar effects if individuals who are overextended trying to balance work and family demands are fatigued or preoccupied on the job.

Work-life researchers have typically explored employee performance by using a measure of employees' perceived productivity (Duxbury & Higgins, 1998; MacBride-King, 1990). This approach uses survey format to ask employees to what extent their personal and family obligations have interfered with their work. MacBride-King (1990) found that roughly half of Canadian employees with dependant care responsibilities had difficulty taking on extra work projects, working overtime, travelling and relocating, and attending meetings or courses after work hours. Nearly half also reported an inability to concentrate on the job due to family obligations. Women were significantly more likely than men to report problems in all of these areas. Although no attempt has been made to assign a dollar value to these types of

problems, these findings suggest a high productivity cost for Canadian employers (in addition to the high cost to individual employees in terms of reduced career progress and satisfaction!)

5.2.2 Indirect costs

5.2.2.1 Job satisfaction

The organizational costs of a low level of employee satisfaction are much more difficult to measure than some of the previously discussed outcomes. The consequences to employers appear to be indirect: job satisfaction has been shown to be associated with increased absenteeism and turnover (Robbins, 1993), suggesting that the ultimate cost of job dissatisfaction will be the costs associated with these withdrawal behaviours. Robbins (1993), however, argues that an often overlooked dimension of job satisfaction is its relationship to employee health. He reviews research that demonstrates that employees who are satisfied with their jobs live longer and are less prone to health setbacks ranging from headaches to heart disease. He concludes that job dissatisfaction is itself a source of work-related stress, which in turn, triggers or exacerbates stress-related disease.

Consistent with its purported role in reducing work-related stress, job satisfaction shows a strong inverse relationship to work-life conflict. Individuals who score high on work-life conflict have consistently been shown to be highly dissatisfied with their jobs (Bedeian et al., 1988; Bhagat et al., 1985; Duxbury & Higgins, 1998; Karasek, Gardell, & Lindell, 1987; Thomas & Ganster, 1995). Duxbury & Higgins' study found a substantial difference between high- and low-conflict groups on their measure of job satisfaction: nearly 80% of employees with low work-family conflict were satisfied with their jobs, compared to only 27% of the high conflict sample. This reduction in job satisfaction is dramatic, given that, typically, 60 to 70% of employees are satisfied with their jobs (Duxbury & Higgins, 1991; Robbins, 1993; Statistics Canada, 1994). These findings indicate that, like work stress in general, work-life conflict may have the potential to generate costly withdrawal behaviours indirectly through its effect on job satisfaction.

5.2.2.2 Organizational commitment

Commitment is loyalty. An individual who has high organizational commitment is willing to exert extra effort on behalf of the organization, and has a strong desire to remain with the organization (Mowday, Porter & Steers, 1982). Commitment, like job satisfaction, is related to reduced absences and strongly related to turnover (Duxbury & Higgins, 1991), and thus, may be an important indirect contributor to costly withdrawal behaviours.

Research suggests a strong negative relationship between work-life conflict and organizational commitment (Bhagat et al., 1985; Duxbury & Higgins, 1998; Orthner & Pittman, 1986). Individuals who view their employers as being unsupportive of their non-work roles are less likely to feel a sense of loyalty to the perceived source of the conflict. Duxbury & Higgins (1998) found that only 47% of employees with high work-life conflict were committed to their employers versus nearly 70% of employees in the low conflict group. Given the high association between commitment and turnover, these findings suggest that reducing work-life conflict may be an effective means for organizations to minimize turnover.

5.2.2.3 Reduced quality of relationships

It has been suggested that under conditions of distress, a deterioration occurs in the quality of interpersonal relationships on the job (Quick et al., 1997). Individuals experiencing distress have been found to show markedly less trust in, respect for, and liking for those they work with (Kahn et al., 1964). Quick et al. suggest that the more energy that is consumed in bad relationships, the less constructive energy is available to perform the job, hence threatening productivity. In addition, poor working relations have the effect of reducing employee satisfaction, and in turn, employee attendance (Steers & Rhodes, 1978). The reduced quality of relationships in the organization, therefore, may contribute to absences in the short-run, and to reduced organizational health in the long run (Quick et al., 1997).

5.2.3 Summary of organizational consequences of work-life conflict and the stress response

The preceding summary suggests that the potential costs to organizations of work stress and work-life conflict may be substantial. Costs amenable to “dollars and cents” analysis, such as those associated with absence and turnover, appear to have received much more attention in the work stress literature than some of the “intangibles” such as job satisfaction and organizational commitment. Quick et al. (1997), however, caution that the indirect costs of distress, although much more difficult to quantify, may be no less devastating to organizational health. In addition to their damaging effect on the organizational climate, indirect costs may themselves be the source of the more measurable costs, such as absenteeism and turnover.

On the other hand, the work-life literature has given a good deal of attention to the more indirect indicators. This emphasis on the “softer” indicators, such as satisfaction and commitment, is important as it brings to light some of the risks associated with the many “hidden” costs of stress. Before beginning to examine some of the wider costs of stress and work-life conflict, the next section will attempt to gauge the magnitude of the problem by estimating the prevalence of work-life conflict in Canada.

6. ESTIMATED PREVALENCE OF WORK-LIFE CONFLICT: A PORTRAIT OF CANADIAN EMPLOYEES

Recently, attempts have been made to estimate the prevalence of work-related stress among Canadian employees. Data from Statistics Canada (Statistics Canada 1994; Wilkins & Beaudet, 1998), for example, indicate that:

- < 66% of Canadian employees- - nearly 10 million adults- - believe they are exposed to some sort of health risk in the work environment;
- < of these, 25% cite stress from excessive work demands as the perceived threat;
- < 32% of employees believe that these exposures have already had a negative effect on their personal health;
- < men are more likely to report health risks related to the physical environment (e.g., dust, noise); women are more likely to cite computer screens and stressful interpersonal relationships as problem sources;
- < professionals are more likely to report risks related to excessive work demands; skilled workers are more likely to cite problems related to the physical environment (dust, noise).
- < individuals with low control over decision-making perceive high psychological distress (40% of Canadian workers in high demand-low control jobs report high perceived stress!)

These types of data provide an indication of the extent and magnitude of work stress problems in Canada, and suggest potential high risk groups. Little information of this sort, however, is available to indicate to what extent Canadian employees are affected by work-life conflict.¹¹

¹¹

An important exception is the Conference Board of Canada's survey (MacBride-King, 1990) which examined a variety of personal and work outcomes by comparing employees with difficulty balancing family responsibilities to those without. Their study indicated that roughly 27% of Canadian employees had at least moderate difficulty balancing work and home responsibilities. When limited to parents with children at home, this proportion rose to 35%. MacBride-King,

This section of the report uses survey data collected by Duxbury and Higgins between 1991 and 1998 to provide an indication of the prevalence of work-life conflict among the Canadian workforce. This data is drawn from four large studies conducted between 1991 and 1998, collectively representing nearly 30,000 public and private sector employees across Canada.

6.1 Description of the Studies

6.1.1 The samples

The studies on which this section is based were conducted by two of the authors between 1991 and 1998 (Duxbury et al., 1991; Higgins et al., 1992; Duxbury-Higgins Associates, 1997; Duxbury & Higgins, 1998). They include:

- 1) A federal public sector survey of roughly 6,000 federal employees working in the National Capital Region, representing six government departments (Duxbury et al., 1991).
- 2) A private sector survey of roughly 15,000 employees from a cross-section of 30 small and large geographically diverse organizations across Canada (Higgins et al., 1992).
- 3) An independent survey of 2,500 employees working for a large service sector company at sites across Canada (Duxbury-Higgins Associates, 1997).
- 4) A survey of 5,400 employees working in 40 medium to large private, public, and non-profit organizations in the province of Saskatchewan (Duxbury & Higgins, 1998).

All studies involved surveys of men and women in a variety of occupations, both with and without dependant care responsibilities. Dependand care was defined as having responsibility for either a child under 18, or for an elderly or disabled relative with whom time was spent on a regular basis. Job type was distinguished as being either

however, did not use a formal measure of work-life conflict in this work.

professional/managerial (i.e., career occupations), or non-professional/non-managerial (i.e., clerical, technical, production work, etc.)¹²

For the purpose of the following analyses, the public and private sector work-life studies (i.e. Studies One and Two) are combined under the heading “1991-92 national sample”. Because Study Three involved a single organization, and as such, must remain anonymous, it will be referred to as the “1997 Single Organization”. Study Four will be referred to as the “1998 Saskatchewan study”. For further information about the national sample and the Saskatchewan study, please refer to the source documents listed in the reference section.

6.1.2 The measures

All data presented in this section were collected through pencil and paper survey using measures recognized in the empirical work-life literature (see Appendix A for a discussion of these measures). All psychological outcomes (depressed mood, life satisfaction, perceived stress, burnout, perceived health, intent to turnover, commitment, job satisfaction) were self-report using one to five Likert rating scales. For these measures, results are expressed as the proportion of the sample who scored high (e.g., % who reported a high level of depressed mood or job satisfaction). The number of days absent from work and the number of physician visits were collected by asking respondents to indicate how often they had engaged in the behaviour (e.g., had been absent from work, had visited a physician). For these measures, results are expressed as the average (mean) per year.

Every effort was made to maintain consistency between studies. However, specific study requirements and the addition over time of new measures (e.g., spillover, burnout and perceived health) or better measures (e.g. work-interferes with family) has meant that not all variables are included in each dataset. (Refer to Appendix A for full descriptions of the measures and reference information.)

¹²

Note: In the tables that follow these job type categories are labeled “professional” and “non-professional.”

6.1.3 Objectives of this analysis

This analysis will:

- 1) examine the level of work-life conflict among Canadian employees;
- 2) identify employee groups who seem most at risk for work-life conflict and ill health (i.e., by gender, job type);
- 3) examine individual outcomes associated with work-life conflict (depressed mood, life satisfaction, perceived stress, burnout, perceived health, contacts with a physician);
- 4) examine organizational outcomes associated with work-life conflict (absenteeism, turnover, job satisfaction, commitment);
- 5) explore how these outcomes differ between individuals with high work-life conflict and those with low conflict; and
- 6) explore how these outcomes differ between individuals with high control over the work/non-work interface, and those with low control.

6.1.4 Interpretation of the Data

Due to the large sample sizes almost all the between group differences (i.e. men versus women within a particular sample; professional/managerial women in 1991 versus professional/managerial women in 1997) are statistically significant. These differences may not, however, be substantive (i.e. worthy of note). For the purposes of this report we have defined substantive as follows:

- C For Table 1 (i.e. comparison of total samples for the three data sets):
 - ↳ For the individual and organizational outcome data differences of 2% or more are considered substantive
 - ↳ In the case of the absenteeism and physician visit data mean differences of 0.5 or more are considered substantive.

- C For Table 2a and 2b (i.e. comparison of sub-samples using the three data sets):
 - د For the individual and organizational outcome data differences of 5% or more are considered substantive
 - د In the case of the absenteeism and physician visit data mean differences of 1.0 or more are considered substantive.
- C For Figures 4 and 5 (i.e. comparison of sub-samples for the Saskatchewan data set only):
 - د For the individual and organizational outcome data differences of 5% or more are considered substantive
 - د In the case of the absenteeism and physician visit data mean differences of 1.0 or more are considered substantive.

Finally, it should be noted that our discussion of trends over time focuses on a comparison of the 1991-92 National data to the 1998 Saskatchewan data. The decision to limit the comparison to these two samples was based on the following rationale:

- 4) these samples are more representative as they contain data from employees working for a large number of companies of different sizes working in a wide variety of sectors, and
- 5) the larger sample sizes make the between group comparisons more meaningful.

6.2 Overview of the findings

Table 1 provides a comparison of the three samples in terms of work-life conflict and a variety of individual and organizational outcomes discussed in Section 5. Three observations may be made from this data. First, in spite of many differences between the samples in terms of both sample composition and the time at which data were collected, the studies yielded remarkably similar data on work-life conflict. The findings indicated that slightly more than one in three Canadian employees (35.6% to 40%) experience a high level of work-life conflict.

Second, there was also a remarkable consistency across individual outcomes. The stability of these findings was rather alarming, given the potential health risks associated with these measures. The data indicated that:

Table 1: Prevalence of work-life conflict and selected individual and organizational outcomes among employees in Canada

Outcome		1991-92 National Sample (N = 21, 228)	1997 Single Organization (N = 2,507)	1998 Saskatchewan Sample (N = 5,368)
Percent high				
Work-family conflict:		35.6	38.1	40.1
Individual outcomes:	Depressed mood	33.1	31.6	34.7
	Life satisfaction	42.5	44.7	38.4
	Perceived stress	47.3	49.2	50.5
	Burnout	--	26.1	27.3
	Perceived health	--	48.7	46.5
Organizational outcomes:	Intent to turnover	13	--	12.1
	Commitment	56.1	64.4	55.3
	Job satisfaction	61.6	39.4	49.5
Mean per year				
Days absent:	Total	4.1	8.3	9.6
	Due to illness	--	5.2	4.9
	Due to family	--	2	2.9
	Due to fatigue	--	0.9	1.8
Number of physician visits:		2.7	3.4	3.8

-- Data not collected

- < one third of Canadian employees report high levels of depressed mood;
- < half experience high levels of perceived stress; and
- < one quarter feel “burned out” from their jobs.

No such general statements can be made about organizational outcomes, which seemed to vary according to sample. Fifty-five to 66% of respondents were highly committed to their organizations; 40% to 61% were highly job satisfied; roughly 12% reported high intent to turnover.

Finally, differences between the 1991-92 sample and the 1998 study of Saskatchewan suggest that:

- C work-life conflict, perceived stress, work absences and physician visits may be on the rise while
- C job satisfaction, life satisfaction and perceived health may be decreasing.

Comparisons across time, however, remain highly speculative due to the very different samples used.

6.3 Who’s at risk for work-life conflict and health problems?

Tables 2a and 2b provide information on all three samples by gender and job type. Table 2a is limited to respondents with dependant care responsibilities (i.e., for either a child or an elderly or disabled family member); Table 2b provides data on employees without dependant care responsibilities. In order to allow readers to find information on subgroups of interest, these tables present a high level of detail. Not all of the relationships shown in this data can be discussed in the context of this report. The following discussion uses these tables to make some general observations regarding which employee groups encounter high work-life conflict and which may be at particularly high risk for stress-related illness.

Table 2a: Prevalence of work-life conflict and selected individual and organizational outcomes among employees in Canada (employees with dependant care responsibilities)

Outcome	1991-92 National Sample (N = 13,351)				1997 Single Organization (N = 1,691)				1998 Saskatchewan Sample (N= 4,037)			
	Professional		Non-Professional		Professional		Non-Professional		Professional		Non-Professional	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
	Percent high											
Work-family conflict:	38.5	51.4	25.6	36.1	49.1	51.6	35.5	36.4	39.4	47.9	29.6	35.4
Individual outcomes:												
Depressed mood	22	34.1	25.6	43.1	25.6	24.7	30.6	38	28.2	31.2	32.3	43.2
Life satisfaction	47.9	49.6	43.1	38.9	47.6	56.1	30.6	43	42.2	43.5	34.5	36
Perceived stress	38.7	49.7	40.5	56.2	40.2	43.5	55	54.5	46.1	53.6	46.8	56.7
Burnout	--	--	--	--	25.3	26.2	29	25.3	26.9	29.6	22.8	28
Perceived health	--	--	--	--	49.7	47.6	45.9	47.2	57.8	61.1	49.9	48
Organizational outcomes:												
Intent to turnover	11.5	13.2	10.1	11.3	--	--	--	--	9.8	12.2	11.1	9.8
Commitment	57.8	61	57.2	57.8	69.6	73.8	66.1	63.4	59.2	55.6	49.4	58.2
Job satisfaction	62.5	67.9	63.7	61	42.3	50.9	30.6	37.6	47.4	49.3	48.2	52.3
	Mean per year											
Days absent (Total):	2.63	4.51	4.1	5.23	6	7.1	7.2	10.1	7	12.1	8.4	12.6
Due to illness	--	--	--	--	3.4	3.4	4.2	6.4	3	6.1	4.3	6
Due to family	--	--	--	--	1.6	2.4	1.9	2.7	2.4	4.1	2.7	4.4
Due to fatigue	--	--	--	--	0.7	1	0.9	0.9	1.6	1.8	1.4	2.2
Number of physician	1.99	2.92	2.23	3.34	2.9	3.9	3.5	3.6	3.2	3.8	3.6	4.1

-- Figures not available

Table 2b: Prevalence of work-life conflict and selected individual and organizational outcomes among employees in Canada (employees without dependant care responsibilities)

Outcome	1991-92 National Sample (N = 7,876)				1997 Single Organization (N = 816)				1998 Saskatchewan Sample (N= 1,288)			
	Professional		Non-Professional		Professional		Non-Professional		Professional		Non-Professional	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
	Percent high											
Work-family conflict:	29.9	38.5	23.1	28.1	34.8	42.5	21.9	29.5	34.7	37.7	24.3	24.1
Individual outcomes:												
Depressed mood	23.4	35.7	27.8	40.8	8.7	28.8	19.5	35.6	27.4	32.1	33.1	40.3
Life satisfaction	43.4	47	34.9	40	46.7	55.5	34.4	40	38.3	45.1	29.1	36.9
Perceived stress	38.5	51.8	41.3	52.2	34.8	45.9	45.3	52.9	43.3	50.8	46.4	49.7
Burnout	--	--	--	--	17.4	30.8	18.8	30.4	26.8	32.7	26.8	27.8
Perceived health	--	--	--	--	51.1	53.8	63.2	46	57.6	52.1	52.3	47.2
Organizational outcomes:												
Intent to turnover	17.3	16.2	16.8	15.2	--	--	--	--	21.9	16.5	17.9	14.1
Commitment	48.9	53.2	49.8	55	65.2	66.4	63.3	56	49.1	57.9	46.8	54.7
Job satisfaction	58.7	63.1	56.1	59.4	42.4	45.9	28.1	36.1	47.3	49.2	47.5	50.7
	Mean per year											
Days absent (Total):	2.97	3.8	3.89	4.4	4	5.6	4.5	9.7	6.6	9.2	5.8	8.9
Due to illness	--	--	--	--	2.8	3.5	2.9	6.8	4.3	5.7	3.7	5.7
Due to family	--	--	--	--	0.6	0.9	0.6	1.5	0.9	1.1	0.8	1.2
Due to fatigue	--	--	--	--	0.6	1.1	0.5	1	1.3	2.4	1.3	2

Number of physician visits:	1.99	2.82	2.38	3.26	3.6	2.7	2	3.6	3.3	
-----------------------------	------	------	------	------	-----	-----	---	-----	-----	--

-- Figures not available

6.3.1 Work-life conflict

Tables 2a and 2b provide support for much of the literature reported in Section 4 on the moderators of work-life conflict. The following general observations can be made from this data:

- C women report substantially more work-life conflict than men, regardless of job type or dependent care status,
- C men and women who perform managerial or professional work report substantially more conflict between work and non-work than their counterparts in non-professional positions,
- C men and women with dependent care responsibilities report substantially more work-life conflict than their counterparts without such obligations
- C approximately half of the mothers who work in managerial and professional positions and almost 40% of mothers employed in non-professional positions report high work-life conflict. These percentages have remained very stable over time.
- C the amount of work-life conflict reported by men appears to have increased substantially over time.

Taken together these last two observations suggest that:

- C Canadian organizations have not yet provided dual-income employees with dependent care the types of support they need to balance work and non-work obligations and roles, and
- C work-life challenges may be mounting for men (i.e. becoming an issue for all employees with dependent care responsibilities rather than a “women’s issue”)

6.3.2 Individual outcomes

Consistent with the literature reported in Section 5, women also appeared to be at greater risk for depressed mood and perceived stress. With few exceptions, this varied little

according to dependant care status (i.e., women with and without dependants reported comparable levels of stress and depressed mood). The relationship of individual outcomes to job type, however, was opposite to that observed with work-life conflict. Depressed mood and perceived stress were *lower* among professional and managerial groups. This

supports literature which has found that higher income and educational attainment is associated with an increased ability to cope. In addition, this finding reinforces the assertion that specific characteristics of the jobs of professionals and managers, especially autonomy and control over work and work hours, can minimize conflict for these employees. Control will be further examined later in this section.

6.3.3 Organizational outcomes

In spite of their greater difficulties in terms of work-life conflict and individual outcomes, women appeared to be somewhat more committed to their employers than were men. That women encounter both high conflict and distress *and* high commitment is consistent with literature which suggests that commitment may be more strongly linked to the economy and job market than to personal or organizational factors (see Section 5). Supporting this notion was the observation that turnover seemed to be linked to dependant care status, with those with dependants expressing the lowest level of turnover intentions (roughly 10% to 13%, compared to 14% to 18% among employees without dependants). This data suggests that both turnover and commitment may be more related to life cycle stage, opportunity, and mobility than to other personal or work factors. This also implies, however, that employees who are experiencing high levels of conflict may perceive few options but to remain in highly stressful situations.

Job satisfaction showed no consistent patterns according to gender, job type, or dependant care status. The only noteworthy observation was that it appeared to be lower in the more recent studies than it was in the earlier study. Although this comment is speculative due to sample differences, it is consistent with the increases in absence and physician visits observed in Table 1. Literature suggests that job satisfaction is highly related to work absences and health (see Section 5.2).

6.3.4 Absences and physician visits

Like the individual outcome data, these findings suggest that women, non-professional groups, and those with dependant care responsibilities are at particularly high risk for stress-

related illness. At the extremes were non-professional women with dependants (who averaged 12 days absence per year), and professional men with no dependants (3 days absence).

Women consistently reported more absences and physician visits than did their male counterparts. Detail by reason for absence shows that women missed more work than men both for family reasons and for personal illness. Differences between women with dependants and those without, however, suggest that much of women's higher absence may be related to dependant care needs. Absence due to illness was virtually identical for women with dependants and those without. On the other hand, absence for family reasons among women with dependants was double that seen among women without dependants.

6.4 The effects of work-life conflict on individual and organizational outcomes: Examination of the Saskatchewan Data

Sections 6.2 and 6.3 provided a profile of Canadian employees in terms of their level of work-life conflict, individual outcomes and organizational outcomes. This section of the report looks at the relationship *between* work-life conflict and these various outcomes. Only the Saskatchewan data set is used in this analysis. The Saskatchewan dataset was chosen as the basis for this analysis because: (1) a single dataset (i.e., as opposed to merging data from all four studies) was believed to be best able to show links between work-life conflict and health outcomes, as it controlled for confounds due to differences in sampling and data collection time frames; (2) it was our most recent study, so was perhaps most representative of the work-life situation among employees today; and (3) it was composed of employees in a variety of workplaces in a variety of sectors, rather than a single organization.

The Saskatchewan sample was divided into two groups: those with high work-life conflict (i.e. scores of 3.75 or greater on the work-life measure), and those with low work-life conflict (i.e. scores of 2.25 or lower on the work-life measure). We then examine any differences between the two groups in terms of the individual and organizational outcomes of interest. Figure 4 illustrates some of the more significant findings.

Figure 4: Relationship between work-life conflict and selected outcomes (1998 Saskatchewan sample)

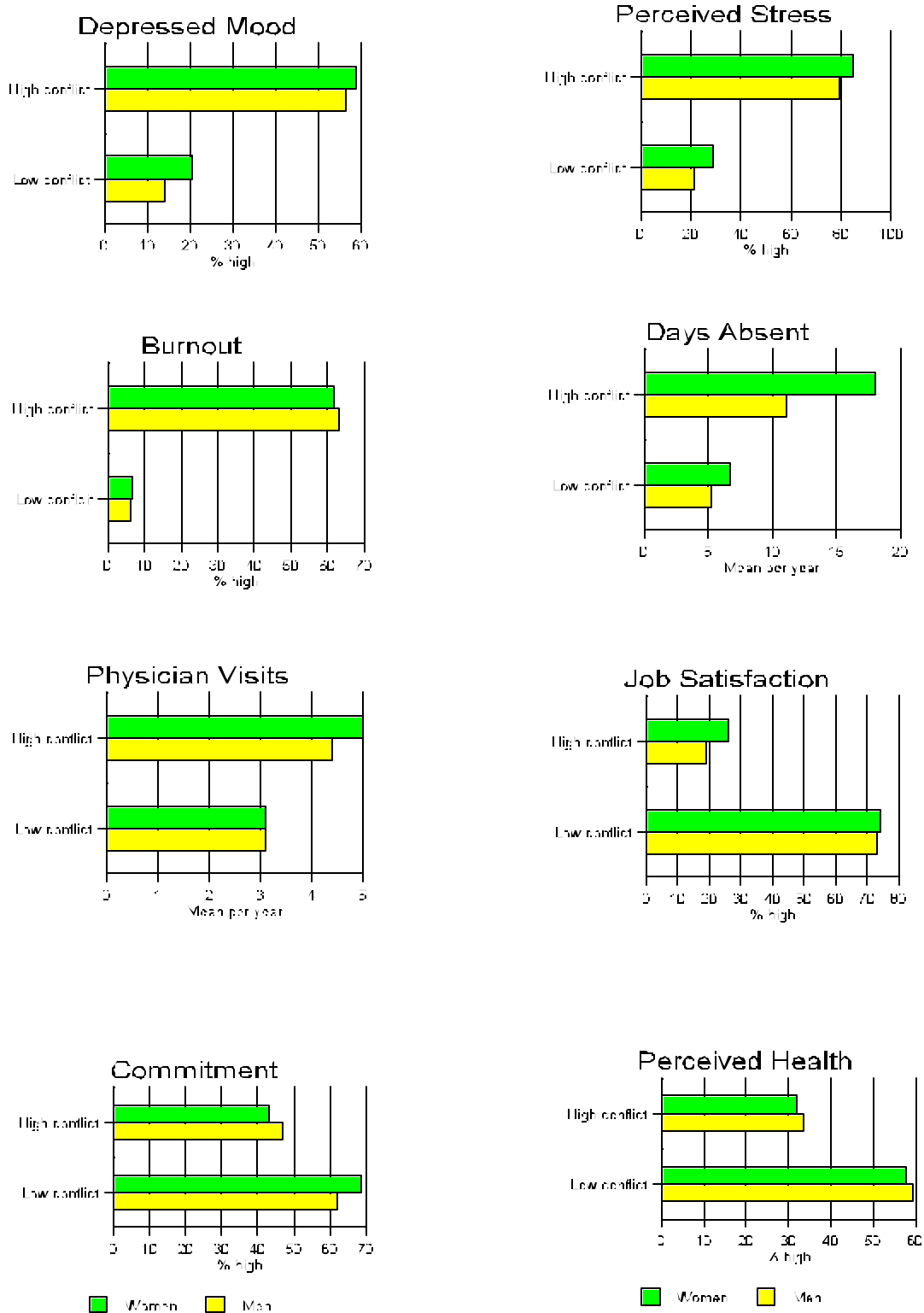


Figure 4 illustrates the close relationship between work-life conflict and an individual's work attitudes, behaviours, and perceived well-being¹³. High work life conflict can be seen to be substantially associated with:

- C decreased wellness in terms of perceived stress and physical health, depressed mood, and especially, burnout.
- C reduced job satisfaction and organizational commitment.
- C greater use of the Canadian medical system (i.e. increased number of physician visits, increased illness), and
- C increased absence from work

The data in Figure 4 also indicate that both men and women are adversely affected by work-life conflict. The major gender differences were in behavioural measures. Work-life conflict showed a much stronger effect on women's work absences and physician visits than it did on men's. This is consistent with women's higher level of work absence in general, and suggests that helping reduce work-life pressures may have a particularly beneficial effect for women.

6.5 The effects of work-life control on work-life conflict and individual and organizational outcomes: Examination of the Saskatchewan Data

Control was identified in Section 4.5 as a critical moderator of distress and work-life conflict. In this section of the report, we use a measure of perceived work-life control to explore this relationship more closely. Unlike measures which assess an employee's control over demands, the measure we use here is one by Thomas & Ganster (1995) which specifically addresses factors pertaining to control over dependant care and hours of work. (See Appendix A for a complete description of the measure.) Figure 5 illustrates the effect of work-life control on selected work attitudes and behaviours and measures of individual well-being, again in the context of the Saskatchewan sample. Note that these findings pertain only to employees with children or other dependants, as employees without dependant care responsibilities were skipped out of this item.

¹³

Note that work-life conflict was associated with adverse effect on *all* of the outcome measures examined. Only the most salient findings were summarized in Figure 4.

Figure 5: Relationship between work-life control and selected outcomes (1998 Saskatchewan sample)

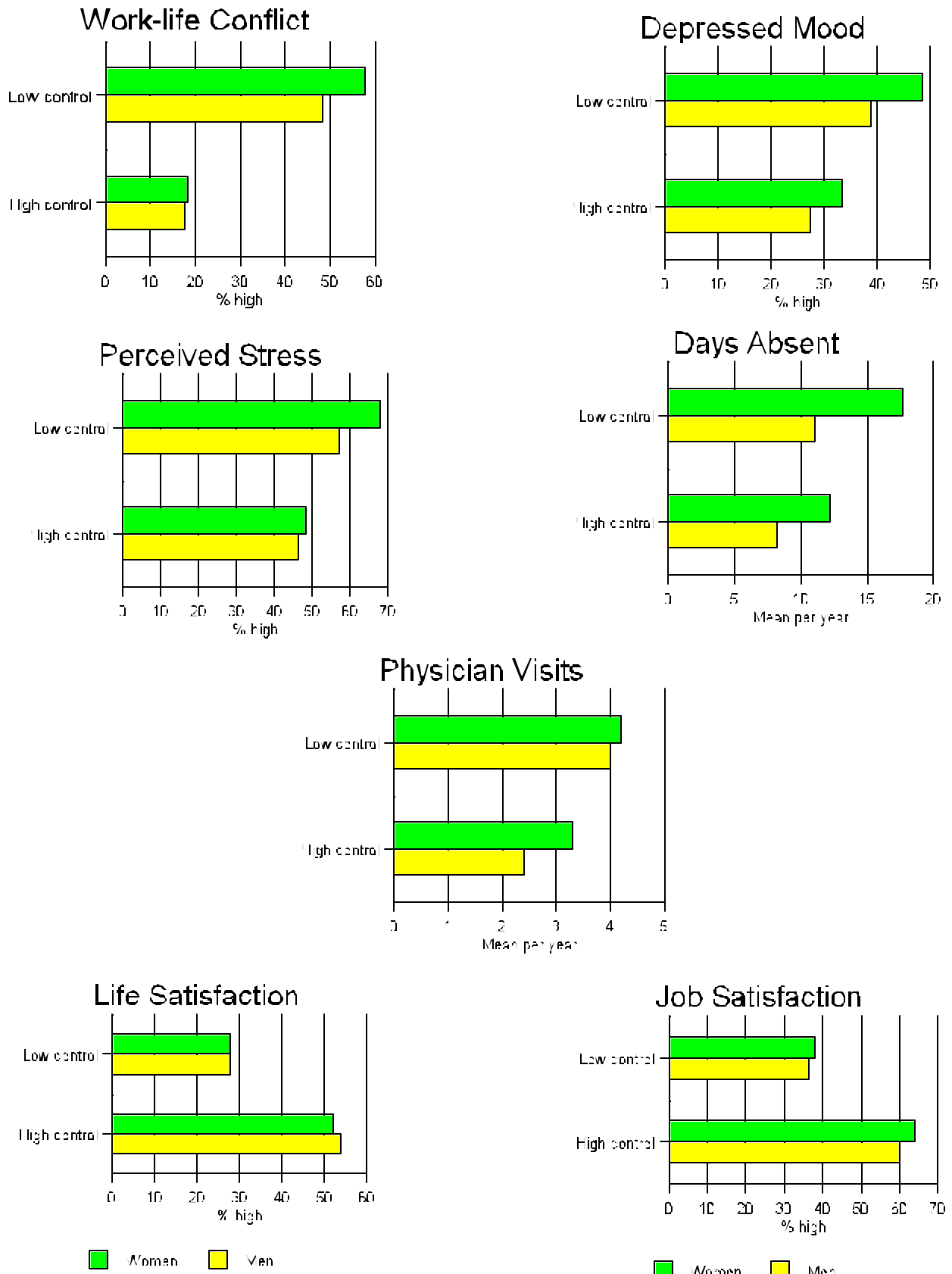


Figure 5 provides support that work-life control can significantly improve work attitudes, behaviours, and perceived well-being among employees with dependants.¹⁴ Higher control over the work-life interface can be seen from this data to be substantially associated with:

- C increased wellness (i.e. lower perceived stress and depressed mood, higher life satisfaction)
- C increased job satisfaction
- C lower use of the Canadian medical system (i.e. decreased number of physician visits), and
- C decreased absence from work

Consistent with their greater responsibility for home and family, women appeared to obtain the greatest benefit through increased control, particularly in terms of work absence and work-life conflict. It is important to note, however, that control led to more favourable individual and work outcomes among *both* men and women. This data, when interpreted in light of our earlier findings that work-life conflict appears to have increased over time for men, supports our contention that work-life conflict is no longer “just a women’s issue.”

6.6 Summary

This section of the report has provided an indication of the prevalence of work-life conflict among Canadian employees, and allowed us to identify groups who may be at particularly high risk for conflict and stress-related illness. The findings suggest that just over one in three employees in Canada suffer from an inability to balance their work and non-work life. Extrapolated to a 1998 workforce of roughly 15.6 million (Statistics Canada, 1999c), this means that work-life conflict may be a problem for as many as 5.5 million Canadian workers.

The findings also identify women as being at particularly high risk for work-life conflict. Consistent with literature which shows that employed women still shoulder the responsibility for the care of home and children, women in these samples reported higher work-life conflict

¹⁴

Note that control led to improvements in all of the outcome measures examined. Only the most salient findings are summarized in Figure 5.

than their male counterparts. Women with children working in professional and managerial occupations, in particular, reported especially high work-life conflict. This data would suggest that the nature of career occupations (e.g., long hours, travel, etc.) and work cultures which expect professionals to give priority to work at the expense of family may be incompatible with work-life balance. It should, however, be noted that in spite of their higher level of work-life conflict, women in professional and managerial work reported lower perceived stress and depressed mood than their non-professional counterparts and fewer absences and physician visits. This data suggests that employees in career occupations may be better able to manage work-life conflict due to autonomy, flexibility and the financial ability to purchase services to help them cope. This pattern, therefore, identifies women in non-professional/non-managerial occupations as being at greatest risk for work-life conflict to develop into more serious stress-related illnesses. It is, however, important to note that this data suggests that work-life conflict is a growing issue for men. This suggests that measures to help “mothers” balance will be addressing only part of the problem.

Finally, analyses of the relationship between work-life conflict and individual and organizational outcomes implicated work-life conflict in the development of a variety of adverse emotional- physical, and work-related outcomes. Control data indicated that increasing control over the work-family interface may be an especially effective means of minimizing these adverse effects.

7. AN ESTIMATE OF THE COST OF WORK-LIFE CONFLICT TO CANADIAN EMPLOYERS AND THE HEALTH CARE SYSTEM

Until now, we have viewed work-life conflict in terms of its considerable human costs, and the associated direct and indirect costs borne by organizations. Work stress and work-life conflict, however, are not problems of individual employees and organizations, but are wider societal problems that are ultimately shared by all players in society (Cooper et al., 1996). This section of the report will take the discussion one step further by attempting to assign a dollar value to the cost of work-life conflict. Specifically, we will estimate two sets of costs; costs to the employer (operationalized as absence from work due to high work-life conflict) and costs to the Canadian health care system (operationalized as physician visits arising from high work-life conflict).

This section is divided into four main sections. The first introduces the socio-economic model used as the rationale for examining the costs of work-life conflict at the national level. Second, a methodology and formula for estimating costs is presented. This methodology is then used to produce estimates of the costs of work-life conflict in terms of two indicators at the national level: work absences and physician visits. These indicators were chosen in order to provide an estimate for each of two economic sectors (the cost of work absences to organizations, and the cost of physician visits to the health care system). The part of the report concludes with a summary and discussion of the limitations of this methodology.

7.1 Model for socio-economic assessment of work-life conflict

The model chosen to illustrate the national cost of work-life conflict is taken from a series of studies on workplace health currently underway in the European Union (Cooper et al., 1996; Levi & Lunde-Jensen, 1996). The researchers involved in this project have been attempting to measure the extent of workplace stress in the European Union, and to estimate its impact across the broader Community. The term, “socio-economic”, refers to the need to calculate the effects of workplace stress for society as a whole, across the economic sectors-

-to include not only individuals and business, but also governments and the broader society¹⁵ (Cooper et al., 1996; Levi & Lunde-Jensen, 1996). A socio-economic perspective on work-life conflict, therefore, addresses the costs of employee stress and ill health at three levels: the employee, the employer, and the broader society and health care system (Figure 6). In this report we focus on costs associated with only two of these three levels (i.e. the employer and broader Canadian society)

Figure 6: Three perspectives on the economic costs of work-related stress (adapted from Cooper et al., 1996)

National

(socioeconomic and health care costs)

Organizational

(financial costs and declining organizational health)

Individual

(loss of welfare)

The above socio-economic perspective suggests that in order to estimate the true cost of workplace stress, we must look not only at the costs incurred by organizations (in terms of lost output due to absence, for example), but also to other societal sectors for the “hidden costs” (Levi & Lunde-Jensen, 1996). In economic terms, hidden costs are referred to as “externalities”: significant costs that are borne by segments of society who are not receiving

¹⁵

Note that we are restricting the analysis at the national level to costs borne by the private sector and by the public health care system. The socio-economic costs of work stress and work-life conflict are far-reaching, however, and extend well beyond these segments of society. These effects may include lost opportunities for further education, involuntary early retirement caused by stress, increased taxation to cover the costs of social support, and a decrement in the standard of living due to reduced productivity (Cooper et al., 1996). The list is virtually limitless, and no attempt was made to explore these very serious, but complex issues.

the benefits (Ibid.). For example, when employers driven by short-run bottom line concerns increase workloads but provide little or no support to their employees (as has been shown to be the case in the Canadian work-life arena - see Section 1.1.4), organizations benefit through increased profits, while somebody else pays. In the case of work-life conflict, it is the employee who pays through distress and illness. So does the Canadian health care system as it foots the bill for the costs of treating stress-related illness.

The following section describes a method of socio-economic assessment used by Levi & Lunde-Jensen (1996) to calculate the estimated cost of work-related stress at the national level, and adapts it to the specific case of work-life conflict.

7.2 Methodology

7.2.1 Selecting variables

Levi & Lunde-Jensen's first step in obtaining data for an economic estimate of work-related stress is to select the stressor and the specific consequences of interest from the wide range of potential health consequences that exist. In the case of work-life conflict, we have already defined the stressor: it is the perception of role overload and work-family interference, and it has been operationalized through a measure of work-life conflict from the empirical literature (refer to Appendix A).

This leaves the question of which health consequences to explore, given the wide range of outcomes described in Section 5. This task is made somewhat easier by the requirement that the economic and health cost data be available on a national level from secondary sources. In other words, the data must exist for such calculations to be performed. As expressed by Cooper et al. (1996), "The problem is... not the lack of economic calculation methods, but the lack of factual material on which to base calculations" (p. 78).

Two health consequences were thus chosen for exploration on the basis that they were available from national labour force and health data. *Days absent from work* was selected as a potential cost of work-life conflict to organizations. The number of *visits to a physician* was chosen as a potential cost to the Canadian health care system. Note that these estimates are

partial and minimalistic, representing only two of many potential costs to the private and public sectors. “Minimalistic” estimates, however, are manageable for calculation purposes, and are comparable to Levi & Lunde-Jensen’s approach to assessing the costs of work stress in general (in which they used only cardiovascular disease as an outcome).

7.2.2 Components of the model and data sources

Following are the basic components of the socio-economic assessment model (Levi & Lunde-Jensen, 1996), and the Canadian data sources used to meet these needs:

- 1) Health and social data are needed from which one can calculate the total number of lost workdays, and the frequency of use of the target health services (in our case, physician visits). Data for the number of lost workdays were obtained from Statistics Canada’s 1997 Labour Force Survey absence data (Akyeampong, 1998). Data for the number of physician visits were obtained from Statistics Canada’s 1996-97 Population Health Survey, 2nd Cycle, and are based on the working age population 15-64 years.
- 2) Basic economic indicators of the economy and health care system are needed in order to assign a value to the average output per worker per day and the average cost of the health care service. Levi & Lunde-Jensen’s approach assumes that the value of work time lost can be measured by the average value of work time in society. The datum selected for this study reflects average earnings of full-time full-year workers for 1996 (\$i.e. \$37,000 per year), the most recent year available (Statistics Canada, 1999d). The value of a physician visit was inferred from the average cost of a consultation with a general practitioner or specialist. This datum was much more difficult to obtain. Since each health care jurisdiction collects its own data, there was little consistency in information available from each jurisdiction. Personal communication with the Canadian Institute for Health Information yielded a national average of roughly \$35 for a medical consultation in 1994, the most recent year for which data were

available. Unfortunately, the estimate was not based on data from all jurisdictions. The figure, therefore, was double checked against separate lists of fees by province. Fees for all provinces ranged from roughly \$25 to \$50 per consultation, so the estimate was considered to be within acceptable limits for the purpose of this calculation. It should be viewed with caution, however, due to the variability in reporting procedures between jurisdictions.

- 3) An estimate of the proportion of sickness occurrence related to the stressor. This component of the model is the greatest challenge. In the context of general work stress, with which the model most frequently has been used, this component requires: (1) an epidemiological estimate of the prevalence of work stress in the general population; and (2) the relative risk of adverse health outcomes associated with work-life stress. Often, neither of these figures is available in national level data¹⁶. This required that these estimates be calculated before proceeding with the cost estimate. To date, we are unaware of any study which has applied the methodology to the specific case of work-life conflict. We therefore, use one of our own datasets (The Saskatchewan data set presented in Section 6) as the basis for these calculations. The procedure for calculating this component of the model is discussed in the next section.

7.2.3 Estimating prevalence, relative risk, and the etiologic fraction

Before proceeding to economic cost estimates, the requirements listed in 7.2.2 must be met. The Saskatchewan dataset was chosen as the basis for estimating prevalence and relative risk at the national level because: (1) a single dataset (i.e., as opposed to merging data from all four studies) was believed to be best able to show links between work-life conflict and health outcomes, as it controlled for confounds due to differences in sampling and data collection time frames; (2) it was our most recent study, so was perhaps most representative of the work-life situation among employees today; and (3) it was composed of employees in

¹⁶

An exception is Statistics Canada who has recently applied this procedure to work strain at the national level. See Wilkins & Beaudet (1998).

a variety of mid to large sized workplaces in a variety of sectors, rather than a single organization. Of course, relying on data from a single province introduces its own problems in terms of generalizability to the broader Canadian population. These limitations will be addressed at the end of this section.

The questions to be answered from the Saskatchewan dataset are:

- (1) What proportion of workers are exposed to the risk factor (in our case, work-life conflict)? This is the *prevalence* question.
- (2) What proportion of the excess sickness occurrence (in our case, absence and physician visits) can be associated with the risk factor? This answers the question of *relative risk*.
- (3) With data on both the exposed population and their excess risk, how much of the total sickness occurrence would *not* have occurred had the risk factor been absent? This expression is referred to as the *etiologic fraction*.

Table 3 provides the Saskatchewan data used to answer these questions for work absences¹⁷. Question 1 (prevalence) was answered by calculating the proportion of the sample who reported high work-life conflict (operationalized as scores of 3.75 or greater on the work-life measure described in Appendix A). The prevalence of high work-life conflict (P) was 35% in this workforce. Prevalence differed according to gender and job type, with women and professional/managerial employees being most likely to experience high conflict.

In order to answer Question 2 (relative risk), a control group of individuals with low levels of work-life conflict was then obtained to determine the excess absence associated with the risk factor. Low work-life conflict was operationalized as scores of 2.25 or lower on the work-life measure described in Appendix A. Workers with high work-life conflict registered 13.2 days of absence per year, compared to only 5.9 days per year in the non-exposed group. This yields a relative risk ratio (RR) of 2.22 (i.e., absence among workers with high work-life

17

Because gender and job type have been shown to be moderators of work-life conflict (see Section 4), Tables 3 and 4 also provide separate data for these categories. These analyses are provided in order to identify high risk groups for work-life conflict and illness, and will not be carried into the national level cost estimates. This level of detail is difficult to obtain from national statistical databases (e.g., average cost of a physician visit for a woman versus a man; daily output calculated on the basis of women's average salary versus men's). Where such data are available, it has been suggested that it is unethical to assign dollar values to sickness occurrence within different groups of society (Levi & Lunde-Jensen, 1996).

conflict was two and one quarter times the level of absence for workers with low work-life conflict).

Table 3: Data for estimating prevalence of work-life conflict and relative risk for work absence: Saskatchewan dataset, 1998 (N = 5,397)

	Exposed group: high work-life conflict	Control group: low work-conflict
Prevalence (P)		
Total	35%	24%
Men	33%	23%
Women	36%	25%
Professional/managerial	41%	20%
Non-professional	30%	27%
Number of days absent*		
Total	13.2	5.94
Men	9.71	4.78
Women	15.85	6.84
Professional/managerial	11.4	5.65
Non-professional	15.21	6.11
Relative risk (RR) (ratio of absence high-conflict group: absence low-conflict group)		
Total	2.22	
Men	2.03	
Women	2.32	
Professional/managerial	2.02	
Non-professional	2.49	
Etiologic fraction $(RR-1) * P / ((RR-1) * P + 1)$		
Total	30%	
Men	25%	
Women	32%	

Professional/managerial	29%
Non-professional	31%

*Days absent includes time lost for all reasons, including illness, family responsibilities, etc.

Once the population at risk is quantified, and their excess risk identified, we can calculate how much of the total absence would not have occurred had the risk factor not been present in the population (Question 3: the etiologic fraction). This is calculated from prevalence (P) and relative risk (RR) with the formula:

$$\text{Etiologic fraction} = (RR - 1) * P / ((RR - 1) * P + 1)$$

If the risk of the exposed group is 2.22 times the risk of the control group, and the prevalence is 35%, then the formula gives $((2.22-1) * .35 / ((2.22-1) * .35) + 1 = 30\%$. Excess absence among employees who worked under conditions of high work-life conflict, therefore, has been quantified as 30%. This fraction varies according to differences in prevalence and relative risk between groups. Gender differences were pronounced: excess absence among women with high work-life conflict was estimated to represent 32% of all women's absences, compared to a figure of 25% for men. There was very little effect of job type (excess absence among both professional/managerial and non-professional employees accounted for roughly 29% to 31% of absences).

Table 4 presents analogous data for physician visits. The etiologic fraction obtained for this outcome was 14% (i.e., excess visits to a physician among employees who worked under conditions of high work-life conflict represented 14% of all physician visits). This fraction was considerably lower than the fraction obtained for work absences (30%). This difference suggests that work-life conflict has a stronger effect on work absence than does physician visits, as would be expected if not all absences are due to illness, and not all illness warrants medical attention. Again, the fraction was higher among women (17%, versus 9% among men). There were no job type differences.

The etiologic fractions calculated from this step of the model can now be applied to economic and cost data at the national level (i.e., components 1 and 2, Section 7.2.2) to attempt to assign a dollar value to the excess costs associated with work-life conflict. Note that only the data for the total sample will be used in this final step, as gender and job type are not included in financial costs estimates (see footnote 11).

Table 4: Data for estimating prevalence of work-life conflict and relative risk for physician visits: Saskatchewan dataset, 1998 (N = 5,397)

	Exposed group: high work-life conflict	Control group: low work-conflict
Prevalence (P)		
Total	35%	24%
Men	33%	23%
Women	36%	25%
Professional/managerial	41%	20%
Non-professional	30%	27%
Number of physician visits		
Total	4.62	3.17
Men	4.14	3.17
Women	4.98	3.17
Professional/managerial	4.07	2.79
Non-professional	5.26	3.36
Relative risk (RR) (ratio of visits high-conflict group: visits low-conflict group)		
Total	1.46	
Men	1.31	
Women	1.57	
Professional/managerial	1.46	
Non-professional	1.57	
Etiologic fraction $(RR-1) * P / ((RR-1) * P + 1)$		
Total	14%	
Men	9%	
Women	17%	

Professional/managerial	16%
Non-professional	15%

*visits to the physician excluded regular check-ups and visits associated with pregnancy

7.2.4 Applying etiologic fraction to national indicators and cost data

Table 5 provides data used to calculate the economic costs of work-life conflict at the national level. The procedure involves using the proportion of excess sickness occurrence obtained in the Saskatchewan sample (the etiologic fraction) as a multiplier for national level data. The results indicate that, in 1997, excess work absence among Canadians working under conditions of high work-life conflict was roughly 19.8 million workdays. At output equal to average earnings of \$135 per day¹⁸, this represents a loss to Canadian organizations of roughly \$2.7 billion dollars. In terms of health care costs, estimated excess physician visits among Canadians working under conditions of high work-life conflict totalled 86.9 million in 1996-1997. At an average cost of \$35 per visit, this represents public health care expenditures of roughly \$425.8 million to treat individuals for problems related to work-life conflict.

Table 5: Estimated economic costs of work-life conflict (work absence and physician visits), Canada*

Factor					
Work absence	Total days lost in Canada	Etiologic fraction	Excess days attributable to work-life conflict	Cost/day	Cost of work-life conflict
	66 million	0.3	19.8 million	\$135	\$2.7 billion
Physician visits	Total number of visits+	Etiologic fraction	Excess visits attributable to work-life conflict	Cost/visit	Cost of work-life conflict
	86.9 million	0.14	12.2 million	\$35	\$425.8 million

*See Section 7.2.2 for data sources for Canada

+Number of physician visits based on working age population 15-64 years.

18

Assuming average annual earnings of \$37,000 (Statistics Canada 1999d).

7.3 Summary

Application of the socio-economic model has provided a glimpse of the potential financial cost of work-life conflict to Canadian organizations and the Canadian health care system. The model suggests that failure to respond to the needs of employees who are experiencing work-life conflict has contributed not only to mounting stress for employees, but also to substantial “hidden” costs to employers and governments. Our estimates suggested that, in 1997, work-life conflict in Canada cost organizations roughly \$2.7 billion in work absences, and the health care system approximately \$425.8 million for physician visits. This data reinforces our contention that employers as well as Canadian society are paying a price for not addressing employees’ needs with respect to work-life balance.

Although no financial estimates were attempted by gender, our data on relative risk indicate that work-life conflict may represent a considerable threat to the health of Canadian women. Consistent with the work-life literature, women in this analysis had a higher level of work-life conflict than did men. What was noteworthy, however, was the extent to which women’s conflict contributed to health outcomes in the estimates. Differences in the prevalence of conflict between women and men (36% among women, versus 33% among men) were significant, but comparatively minor as compared to the differences in their absence levels. Women with high conflict reported one and a half times the number of absences as their male counterparts (15.9 days versus 9.7). In the final calculation, work-life conflict contributed to 32% of all women’s absences, as compared to 25% among men. Given that women shoulder the majority of domestic work (Lero & Johnson, 1994), some of these absences were certainly attributable to dependant care responsibilities (e.g., time lost to care for a sick child or other dependant), and hence, reflect social roles as well as personal illness. However, work-life conflict also accounted for a larger proportion of women’s physician visits than it did men’s (17% for women, versus 9% for men), suggesting a considerable stress-related health risk as well.

7.4 Limitations of the estimates

To our knowledge, these estimates represent the first attempt to assign a dollar value to the costs of work-life conflict at the national level, and as such, are not without their limitations. First, we must again stress that these estimates are minimalistic, representing only one of many potential indicators of the health effects of work-life conflict. For organizations, we used only the direct value of lost work time (i.e., the earnings of the absent employee). This does not, therefore, cover such indirect costs as replacement of the employee during the absence, “learning curves” during the replacement, and reduced productivity. Nor does it cover the cost of employee benefits to help workers cope, such as increased use of employee assistance plans. For the health care sector, we used only the cost of a physician consultation. In 1996, physician services accounted for \$10.7 billion of a \$53 billion public sector health expenditure (Canadian Institute for Health Information, 1999), representing only 20% of total health expenditures by governments. Our estimates, therefore, cannot gauge the contribution of work-life conflict to public expenditures for other services, such as hospital stays, diagnostic procedures, and governments’ share of the costs of drugs to treat stress-related illnesses.

Our estimates are also limited by the sample we used as a basis for calculating our multipliers. Employees in the province of Saskatchewan may not be representative of employees across Canada. Levi & Lunde-Jensen (1996), however, argue that generalizability can be enhanced by comparing estimates to those obtained in other samples. A comparison of the prevalence of work-life conflict in the Saskatchewan sample (40% high) with prevalence in the 1991-92 national sample (36%) and the organization-specific sample (38%) suggests that our estimate is within reason. Our etiologic fractions (i.e., the proportion of excess absence/physician visits associated with work-life conflict) are higher than numbers obtained in the European Community studies. Levi & Lunde-Jensen, in their study of general work stress in Sweden, reported that high strain jobs accounted for 16% of total sickness absence for men, and 24% for women. These stress estimates are lower than our work-life conflict estimates of 25% for men, and 32% for women. Better estimates await further Canadian studies specifically addressing work-life conflict and health outcomes.

Finally, our estimates are also limited by our national-level data sources. Finding appropriate health care information was a considerable challenge. Although both Statistics Canada and the Canadian Institute for Health Information provide excellent health data, it was nearly impossible to find “oranges and oranges”. Large interprovincial differences in payment schedules and classification categories made the costing of physician services extremely difficult. In addition, the number of physician visits obtained from the Population Health Survey included all members of the working age population aged 15-64, not just employed persons. This means that this number may be somewhat overestimated. (On the other hand, reducing the sample to capture only those who were employed during the reference period of the survey would have excluded individuals who were too ill to attend work!) Overall, we believe these to be fair estimates, given the data at hand. Should better data become available, the multipliers obtained in this study should allow recalculation with relative ease.

8. CONCLUSIONS AND RECOMMENDATIONS

Work-life conflict is likely to be a continuing problem as Canada moves into the next millennium. The confluence of globalization, mounting competitive pressures, skills shortages, downsizing, restructuring and rapid technology growth have contributed to an unprecedented rate of organizational change, often without adequate support for the employees most affected by this change (Cooper et al., 1996). Accordingly, heavy work demands, long hours and job insecurity have become widespread features of the workplace (Karasek & Theorell, 1990). Pressures are mounting on the home front as well, as the workforce becomes increasingly diverse, and employees face a “double day” seeing to the needs of the family when their paid work is through.

In the absence of organizational support, most employees have been left to shoulder this burden alone. In the long run, this is not likely sustainable. The national survey data presented in this report (Section 6) suggest that conflicting work and home life pressures already may be taking their toll, as evidenced in high work-life conflict, depressed mood, perceived stress, and growing dissatisfaction with job and life. Although both men and women are feeling the pressures of conflicting work and home demands, work-life conflict has been shown to pose a particular threat to the health and well-being of women, who remain largely responsible for the care of home and family irrespective of their employment status (Lero & Johnson, 1994).

Our economic analyses suggest that these very real, but often intangible, individual consequences also have “hidden costs” which impose financial burdens on employers and governments in the form of work absence and stress-related illness. Although economic analyses are not an ideal solution, and have been criticized for ignoring “grief and suffering” (Levi & Lunde-Jensen, 1996, p. 3), the model used here is still the only model available to assess the unpaid costs to society. It is often only through making hidden costs visible that organizations and policy makers are prompted to action (Cooper et al., 1996). Investment in prevention and health promotion needs to be supported and justified by a convincing business case (Ibid., 1996).

The remainder of this report looks at the potential role of organizations and governments in promoting healthier workplaces and reducing work-life conflict and stress among Canadian employees. The discussion draws on the ecological model presented in Section 2 in order to explore the various points at which prevention or intervention measures may be most effective. The report concludes with suggestions for further research.

8.1 The organization's role in reducing work-life conflict

The findings of this report indicate that Canadian organizations may no longer be able to afford to ignore the issue of work-life conflict. Organizational health extends beyond the profit and loss account (Cooper et al., 1996). Long-term health depends on the organization's ability to sustain increased performance over time. Ultimately, an organization's financial well-being is dependent on the physical, psychological and emotional well-being of its members (Ibid.).

Organizational action to promote the well-being of employees can take one of three forms (Quick et al., 1997). It can be directed at the source of distress (primary prevention); it can be directed at the level of the individual response (secondary prevention); or it can be directed at the level of the outcome (tertiary prevention). In terms of the ecological model presented in Section 2 (see Figure 1), primary prevention efforts can be seen to correspond to action at the level of the stressor. Primary prevention would seek to remove or minimize the stressors within the work environment which generate the distress in the first place (e.g., might reduce the task demands, minimize role ambiguities, give employees more control over when and where they work). Secondary prevention acts at the point of the individual response to existing stressors. Secondary prevention efforts attempt to help the individual manage the stress response (e.g., relaxation training, physical fitness promotion, stress education). Tertiary prevention works on the right hand side of the model, attempting to minimize the distress outcomes which result when organizational stressors and the individual stress response have not been adequately controlled (e.g., counselling, substance abuse programs).

Unfortunately, research suggests that the majority of organizational prevention activities have been at the secondary or tertiary level (Cooper et al., 1996; Karasek & Theorell, 1990).

Those responsible for initiating interventions have generally believed that it is easier to change the individual than to change the organization (Ivancevich, Matteson, Freedman, & Phillips, 1990). This sentiment would appear to be equally true today as many employers restructure, downsize and implement technology with little input from employees. As a result, attempted solutions address symptoms, not causes (Karasek & Theorell, 1990). This is unfortunate, as secondary and tertiary level “lifestyle” interventions, although temporarily beneficial to individuals, have been shown to have little effect in post-treatment follow-ups: it is reported that over 70% of employees who attend such programs revert to their previous habits within one to two years (Ivancevich & Matteson, 1988).

It has been suggested that in order for organizations to make real progress in reducing employee stress and stress-related illness, they will need to stop viewing work conditions and occupational stressors as “problems made by God” (Levi & Lunde-Jensen, 1996, p. 25). Secondary and tertiary interventions implicitly assume that organizations will not change; therefore, individuals must develop their resistance to the inevitable stressors (Cooper et al., 1996). Stress and work-life conflict, however, are not inevitable, but an outcrop of conventional models of work organization which have not changed with the times (Karasek & Theorell, 1990). A sincere effort to improve the well-being of employees starts at the source, with a strategy of primary prevention to minimize or eliminate stressors in the work environment (Cooper et al., 1996).

Organizations have a critical role to play in primary stress prevention: whereas individual employees can mobilize their personal resources to cope as best they can, only organizations have the power to modify the work environment so as to minimize its stress-generating features in the first place (i.e. give employees more flexibility with respect to when and where they work, make work loads more realistic, adopt policies which are supportive of employees’ personal lives/families). In terms of work-life conflict, the ecological model suggests that organizations can introduce primary prevention strategies at two points. They can take action at the point of *work domain stressors* (i.e., minimize the stressors in the work environment); or they can take action at the point of the *modifiers* of the individual’s response (i.e., maximize factors shown to reduce unhealthy stress responses).

8.1.1 Modifying the work domain

Organizations can assume proactive roles in reducing stressors from the work domain through some of the following primary prevention strategies proposed by Elkin & Rosch (1990); Cooper et al.(1996); and Sauter, Murphy & Hurrell, (1990):

- 1) Redesign the task. This method is aimed at improving the person-job fit by restructuring core job dimensions to better suit the individual's skills and interests.
- 2) Redesign the content. This method seeks to offer jobs which can provide meaning and stimulation, including such strategies as job rotation or job enrichment to minimize narrow, fragmented work activities.
- 3) Adjust the work load and work pace. This method alters both physical and mental work demands commensurate with the capabilities and resources of workers, avoiding both underload and overload.
- 4) Redesign the physical work environment. This method minimizes the distressful aspects of the physical environment either by eliminating noise, heat, etc., or by introducing growth-oriented settings, such as fitness centres.
- 5) Encourage career development. This method structures career paths through self-assessment and an analysis of opportunities to reduce individual frustration and improve job and career satisfaction.
- 6) Analyse work roles and establish goals. This method reduces stress through minimizing confusions or ambiguity.
- 7) Share the rewards. This method reduces distress and conflict over expectations by demonstrating clear performance-reward links.
- 8) Define the job's future. This method seeks to avoid ambiguity over matters pertaining to job security. Employees should be clearly informed of imminent organizational developments that may affect their employment.

8.1.2 “Modifying the modifiers”

The ecological model suggests two modifiers of work-life conflict that are amenable to primary prevention strategies: control and social support¹⁹. Karasek’s model (Section 4) and our survey data (Section 6) suggest that increasing employee perceptions of control, in particular, may be a powerful tool for reducing work-life conflict. Following are primary prevention strategies, drawn from Elkin & Rosch (1990); Cooper et al.(1996); Johnson et al. (1997) and Sauter et al. (1990), that may serve to increase employees’ sense of *control* over work and work-life integration.

- 1) Introduce flexible work schedules. Provide schedules such as flextime, compressed work week and job sharing, in order to give employees some control over the coordination of competing work and home demands. Where schedules must involve rotating shifts, the rate of rotation should be stable and predictable.
- 2) Allow employee input into scheduling. Employees are in the best position to know what peak work demands are, and are the only ones to know their non-work needs!
- 3) Offer flexible “cafeteria benefits” programs. Employees who are able to select packages of health benefits can tailor them to their family needs (e.g., employees may prefer dental when children are young, and prefer to switch to RSP contribution plans later in life).
- 4) Encourage participative management. This method increases the amount of discretion and autonomy that individuals have by decentralizing decision making and increasing participation. The individual is able to exert greater control over work and to channel stress-induced energy.
- 5) Provide employees with discretion over their work. Wherever possible, allow employees the opportunity to control the when, where and how of their work tasks. This includes work pace, task assignments, methods of payment, resources used, task

¹⁹

The remainder of the modifiers in Figure 1, such as sex, personality, coping and job type, are either unable to be altered, or involve secondary interventions.

content and goal selection. Help them in this effort so their choices are coordinated with the needs of the organization and other workers.

Following is a list of primary prevention strategies to decrease work-life conflict by increasing *social support* in the workplace:

- 1) Work to change organizational culture. A primary source of conflict is often an organizational culture which values long hours (“face time”) over output, and which encourages rigid traditional career paths. Train employees and managers in diversity and work-life issues. Offer alternatives to hierarchical career paths. Send a strong message from the top that employee health and well-being is valued and critical to the business plan. Then reward it.
- 2) Train managers in supportive behaviours. Supervisors are critical in providing a work atmosphere that is supportive of employees and their needs. Supervisors do not always have the skills required to be effective in recognizing and responding to the signs of distress (both their employees’ distress and their own!) These skills can be taught.
- 3) Train coworkers in work-life issues. Be certain that all employees know how work-life issues affect them and others in their work environment. Where flexible work arrangements are available, make sure that they are implemented and monitored with an eye to their possible effects on the work of others in the workplace.
- 4) Provide opportunities for social interaction. Jobs which allow regular and frequent personal interaction can provide both emotional support and actual help as needed in accomplishing tasks.
- 5) Provide regular and appropriate feedback on work matters. This not only relieves distress by promoting communication and interaction, but also improves subsequent work performance.
- 6) Build formal and informal social mechanisms into the organization. Teams, mentorship programs, rewards ceremonies, and social events provide cohesive forces and opportunities for stress release through social interaction.

Regardless of whether they target the work domain or the modifiers of the distress response, primary prevention strategies seek to tackle stress and work-life conflict at the “front end”. When remedial action occurs at the “back end” of the model (i.e., treating poor health and other distress outcomes), the approach is merely reactive and recuperative rather than proactive and preventative (Cooper et al., 1996). Although treating the symptoms may be easier, identifying the problem at its source can arguably arrest the whole process (Cooper et al., 1996).

8.2 Governments’ role in reducing work-life conflict

Much of today’s work stress and work-related conflict can be attributed to the fundamentals of change, increasingly high workloads, and lack of control over work and work scheduling (Cooper et al., 1996). These stressors, for the most part, are under the purview of individual employers. Although progress in reducing work-life conflict will rely primarily on the cooperation and ingenuity of organizations, unions, and individual workers, governments have a role to play in setting the stage for stress-reduction and health-promotion initiatives.

As information disseminators, governments might want to monitor and publicize work-life issues and labour force changes, and emphasize the links between work-life conflict and health outcomes. Much more research is needed to bring work-life conflict and its risks to the corporate agenda, particularly studies which can evaluate the long-term effectiveness of various intervention and prevention programs. Governments may also want to support workshops, on-line help, conferences and other forums which can promote the sharing of innovative “success stories”.

As legislators, governments play key roles in setting standards for occupational health and safety. The existing mosaic of jurisdictions for worker health (i.e., provincial departments of labour, provincial WCB’s, Human Resources Development Canada, and federally regulated industries covered under the Canada Labour Code) make the task of ensuring uniform national employment standards a particular challenge. More effort might be directed at coordinating the provisions of these various regulatory bodies and providing an umbrella to ensure that work-life issues are recognized.

As facilitators, governments may want to offer incentives to responsible organizations who implement and maintain stress prevention and work-life strategies. A successful example of such an initiative is Alberta's Work Injury Reduction Programme (WIRP), a joint initiative of Alberta Municipal Health and Safety Association, Alberta Labour, and the Workers' Compensation Board (Alberta Municipal Health and Safety Association, 1999). This voluntary program earns employers refunds when they reduce their Workers' Compensation claims through health and safety improvements recommended in an annual audit. The audit focuses not only on operations, facilities, and health and safety information, but also on critical success factors, such as corporate leadership and human resources management. Such a program would have considerable potential to be expanded to include criteria for work-life and diversity initiatives.

Finally, as employers, governments have a responsibility to demonstrate exemplary human resources practices within their own workplaces. Government organizations need to ensure that their own stress reduction and work-life programs serve as models for other Canadian employers.

REFERENCES

- Akyeampong, E. (1997). Work arrangements: 1995 overview. In: Statistics Canada, Perspectives on Labour and Income, Catalogue 75-001XPE, Spring, 48-52.
- Akyeampong, E. (1998). Work absences: New data, new insights. In: Statistics Canada, Perspectives on Labour and Income, Catalogue 75-001XPE, Spring, 16-22.
- Alberta Municipal Health and Safety Association (1999). Partners in injury reduction, <http://www.amhsa.net/PIR.htm>.
- Aryee, S. (1992). Antecedents and outcomes of work-family conflict among married professional women: Evidence from Singapore. Human Relations, 45, 813-837.
- Barnett, R. & Baruch, G. (1983). Adult Daughters' relationships with their mothers, Journal of Marriage and the Family, 45, 601-606.
- Barnett, R. & Baruch, G. (1987). Social roles, gender, and psychological distress, in R. Barnett, L. Biener & G. Baruch (Eds). Gender and Stress, New York: Free Press, 122-143.
- Bedeian, A., Burke, B., & Moffett, R. (1988). Outcomes of work-family conflict among married male and female professionals. Journal of Management, 13, 3, 475-491.
- Betcherman, G., McMullen, K., Leckie, N. & Caron, C. (1996). The Canadian workplace in transition. Kingston: Queen's University, Industrial Relations Centre.
- Bhagat, R., McQuaid, S., Lindholm, H., & Segovis, J. (1985). Total life stress: A multi method validation of the construct and its effects on organizationally valued outcomes and withdrawal behaviours. Journal of Applied Psychology, 70, 1, 202-214.
- Brief, A., Schuler, R., & Van Sell, M. (1981). Managing job stress. Boston: Little, Brown
- Bohen H., & Viveros-Long, A. (1981). Balancing jobs and family life, Temple University Press.
- Bolger, N., DeLongis, A., Kessler, R., & Wethington, E. (1989). The Contagion of Stress Across Multiple Roles, Journal of Marriage and the Family, 51, 175-83.
- Burden, D. & Googins, B. (1987). Boston University balancing job and home life study. Boston: Boston University School of Social Work.
- Bureau of National Affairs (1990). Flexible scheduling for managers and professionals: New work arrangements for the 1990s. Washington, D.C.: Bureau of National Affairs.

Cammann, C., Fichman, M, Jenkins, D & Flesh, H (1979). The Michigan Organizational Assessment Questionnaire, University of Michigan, Ann Arbor, MI.

Canadian Institute for Health Information (1999). National health expenditure trends 1975-1998.

Cannon, W. B. (1929). Bodily changes in pain, hunger, fear and rage. New York: Appleton-Century.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behaviour, 24, 385-396.

Contandriopoulos, D. (1998). How Canada's health care system compares with that of other countries: An overview. In: Health care systems in Canada and elsewhere. Ottawa: National Forum on Health, 175-212.

Cranor, L., Karasek, R., & Carlin, C (1981). Job characteristics and office work: Findings and health implications. Paper presented at the National Institute for Occupational Safety and Health Conference, Cincinnati, Ohio.

Cooper, C., & Davidson, M. (1987). Sources of stress at work and their relation to stressors in non-working environments. In: R. Kalimo, M. El-Batawi, & Cooper, C. (Eds), Psychosocial factors at work and their relation to health, 99-111. Geneva: World Health Organization.

Cooper, C., Liukkonen, P., & Cartwright, S. (1996). Stress prevention in the workplace: Assessing the costs and benefits to organizations. Dublin: European Foundation for the Improvement of Living and Working Conditions.

Cooper, C. & Williams, S. (1994). (Eds). Creating healthy work organizations. Chichester: John Wiley & Sons.

Davison, G., & Neale, J. (1978). Abnormal psychology. New York: John Wiley & Sons.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale, Journal of Personality Assessment, 49, 71-75.

Devereaux, M. (1990). Aging of the Canadian population. In C. McKie & K. Thompson (Eds.) Canadian social trends. Toronto: Thompson Educational Publishing.

Dohrenwend, B. S., Krasnoff, L., Askenasy, A. & Dohrenwend, B.P. (1978). Exemplification of a method for scaling events: The PERI Life Events Scale. Journal of Health and Social Behavior, 19, 205-229.

Drucker, P. (1989). The new realities in government and politics, economics, and business in society and world view. New York: Harper & Row.

Duxbury, L. & Higgins, C. (1991). Gender differences in work-family conflict. Journal of Applied Psychology, 76, 60-74.

Duxbury, L., Higgins, C., Lee, C., & Mills, S. (1991). Balancing work and family: A study of the Canadian Federal Public Sector. Ottawa.

Duxbury, L., & Higgins, C. (1998). Work-life balance in Saskatchewan: Realities and challenges. Saskatoon: Government of Saskatchewan.

Duxbury-Higgins Associates (1997). Unpublished study.

Elkin, A. & Rosch, P. (1990). Promoting mental health at the workplace: The prevention side of stress management. Occupational Medicine. State of the Art Review, 5, 4, 739-754.

Esty, K., Griffin, R. & Schoor Hirsch, M. (1995). Workplace diversity: A manager's guide to solving problems and turning diversity into a competitive advantage. Holbrook, MA: Adams Publishing.

Foot, D. (1996). Boom, Bust & Echo. How to profit from the coming demographic shift. Toronto: Macfarlane Walter & Ross.

Frone, M., Russell, M., & Cooper, M. (1992). Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. Journal of Applied Psychology, 77, 1, 65-78.

Frone, M., Russell, M., & Cooper, M. (1993). Relationship of work-family conflict, gender, and alcohol expectancies to alcohol use/abuse. Journal of Organizational Behavior, 14, 545-558.

Frone, M., Russell, M., & Cooper (1997). Relation of work-family conflict to health outcomes: A four-year longitudinal study of employed parents. Journal of Occupational and Organizational Psychology, 70, 325-335.

Galbraith, J. and Lawler, E. (1993). Challenges to the established order. In J. Galbraith, E. Lawler, and Associates (Eds.), Organizing for the future. The new logic for managing complex organizations. San Francisco: Jossey-Bass, 1-12.

Galinsky, E. (1986). Family life and corporate policies. In: Yogman, M. & Brazelton, T. (Eds.), In support of families. Cambridge, MA: Harvard University Press, 109-145.

- Galinsky, E., Friedman, D., and Hernandez, C. (1991). The corporate reference guide to work-family programs. New York: Families and Work Institute.
- Ganster, D. & Fusilier, M. (1989). Control in the work-place. In C. Cooper & I. Robertson, (Eds.), International review of industrial and organizational psychology, 235-280. London: Wiley.
- Ghalam, N. (1993). Women in the workplace. Ottawa: Statistics Canada. Housing, Family and Social Statistics Division, Catalogue 71-534E.
- Greenhaus, J., & Beutell, N. (1985). Sources of conflict between work and family roles. Academy of Management Journal, 10, 76-88.
- Gutek, B., Searle, S., & Kelpa, L. (1991). Rational versus gender role explanations for work-family conflict. Journal of Applied Psychology, 76, 560-568.
- Health Canada (1999). National health expenditures in Canada, Fact Sheets 1975-1996.
- Higgins, C., Duxbury, L., & Lee, C. (1992). Balancing work and family: A study of Canadian Private Sector Employees. London: Western Business School, University of Western Ontario.
- Higgins, C., Duxbury, L. & Lee, C. (1996). Impact of Life Cycle Stage and Gender on the Ability to Balance Work and Family Responsibilities, Family Relations, 43, 144-150.
- Howard, J., Cunningham, D., & Rechnitzer, P. (1976). Health patterns associated with Type A behavior: A managerial population. Journal of Human Stress, 2, 1, 24-31.
- International Labour Office (1996). Yearbook of labour statistics. Geneva: ILO.
- Ivancevich, J., Matteson, M., Freedman, S., & Phillips, J. (1990). Worksite stress management interventions. American Psychologist, 45, 252-261.
- Ivancevich, J., & Matteson, M. (1988). Promoting the individual's health and well being. In Cooper, C., and Payne, R. (Eds). Causes, coping and consequences of stress at work. Chichester & New York: Wiley & Sons.
- Ivancevich, J., & Matteson, M. (1980). Stress at work. Glenview, IL: Scott, Foresman.
- Jick, T., & Mitz, L. (1985). Sex differences in work stress. Academy of Management Review, 10, 408-420.
- Johnson, K. (1997). A work and family perspective on the effects of shiftwork. Unpublished Masters Thesis. Ottawa: Carleton University.

Johnson, K., Duxbury, L., & Higgins, C. (1997). Making work and lifestyle initiatives work: Beyond best practices. Ottawa: Industry Canada.

Johnston, W. and Packer, A. (1987). Workforce 2000: Work and workers for the 21st century. Indianapolis: Hudson Institute.

Kahn, R. (1964). Role conflict and ambiguity in organizations. Personnel Administrator, 9, 8-13.

Kahn, R., Wolfe, D., Quinn, R., Snoek, J., & Rosenthal, R. (1964). Organizational stress: Studies in role conflict and ambiguity. New York: John Wiley and Sons.

Karasek, R. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. Administrative Science Quarterly, 29, 285-308.

Karasek, R., Gardell, B., & Lindell, J. (1987). Work and non-work correlates of illness and behaviour in male and female Swedish white collar workers. Journal of Occupational Behaviour, 8, 187-207.

Karasek, R., & Theorell, T. (1990) Healthy work. Stress, productivity, and the reconstruction of working life. New York: Basic.

Katz, M. & Piotrkowski, C. (1983). Correlates of family role strain among employed black women. Family Relations, 32, 331-339.

Kochan, T. and McKersie, R. (1992). Human resources, organizational governance, and public policy: Lessons from a decade of experimentation. In T. Kochan and M. Useem (Eds.), Transforming organizations. New York: Oxford, 3-14.

Kompier, M., & Levi, L. (1995). Stress at work: Causes, effects and prevention. Dublin: European Foundation for the Improvement of Living and Working Conditions.

Lazarus, R., & Folkman, S. (1984). Stress, appraisal and coping. New York: Springer.

Lero, D., Brockman, L., Pence, A., Goelman, H. and Johnson, K. (1993). Workplace benefits and flexibility: A perspective on parents' experiences. Ottawa: Statistics Canada. Catalogue 89-530E.

Lero, D., Goelman, H., Pence, A., Brockman, L., & Nuttall, S. (1992). Parental work patterns and child care needs. Ottawa: Statistics Canada, Catalogue 89-529E.

Lero, D. and Johnson, K. (1994). 110 Canadian statistics on work and family. Ottawa: Canadian Advisory Council on the Status of Women.

Levi, L., & Lunde-Jensen, P. (1996). A model for assessing the costs of stressors at the national level. Socio-economic costs of work stress in two EU member states. Dublin: European Foundation for the Improvement of Living and Working Conditions.

MacBride-King, J. (1990). Work and family: Employment challenge of the '90s. Ottawa: Conference Board of Canada.

Maslach, C. (1978). The client role in staff burnout. Journal of Social Issues, 34, 111-124.

Maslach, C. & Jackson, S. (1986). The Maslach Burnout Inventory. Palo Alto: Consulting Psychologists Press.

Matteson, M., & Ivancevich, J. (1987). Controlling work stress. Effective human resource and management strategies. San Francisco: Jossey-Bass.

May, K. (1987). Absenteeism costs firms millions annually. Ottawa: The Ottawa Citizen, October 26.

McCubbin, H., Joy, C., Cauble, E., Comeau, J., Patterson, J., & Needle, R. (1980). Family stress and coping: A decade review. Journal of Marriage and the Family, November, 855-871.

Mohrman, S., Cohen, S. & Mohrman, A. (1995). Designing team-based organizations: New forms for knowledge work. San Francisco: Jossey-Bass.

Moore, M. (1990). Dual-earner families. The new norm. In C. McKie & K. Thompson (Eds.) Canadian social trends. Toronto: Thompson Educational Publishing.

Moore, R., Mao, Y., Zhang, J., & Clarke, K. (1997). Economic burden of illness in Canada. Ottawa: Health Canada, Health Protection Branch, Laboratory Centre for Disease Control.

Moos, R. H., Cronkite, R. C., Billings, A. G., & Finney, J. W. (1988). Health and Daily Living Form Manual, Social Ecology Laboratory, Department of Psychiatry, Stanford University.

Morgan, H. and Milliken, F. (1993). Keys to action: Understanding differences in organizations' responsiveness to work-and-family issues. Human Resource Management, 31, 3, 227-248.

Mowday, R., Steers, R., & Porter, L. (1979). The measurement of organizational commitment. Journal of Vocational Behaviour, 14, 224-247.

Mowday, R., Porter, L., & Steers, R. (1982). Employee-organization linkages. San Diego: Academic Press.

National Forum on Health (1996). Maintaining a national health care system: A question of principles... and money. Ottawa: National Forum on Health.

National Institute for Health Information (1998). National health expenditure trends, 1975-1998.

Nock, S. & Kingston, P. (1988). Time with children: The impact of couples' work time commitments. Social Forces, 67, 1, 59-85.

O'Neil, R. & Greenberger, E. (1994). Patterns of commitment to work and parenting: Implications of role strain, Journal of Marriage and the Family, 56, 101-112.

Orthner, D., & Pittman, J. (1986). Family contributions to work commitment. Journal of Marriage and the Family, August, 573-581.

Paris, H. (1989). The corporate response to workers with family responsibilities. Ottawa: Conference Board of Canada.

Pearlin, L., Lieberman, M., Menaghan, E., & Mullan, J. (1981). The stress process. Journal of Health and Social Behavior, 22, 337-356.

Pleck, 1983, cited in Galinsky, E. (1986). Family life and corporate policies. In: Yogman, M. & Brazelton, T. (Eds.), In support of families. Cambridge, MA: Harvard University Press, 109-145.

Quick, J., Nelson, D., & Hurrell, J. Jr. (1997). Preventive stress management in organizations. Washington, D.C.: American Psychological Association.

Quinn, R., & Staines, G. (1979). The 1977 quality of employment survey, Institute for Social Research, University of Michigan, Ann Arbor, MI.

Rapoport, R., & Rapoport, R. N. (1976). Dual-career families re-examined. New York: Harper-Row.

Rexroat, C. & Shehan, C. (1987). The Family Life Cycle and Spouse Time in Housework, Journal of Marriage and the Family, 49, 737-750.

Rice, R., Frone, R., & McFarlin, D. (1992). Work-nonwork conflict and the perceived quality of life. Journal of Organizational Behavior, 13, 155-168.

Rizzo, J, House, R. & Lirtzman, S. (1970). Role conflict and ambiguity in complex organizations, Administrative Sciences Quarterly, 15, 150-163.

Rodgers, F. and Rodgers, C. (1989). Business and the facts of family life. Harvard Business Review, 67, 121-129.

Robbins, S. (1993). Organizational behavior. New Jersey: Prentice Hall.

Sauter, S., Murphy, L., & Hurrell, J. (1990). A national strategy for the prevention of work related psychological disorders. American Psychologist, 45, 1146-1158.

Seligman, M. (1974). Depression and learned helplessness. In R. Friedman & M. Katz (Eds.). The psychology of depression: Contemporary theory and research. Washington, D.C.: Winston-Wiley.

Selye, H. (1976a). Stress in health and disease. Boston: Butterworth.

Selye, H. (1976b). The stress of life. New York: McGraw-Hill.

Statistics Canada (1995). Women in Canada: A Statistical Report, Catalogue 89-503E

Statistics Canada (1999a). National Population Health Survey, 1996-97, 2nd Cycle.

Statistics Canada (1999b). Catalogue 84-210-XPB.

Statistics Canada (1999c). CANSIM Matrices 3742-3482.

Statistics Canada (1999d). Catalogue 13-217-XPB.

Statistics Canada (1997a). CANSIM Matrix 6367.

Statistics Canada (1997b). Historical labour force statistics. Ottawa: Statistics Canada, Catalogue 71-201.

Statistics Canada (1997c). Labour force annual averages. Ottawa: Statistics Canada, Catalogue 71-529.

Statistics Canada (1997d). Characteristics of dual-earner families. Ottawa: Statistics Canada, Catalogue 13-215-XPB.

Statistics Canada (1997e). 1996 Census: Marital status, common-law unions and families. The Daily, Tuesday, October 14.

Statistics Canada (1997f). Labour Force Update: Hours of Work. Ottawa: Statistics Canada, Catalogue 71-005-XPB.

Statistics Canada (1994). Health status of Canadians: Report of the 1991 General Social Survey. Ottawa: Statistics Canada Housing, Family, and Social Statistics Division, Catalogue 11-612E, no. 8.

Steers, R. & Rhodes, S. (1978). Major influences on employee attendance: A process model. Journal of Applied Psychology, 63, 391-407.

Thomas, L. & Ganster, D. (1995). Impact of family-supportive work variables on work-family conflict and strain: A control perspective. Journal of Applied Psychology, 80, 6-15.

Towers Perrin & Hudson Institute (1991). Workforce 2000. Competing in a seller's market: Is Canadian management prepared, Indianapolis: Hudson Institute.

Vanderkolk, B. & Young, A. (1991). The work and family revolution: How companies can keep employees happy and business profitable. New York: Facts on File, Inc.

Voydanoff, P. (1988). Work role characteristics, family structure demands, and work-family conflict. Journal of Marriage and the Family, August, 749-761.

Webb, G., Redman, S., Hennrikus, D., Kelman, G., Gibberd, R., & Sanson, F. (1994). The relationships between high-risk and problem drinking and the occurrence of work injuries and related absences. Journal of Studies on Alcohol, 55, 434-446.

Whitlock, F., Stoll, J., & Rekh Dahl, R. (1977). Crisis, life events and accidents. Australian and New Zealand Journal of Psychiatry, 11, 127.

Wilkins, K., & Beaudet, M. (1998). Work stress and health. Health Reports, 10, 3, 47-62, Statistics Canada, Catalogue 82-003.

Williams, K., & Alliger, G. (1994). Role stressors, mood spillover, and perceptions of work-family conflict in employed parents. Academy of Management Journal, 37, 4, 837-868.

APPENDIX A

MEASURES

Definition and Measurement of Constructs Used in This Analysis

Work-Family Outcomes

Work-family conflict is a form of interrole conflict in which the role pressures from the work and family domains are mutually incompatible in some respect. Participation in the work (or family) role is, therefore, made more difficult by virtue of participation in the family (or work) role. The cumulative demands of multiple roles can result in role strain of two types: overload and interference. Overload exists when the total demands on time and energy associated with the prescribed activities of multiple roles are too great to perform the roles adequately or comfortably. Role interference occurs when conflicting demands make it more difficult to fulfill the requirements of multiple roles.

Overload was assessed using a version of the scale developed by Bohlen and Viveros-Long (1981) to measure the impact of flextime programs on reducing work-family stress. The scale enables employed persons to indicate on a Likert format how often they feel strains of various kinds related to time for job and time for family. High scores indicate greater conflict between work and family. Duxbury and Higgins (1998) report a Cronbach's Alpha co-efficient of 0.88.

Interference from work to family was assessed by means of a 5-item Likert type scale developed by Gutek, Searle and Kelpa (1991). High scores indicate higher levels of perceived interference. Duxbury and Higgins (1998) report that the interference from work to family measure has a Cronbach's Alpha co-efficient of 0.87.

Perceived Work-Family Control: Control is defined as the belief that one can exert some influence over the environment, either directly or indirectly, so that the environment becomes more rewarding or less threatening (Thomas and Ganster, 1995). Perceptions of control are believed to lessen the stress of exposure to threatening events. Perceived control over work and family pressures was assessed using a modified version of a 14 item scale developed by Thomas and Ganster (1995). This scale allows respondents to indicate on a 1 to 5 likert scale the extent to which they have control over various aspects of work and family like (e.g. the ability to choose vacation days, the ability to find care for a sick child, the ability to get help with elder care). Cronbach's alpha coefficient for the modified scale was 0.73 (Duxbury and Higgins, 1998)

Work Outcomes

Organizational commitment refers to loyalty to the employing organization. Mowday, Steers and Porter (1979) indicate that commitment is characterized by three factors: acceptance of the organization's values; willingness to exert effort on behalf of the organization; and a strong desire to remain an employee of the organization. The nine-item short form of the Job Commitment Scale developed by Mowday et al. (1979) was used in this study to measure commitment. A 5-point Likert-type scale (1 indicating strongly disagree, 5 indicating strongly agree) was used for all items. The scale score is the summed average of the item scores. High scores indicate greater commitment to the organization. Duxbury and Higgins (1998) report a Cronbach's alpha co-efficient for this measure of 0.92.

Job Satisfaction is the degree to which employees have a positive affective orientation toward employment. The "facet-specific" measure of satisfaction developed by Quinn and Staines (1979) was used in this study. Employees indicate how satisfied they are with their jobs in general, their pay, their work hours, their work schedule and their work tasks on a scale of 1 (very dissatisfied) to 5 (very satisfied). Job satisfaction is calculated as the summed average of item scores. High scores represent high job satisfaction. An immense amount of work by the Survey Research Centre of the University of Michigan went into the development of this scale. Duxbury and Higgins (1998) report a Cronbach's alpha of 0.88 for this measure.

Job stress was assessed using the Job Tension subscale of Rizzo, House and Lirtzman (1970) Work Stress Scale. The authors describe this scale as a measure of "the existence of tensions and pressures growing out of job requirements including the possible outcomes in terms of feelings or physical symptoms" (p. 481). A 5-point Likert scale (1 indicating strongly disagree, 5 indicating strongly agree) is used. High scores indicate high job tension. Duxbury and Higgins (1998) report a Cronbach's alpha of 0.79.

Intent to Turnover is defined as an individual's desire to not continue to be an organizational member. It is measured using a three question scale from the Michigan Organizational Assessment Questionnaire (Cammann, Fichman, Jenkins, & Flesh, 1979). The first two items (I will probably look for a new job in the next year, and I often think about quitting) are answered using a five point Likert type scale with 1 indicating strong disagreement through 5 indicating strong agreement. The third question (How likely is it that you will be able to find a job with another employer with about the same pay and benefits you now have?) was answered using a five point Likert type scale with 1 indicating highly unlikely through 5 indicating highly likely. The scale score is the summed average of the three items. High scores indicate greater intent to turnover. Duxbury and Higgins (1998) obtained a Cronbach's alpha of 0.83 for this measure.

Absenteeism: The measure used in this study is a modification of the measure used in the Health and Daily Living Form (Moos, Cronkite, Billings & Finney, 1988) to assess absenteeism. Respondents were asked the following: "During the last 3 months have you been unable to work or carry out your usual activities because:

- a. Of health problems?
- b. Of family or personal problems?
- c. You were emotionally or mentally fatigued?"

Total Absence is the sum of items a, b and c. Only item "a" was used by Moos et al. in 1988. Our modifications make this measure more relevant to today's dual-income employee.

Individual Outcomes

Stress was measured by means of the Perceived Stress Scale (PSS; Cohen, Kamarck & Mermelstein, 1983). The PSS was designed to assess appraisals of the extent to which one's current life situation is unpredictable, uncontrollable and burdensome. Respondents answer the PSS by indicating on a 5-point Likert-type scale the frequency within the last month that they have experienced various stressful feelings. Higher scores on this measure indicate greater levels of perceived stress. Duxbury and Higgins (1998) report a Cronbach's alpha co-efficient of 0.87.

Life Satisfaction was measured using the Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen & Griffin, 1985). The SWLS was designed to measure the respondent's global life satisfaction. The SWLS is a Likert-type scale on which respondents indicate the extent to which they agree with 5 statements describing their present state. Higher scores indicate greater levels of life satisfaction. Duxbury and Higgins (1998) report a Cronbach's alpha co-efficient of 0.87.

Depressed Mood was measured using a scale developed by Moos, Cronkite, Billings and Finney (1988). This construct is defined as a state characterized by low affect and energy, and persistent feelings of helplessness and hopelessness. High scores indicate higher levels of depressive symptomology. Moos et al. report Cronbach's alpha co-efficients ranging from 0.67 to 0.73. Duxbury and Higgins (1998) report a Cronbach's alpha of 0.76.

Burnout: Burnout is a newly defined concept in the realm of psychological stress that has recently gained extensive attention as a separate strain. Burnout as defined here is a state of physical, emotional and mental exhaustion which is often found in those who have involvement with people in emotionally demanding situations. Chronic daily stresses rather than unique critical life events are regarded as central factors in producing burnout. At severe levels, burnout overlaps with symptoms of depression. Such situations are prevalent particularly in the human services professions and also in public service and managerial

positions where clients and employees impose constant demands for attention. Burnout was operationalized in this study through the use of the Burnout Inventory developed by Maslach and Jackson (1986). High scores indicate high burnout. Maslach and Jackson report Cronbach's alpha co-efficients ranging from 0.79 to 0.83. Duxbury and Higgins (1998) report a Cronbach's alpha of 0.80.

Physical Health: Two items were used to measure physical health in this analysis: Perceived physical health, and physician visits.

- C Perceived Physical Health was assessed using a single measure developed by Moos, Cronkite, Billings and Finney (1988) which asks respondents to rate their perception of their overall level of health on a 1 to 5 scale. Higher scores indicate better health.
- C Physician Visits: This item was operationalized using a measure from the Health and Daily Living Form (HDL) developed by Moos et al. (1998). Respondents were asked: "Not counting check-ups and maternity visits, how many times during the last 12 months have you seen a physician."