CAREGIVING, GENDER, AND ROLE INTERFERENCE

by

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ABSTRACT

This thesis examines the relationship between caregiving and gender and the two components of role interference (RI), namely, work interferes with family (WIF) and family interferes with work (FIW). This is an important issue because RI has a significant negative impact on the mental and physical health of employees, which inevitably leads to adverse organizational consequences, such as increased absenteeism and lower productivity.

A comprehensive literature review of RI and caregiving that encompasses both organizational behaviour and gerontology is provided. Based on the literature review and insights from four theoretical perspectives, a theoretical framework is generated that relates care group and gender to WIF and FIW. This theoretical framework is augmented by a set of work and family variables designed to control for extraneous influences.

The data used in the empirical work is drawn from a survey of full-time employees working for 40 medium- and large-scale organizations in the province of Saskatchewan (Duxbury & Higgins, 1998). Companies were selected for this survey in such a way that the sample was representative with respect to company size (excluding small business) and sector.

The theoretical framework is evaluated using a regression methodology. Relative importance analysis is also used to estimate the relative contribution of each explanatory variable. Finally, the empirical model is used to test a number of interesting research hypotheses.

Overall, the theoretical framework appears to have considerable utility. In particular, the inclusion of the set of work and family variables makes a very substantial contribution to the explanation of WIF and FIW. Interestingly, the work variables are by far the dominant factor determining WIF. The work variables also play a very significant role in

the explanation of FIW, although FIW appears to be a rather more complex phenomenon than WIF. Controlling for gender and the set of work and family variables, the child care group and the sandwich group experienced significantly higher WIF and FIW than the elder care group and the no-care group. Controlling for care group and the set of work and family variables, there was no gender difference in WIF and FIW.

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1. INTRODUCTION

This thesis examines the phenomenon of role interference (RI) and how it relates to caregiving responsibilities and gender.

RI can be broadly defined as the distress that occurs when conflicting demands make it difficult for employees to fulfill the requirements of work and family (Duxbury & Higgins, 1994).¹ It is now generally believed to consist of two distinct constructs, namely, work interferes with family (WIF) and family interferes with work (FIW).

RI is an important issue for business research because it can have a demonstrably negative impact on the emotional and physical health of individual employees and may also have a detrimental effect on the efficiency of the workplace (Brody et al., 1987; Frone et al., 1997a; Galinsky et al., 1996; Gottlieb et al., 1994; Scharlach & Boyd, 1989). Moreover, its overall importance will likely increase over time as: 1) the dual-income family becomes more and more entrenched as the dominant family form; 2) family demands increase as both the proportion of the elderly in the population and the proportion of the elderly requiring care steadily rises; and 3) the role of women in

¹ It should be noted that all references to “work” in this thesis refer to paid work unless specifically indicated otherwise.

society continues to evolve (Doress-Worters, 1994; Gorey et al., 1992; National Advisory Council on Aging, 1996).

Previous research in this area has tended to focus more or less exclusively on the problem of RI for employees with child care responsibilities. In particular, relatively little attention has been devoted to the problem of RI for employees with elder care responsibilities or indeed for those with both child care and elder care responsibilities, dubbed the “sandwich group” (Doress-Worters, 1994; Dumas & Belanger, 1994; Miller, 1981). This emphasis reflects the fact that elder care issues were not so prevalent for employees in the past.

The primary goals of the thesis were to gain a better understanding of RI, to try to identify those groups of employees most at risk, and to throw some light on how RI might be addressed and alleviated most effectively by the development of appropriately crafted workplace interventions and policies. More specifically, there were two key research objectives:

Research Objective 1.

The first research objective was to provide a comprehensive literature review of RI and caregiving that encompasses both organizational behaviour and gerontology.

This synthesis was necessary because the two literatures have focused almost exclusively on different aspects of caregiving responsibilities. The organizational behaviour literature has focused on the issues facing child caregivers, while the gerontology literature has focused on elder care recipients (although more recently it has begun to consider the problems of elder caregivers). Indeed, to date, very little research in either literature has specifically addressed the problem of RI and its two components, WIF and FIW. Thus, the provision of a careful review and integration of the two literatures with respect to RI and caregiving represents a significant contribution to knowledge.

Research Objective 2.

The second research objective was to generate and then evaluate a theoretical framework describing how care group and gender relate to WIF and FIW.

The theoretical framework was generated on the basis of the best information available from the literature review, together with insights from four theoretical perspectives (Multiple Role Theory, Gender Role Theory, Perceived Control, and the Application of Gender Role Theory to Perceived Control). An empirical analysis was then carried out using regression methodology. The conclusions drawn from the analysis were useful in throwing light on organizational behavioural theory, providing policy recommendations for employees, employers, and the government, and suggesting directions for future research.

The organization of the thesis is as follows: Chapter 2 provides a comprehensive literature review. Chapter 3 presents the theoretical framework for the empirical work, together with a list of research hypotheses. Chapter 4 outlines the methodology and the data analysis. Chapter 5 presents the empirical results and discussion. Finally, Chapter 6 provides conclusions, implications, and recommendations.

2. LITERATURE REVIEW

The literature review is divided into nine sections. Section 2.1 examines the nature of RI and explains why it is now generally believed to consist of two distinct constructs, WIF and FIW. Section 2.2 outlines why the issue of RI is so important to employees and employers and why it needs to be continually revisited as work practices and attitudes towards work and family change over time. Section 2.3 discusses the nature of caregiving in general. Section 2.4 looks at the relationship between care group and the two components of RI. A critique of the current literature in this area is also included in this section. Section 2.5 looks at the relationship between gender and the two components of RI. A critique of the current literature in this area is also included in this section. Section 2.6 introduces four theoretical perspectives from the field of organizational behaviour and outlines their implications for the study of RI. Section 2.7 presents a set of predictions for WIF and FIW by care group and gender based on a review of available theory and empirical evidence. Section 2.8 considers other variables that may influence WIF and FIW. Finally, Section 2.9 provides some concluding remarks.

Before proceeding, however, it should be stressed that the literature pertaining to RI *per se* is often quite sparse. Consequently, throughout this literature review it will often be necessary to make reference to and extrapolate from the cognate literature pertaining to a number of concepts that appear to be closely related to RI including: caregiving strain,

role overload, strain, stress, work-family balance, and work-family conflict. For the convenience of the reader, these terms will now be briefly defined:

- Caregiving strain is the degree to which an individual perceives that they have experienced physical, financial, or emotional strain as the result of shouldering caregiving responsibilities (Fredriksen & Scharlach, 1999).
- Role overload occurs when the demands on an individual's time and energy associated with multiple roles are too great for them to perform these roles adequately or comfortably (Duxbury et al., 1992).
- Strain occurs when demands are high, but the ability to act (or control) is low. Strain is an unhealthy state that can lead to fatigue, anxiety, depression, and negative somatic symptoms (Karasek, 1989).
- Stress relates to an individual being in an alerted state of arousal that prepares the individual to respond to high demands (Karasek, 1989).
- Work-family balance refers to the positive ability to balance both work and family responsibilities. It has recently been defined as "satisfaction and good functioning at work and at home with a minimum of role conflict" (Clark, 2001, p. 349).
- Work-family conflict (WFC), the opposite of work-family balance, includes the two constructs that are the focus of the thesis, namely, work interferes with family (WIF) and family interferes with work (FIW), as well as role overload (Duxbury & Higgins, 1994). Greenhaus and Beutell (1985) have defined WFC as

“a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect” (p. 77).

2.1 THE NATURE OF RI

This section begins with a discussion of the concept and theoretical basis of RI and then moves on to outline why RI is now generally believed to consist of two distinct constructs, namely, WIF and FIW.

2.1.1 CONCEPT AND THEORETICAL BASIS

The concept of RI grew out of the idea that as women acquired the role of employee, in addition to their traditional role of mother and housekeeper, it would be more difficult for them to balance their responsibilities (Barling, 1990; Barnett & Baruch, 1987a; Gutek et al., 1988; White & Hatcher, 1984). In particular, it was feared that the attempt to reconcile these roles would lead to situations in which women's work would impinge upon their family responsibilities and/or their family responsibilities would impinge upon their work. This concept of a conflict between the family and work domains for women was then extended to men.

The theoretical basis for RI was grounded in the work of Greenhaus and Beutell (1985) and Piotrkowski (1979). These authors conceived of RI as being the result of two different aspects of the interaction of work and family: 1) time conflict and 2) psychological carryover.

Time conflict occurs because work and family roles are generally performed in different locations so that when functioning in one role the individual is physically unavailable to function in the other. Thus, time spent in one role reduces the time available to spend in the other role so that long hours devoted to work prevent performance of family responsibilities and vice versa.

Psychological carryover, on the other hand, was seen to occur when experiences in one role carried over to the other role. According to this view, the individual may need to rest up mentally or physically from one role in order to recover from and prepare for the other role. For example, an employee may be too stressed, having arrived home, to participate fully in family life. Alternatively, an employee may worry while at work about family responsibilities or be too tired to concentrate on their work. In this way, although the employee is physically available to deal with the demands of another role, he or she may be too preoccupied or stressed to participate fully. This phenomenon is often described as “negative spillover”. Williams and Alliger (1994) found evidence to support the concept of negative spillover when they found that the spillover of unpleasant moods occurred both from work to family and from family to work.

2.1.2 TWO DISTINCT CONSTRUCTS: WIF AND FIW

During the 1980's, the majority of researchers in the field of work and family tended to think of the concept of RI in terms of a single construct (Cooke & Rousseau, 1984;

Kopelman et al., 1983; Voydanoff, 1987; Wiley, 1987). Some researchers, however, argued that RI was probably better thought of as comprising two closely related, but distinct, constructs, namely, work interferes with family (WIF) and family interferes with work (FIW) (Greenhaus & Russell, 1983; Gutek et al., 1981); WIF reflecting the impact of work on family and FIW reflecting the impact of family on work. This latter view, that RI consists of two distinct constructs, has now come to be generally accepted in the literature (Allen et al., 2000; Carlson et al., 2000; Frone et al., 1992a; Kossek & Ozeki, 1998; Netemeyer et al., 1996), with many researchers viewing the influential paper by Gutek et al. (1991), and especially the separate scales that they developed for the measurement of WIF and FIW, as being pivotal in this regard.

There are three major reasons why the idea that RI consists of two distinct constructs rather than a single construct has prevailed:

- 1) WIF seems to be most strongly associated with the domain of work, while FIW seems to be most strongly associated with the domain of family.
- 2) Using Factor Analysis, the items that comprise WIF and FIW scales tend to load up on two separate factors, which suggests that the two measures represent distinct constructs (Frone & Yardley, 1996; Gutek et al., 1991).
- 3) Employees who experience high WIF may be a different population from employees who experience high FIW.

The first and third of these reasons are discussed further below.

WIF and FIW seem to be associated most strongly with variables from different domains. Frone et al. (1992a) observed that work stressors appear to affect WIF more than family stressors and family stressors appear to affect FIW more than work stressors. For example, with respect to studies focusing on child care, higher hours of work have been found to be associated with higher WIF, but not with higher FIW (Gutek et al., 1991; Netemeyer et al., 1996; O'Driscoll et al., 1992). Higher hours of family work, on the other hand, have been found to be associated with higher FIW, but not with higher WIF (Gutek et al., 1991).² This pattern is somewhat supported with respect to elder care studies. For example, Gignac et al. (1996) found that, for female elder caregivers, having a greater number of elder care tasks was associated with higher FIW, but not with higher WIF. For male elder caregivers, however, there was no relationship between the number of caregiving tasks and either WIF or FIW.

This tendency for within-domain relationships also appears to apply to positive and negative feelings about work. For example, WIF was found both to be more (negatively) associated with the positive feeling of job satisfaction (Adams et al., 1996; Judge et al., 1994; Kossek & Ozeki, 1998; Netemeyer et al. 1996) and to be more (positively) associated with the negative feeling of job stress (Frone et al., 1992a; Judge et al., 1994;

² Hours of family work is defined as the sum of hours of caregiving and hours of home chores.

Netemeyer et al. 1996) than was FIW. In addition, negative feelings outside of work such as family distress have been found to be more associated with FIW than with WIF (Frone et al., 1992a).

Turning now to the suggestion that those who suffer from high levels of WIF may be a different population from those who suffer from high levels of FIW, the following argument is put forward: Individuals only have a limited total number of hours to divide between work and family. It follows, therefore, that those who spend more hours in one domain must spend fewer hours in the other. As Gutek et al. (1991) and Frone et al. (1997b) discovered, those who spent more hours in family work, spent fewer hours in paid work and vice versa. This fact makes it hard for researchers to interpret data collected using a single measure that combines WIF and FIW together in a single entity as a high score could represent either: 1) very high family demands and very low work demands; or 2) a moderate level of demands in both areas; or 3) very low family demands and very high work demands. These various scenarios would represent very different groups of people who are exposed to different stressors with different outcomes.

2.2 WHY STUDY RI?

The study of RI is important for a number of reasons. Firstly, RI has significant negative consequences for employee well-being and the bottom line. As such it is important to understand how RI can be minimized. Secondly, the prevalence of RI is likely to

increase in the future as the result of ongoing demographic change, thus increasing the importance of learning how to manage RI. Thirdly, the nature of RI itself is constantly evolving as society's attitudes towards work and family keep changing. This suggests that much of the research done on RI in the past may be becoming less relevant over time. Fourthly, changing technology may encourage new work practices that can lead to higher RI. Literature supporting each of these assertions is discussed below.

2.2.1 SIGNIFICANT NEGATIVE CONSEQUENCES FOR EMPLOYEE WELL-BEING AND THE BOTTOM LINE

RI has significant negative consequences for employee well-being, where the concept of "well-being" can be defined as encompassing both physical well-being and psychological well-being. Psychological well-being embraces the following three dimensions: 1) the subjective belief that one is happy; 2) the tendency to experience positive rather than negative emotions; and 3) the global evaluation that one's life is satisfactory (Wright & Cropanzano, 2000). These negative consequences for employee well-being can translate into substantial economic costs for employers. Thus, it is important to study RI in order to be able to design suitable strategies to reduce RI and/or to ameliorate its adverse effects on the bottom line.

RI can have a dramatic impact on employee health. For example, a recent four-year longitudinal study indicated that RI was linked to depression, poor physical health, and increased incidence of hypertension (Frone et al., 1997a). These links result in higher

direct health costs for employers due to higher extended health care premiums, as well as higher indirect health costs due to increased absenteeism, increased partial absenteeism, and lower productivity.

Increased absenteeism is highly associated with higher RI (Frone et al., 1997a; Scharlach & Boyd, 1989). Statistics Canada reports that 1.2 of the 7.4 days lost on average per employee per year are due to personal or family responsibilities (Statistics Canada, 1998c). Moreover, those employees with children lost more time due to personal reasons than those without children (1.5 days versus 0.9 days). This link has also been stressed in MacBride-King (1990)'s survey. Employees who said that balancing work and family was "a lot of stress" missed an average of 4.9 days in the 6-month period before the survey. Those who found balancing work and family "very difficult" missed an average of 4.5 days. Those who said that balancing work and family was "not at all difficult" or who reported experiencing no stress missed an average of 2.5 days.³ The economic cost of this increased absenteeism is substantial. For example, Duxbury et al. (1999) calculated the annual direct cost to Canadian employers of absenteeism due to problems in balancing work and family as being \$2.7 billion.

³ MacBride-King (1990) does not make clear whether or not these differences were statistically significant.

Partial absenteeism has also been found to be associated with the difficulty of balancing work and family (Barling et al., 1994; Frone et al., 1997a; Scharlach & Boyd 1989). This form of absenteeism includes arriving late, leaving early, leaving work and returning later in the day, as well as interruptions during working hours due to phone calls or visits relating to family or personal matters.

Losses in productivity can also be attributed to the problems of employees, who are struggling to balance work and family, simply being too tired to concentrate while at work. For example, Galinsky et al. (1996) reported that, based on a nationally representative U.S. survey of almost three thousand employees, parents felt that they were less productive at work as a result of their family responsibilities. Other researchers have found that employees who provide unpaid elder care reported reduced productivity (Brody et al., 1987; Gottlieb et al., 1994; Scharlach & Boyd, 1989). To give one instance, Scharlach and Boyd (1989) found that approximately one-third of those with elder care responsibilities said that there were times in the past two months when they had been so tired as a result of caregiving that they had difficulty doing their jobs.

An interesting and related issue is which of the components of RI, WIF or FIW, has the greater impact on employee well-being. It is certainly true that research studies have tended to find that measured levels of WIF are higher than measured levels of FIW (Duxbury et al., 1994; Frone et al., 1992b; Frone & Yardley, 1996; Frone et al., 1997a; Gignac et al., 1996; Gutek et al., 1991; Judge et al., 1994; Kinnunen & Mauno, 1998;

Netemeyer, 1996; Williams & Alliger, 1994). Such differences, however, may simply reflect the particular set of items that make up these scales (Thomas, 1999). After all, if the scales are not standardized, then a score of three on a WIF scale is not necessarily an indication of a lower level of distress than a score of four on a FIW scale.

A more fruitful line of enquiry might be to ask whether WIF or FIW is more associated with variables known or surmised to be related to employee well-being. In this connection, Judge et al. (1994) found that employee health was more associated with WIF than with FIW. WIF was also found to be longitudinally associated with greater alcohol consumption, which may in turn lead to poorer health (Frone et al., 1997a). It may be the case that the demands of work are more crucial to employee well-being than are family demands because it is easier to reduce effort with respect to home chores than to cut corners at work (Gutek et al., 1991).

On the other hand, a number of other studies have found that FIW has a greater effect on health and depression than does WIF. Unlike the findings of Judge et al. (1994) reported above, Klitzman et al. (1990) found that FIW was more strongly associated with negative health symptoms and depression than was WIF. In addition, Frone et al. (1997a) found that FIW was longitudinally associated with poor physical health, elevated levels of depression, and hypertension. No such association was found for WIF. Frone and his colleagues speculated that FIW may have a greater effect on employee well-being than WIF because employees feel that they are responsible for managing their

family life, so failure to do so affects their feelings of self-efficacy. They also speculated that employees may feel that their employer is more to blame for their level of WIF so employees may be less likely to take the blame for failure in the workplace.

2.2.2 THE PREVALENCE OF RI IS INCREASING AND THIS TREND IS LIKELY TO CONTINUE

There has been a dramatic increase in the number of dual-income families in both Canada and the United States since the 1950's (Cohen & Bianchi, 1999; Statistics Canada, 2000). In both countries, this increase is predominately the result of a large influx of women into the workforce of which the greatest increase has been among women with children (Cohen & Bianchi, 1999; Fullerton, 1999; Statistics Canada, 2000). In Canada, for example, the percentage of women with children in the labour force increased from 39% in 1976 to 71% in 1999 (Statistics Canada, 2000). Furthermore, even families with very young children are likely to have both parents in the labour force. In the United States, both parents work in over half of families with at least one child under the age of one (U.S. Bureau of Labor Statistics, 1997). Similarly, both parents work in over half of families with at least one child under the age of two in Canada (Gunderson, 1998). These demographic changes mean that families typically no longer have one parent whose full-time responsibility it is to handle caregiving and household tasks. As a result, both male and female employees now often have to juggle work and family responsibilities.

Perhaps as a result of this increased need to juggle work and family responsibilities, the incidence of RI seems to be increasing. For example, Duxbury and Higgins (2001) found that both WIF and FIW had increased over the period 1991 through 2001. Moreover, ongoing demographic change suggests that the prevalence of RI will likely increase in the future. Firstly, the proportion of the elderly in the population is steadily rising and this will likely increase the percentage of employees having to deal with elder care responsibilities (Gorey et al., 1992; National Advisory Council on Aging, 1996). Secondly, there is an increasing trend for women to postpone childbearing until their 30's and beyond. In 1997, for example, almost one-third (31%) of first births were to women aged 30 and older compared with only 19% one decade earlier (Statistics Canada, 1999a). These developments will lead to an increasing proportion of employees facing either elder care or sandwich responsibilities. Consequently, a concomitant increase in the prevalence of RI is very likely to occur, which in turn implies that learning how to manage RI will become even more important in the future.

2.2.3 SOCIETY'S ATTITUDES TOWARDS WORK AND FAMILY KEEP CHANGING

Another major reason to study RI is that society's attitudes towards work and family keep changing over time. The fact that these attitudes keep changing over time suggests that the results and conclusions of many of the studies that provide the bulk of the material in the balance of the literature review and which were largely conducted in the 1980's and early 1990's may have to be re-evaluated as they may reflect more traditional

values than are current today. This follows more or less directly from the changing roles of women and men in society more generally.

For example, a recent Angus Reid poll of 2,499 adults across Canada, commissioned by the Globe and Mail (1999b), found that many traditional beliefs about a woman's role in society have changed. More than half of the sample agreed with statements associated with a less traditional role for women. For example, 69% agreed that employed mothers can establish just as warm and secure a relationship with their children as nonemployed mothers and that daycare is good for children. Most of those polled agreed with the following: 1) that having a job is the best way for a woman to be an independent person (56%) and 2) that both the man and the woman should contribute to the household income (59%). A minority of the sample agreed with statements associated with a more traditional role for women. For example, fewer than half believed that: 1) "a preschool child is likely to suffer if both parents are employed" (49%); 2) "a job is all right, but what most women really want is a home and children" (39%); and 3) "families would be in much better shape these days if mothers would only stay home with their children" (41%).

Attitudes towards the traditional roles of men are also beginning to change. More men are finding it acceptable to place a higher value on providing care for children. For example, Willinger (1993) found that college men in 1985 were significantly more likely to say that if they had additional leisure time that they would allocate this time to

“helping out with my wife and kids at home” than college men in 1980. She also found that college men were more accepting of a man’s choice to stay home and look after the children while his wife earned a salary in 1985 than in 1980. There was, however, no greater acceptance of men staying at home to look after infants in 1985 than in 1980.

Pleck and Pleck (1997) use the term “co-parent” to refer to this new role for fathers. Male co-parents are expected to perform routine care of male and female children. This does not, however, imply that these fathers share the load of child care equally with mothers. Instead, these “new fathers” serve as the mother’s deputy, performing duties when asked by the mother and under the mother’s direction while the mother remains responsible for ensuring that the tasks are done (Pleck & Pleck, 1997).

2.2.4 CHANGING TECHNOLOGY AND NEW WORK PRACTICES

The use of cellphones, computers, and a myriad of other new high-tech gadgets allows an increasing number of employees to work from remote locations, often from home (Hill et al., 1996; Olson & Primps, 1984). Very little research to date has looked explicitly at the relationship between working at home via computer (so-called “telework”) and RI (Hill et al., 1996; Duxbury et al., 1996). Some of the issues that have been raised in the literature, however, imply that RI may be higher for these teleworkers than for other employees. For example, it may be the case that making the physical journey between the home and the office (and vice versa) is actually positively useful in terms of reducing the transfer of stress from one domain to another (Duxbury et al.,

1998; Sullivan & Lewis, 2001). Along these lines, unless teleworkers actively take steps to separate psychologically the work and family domains by, for example, explicitly designating part of the home as "office space", they may suffer from higher RI than other employees (Mirchandani, 1999; Sullivan & Lewis, 2001). Working at home may also have the disadvantage of encouraging those with a tendency towards workaholism to fixate on their work, leading to burnout, unfilled family demands, and, consequently, high RI (Riley & McClosky, 1996; Sullivan & Lewis, 2001). Finally, teleworkers who attempt to perform work duties and child care simultaneously may experience high RI as a result of juggling these often incompatible demands (Ahrentzen, 1990; Christensen, 1989; Heck, 1992; Huws et al., 1990; Olson, 1989; Olson & Primps, 1984; Riley & McClosky, 1996; Sullivan & Lewis, 2001).

2.3 THE NATURE OF CAREGIVING

This section provides an overview of what is known about the nature of caregiving in terms of the four care groups that will be examined in the thesis: child care, elder care, sandwich, and no-care. The division of employees into four care groups is not only convenient in terms of accessing the existing literature, but also reflects the important consideration that the experience of individuals in the four care groups is likely to be qualitatively different.

2.3.1 CHILD CARE

In general, the concept of "care" can be defined as encompassing the following activities "being responsible for", "providing for", and "protecting" (Webster's New World Dictionary, 1986). Thus, "child care" can be defined as encompassing these caring activities with respect to children and a "child caregiver" can be further defined to be an individual who provides child care to one or more children. In practice, however, the notion of a child caregiver is typically operationalized as an individual who has one or more children living with them (Buffardi et al., 1999; Frone et al., 1992a; Gutek et al., 1991; Hammer et al., 1997; Johnson et al., 2001; Neal et al., 1990; Scharlach & Boyd, 1989). Using this looser method of classification, a relatively large percentage of the Canadian labour force can be considered to be child caregivers, as 45% of the labour force had children at home in 1995 (Johnson et al., 2001). As a result, the study of issues that relate to the combination of child care and employment is a strong focus of research in the work and family literature.

Balancing child care with employment responsibilities is not an easy task (Googins, 1991; Greenhaus & Parasuraman, 1997; Hochschild, 1989; MacBride-King, 1990). For example, a number of studies have found that employed parents experience greater stress, greater time-pressure, and higher WFC than employed nonparents (Barnett & Baruch, 1985; Frederick & Fast, 2001; Friedman & Greenhaus, 2000; Googins, 1991; Gore & Mangione, 1983; Statistics Canada, 1999b). Indeed, concerns about WFC may be one of the key factors contributing to the decline in the Canadian birth rate (Baker,

1994), which has now fallen to less than half the rate it was in 1959 (Statistics Canada, 1999a).

In addition, concerns about the potentially negative effects of nonparental child care, which is often unavoidable for dual-income families (Galinsky et al., 1996), may also be associated with greater stress for parents (Etaugh et al., 1996; Globe and Mail, 2001; Hertz 1997; Peyton et al., 2001). This is unfortunate because there is no clear and unambiguous research evidence to date that indicates that nonparental child care is necessarily harmful for children (Deater-Deckard et al., 1996; Scarr & Eisenberg, 1993).

In order to throw some light on these issues of child care and work-family balance, Section 2.3.1.1 briefly reviews general problems associated with parental child care and Section 2.3.1.2 presents a brief discussion of concerns around nonparental child care.

2.3.1.1 PARENTAL CHILD CARE

To a significant degree, the difficulty of balancing child care with employment responsibilities stems from the fact that: 1) raising children involves a wide range of responsibilities; 2) raising children is expensive; and 3) raising children is time consuming. Details on each of these issues are given below.

Child Care Responsibilities

To give some idea of the extent of the responsibilities and challenges involved in parenting, it is illuminating to reflect on the scope of the scale developed by Gilbert and Hanson (1983) to measure perceptions of parental role responsibilities among employees. This 78-item scale consists of the following 13 sub-scales:

- 1) Teaching: Cognitive Development
- 2) Teaching: Handling of Emotions
- 3) Teaching: Social Skills
- 4) Teaching: Norms and Social Values
- 5) Teaching: Physical Health
- 6) Teaching: Personal Hygiene
- 7) Teaching: Survival Skills
- 8) Basic Needs: Health
- 9) Basic Needs: Material (Food/Clothing/Shelter)
- 10) Basic Needs: Meeting the Emotional Needs of the Child
- 11) Basic Needs: Child Care (Arranging Nonparental Care)
- 12) Interface Role: Between Child and Social Institutions
- 13) Interface Role: Between Child and the Family

In view of this range of responsibilities, it is perhaps not surprising to find that employees experience difficulty combining child care and work.

Raising Children is Expensive

Raising children is an expensive business. The cost of raising a typical Canadian child to age 18 has been estimated at \$155,611 for a boy and \$154,993 for a girl (Manitoba Agriculture and Food, 2001). The cost of raising an American child is even higher. Expected parental expenditures on the youngest child born into a husband-wife family with two children have been estimated at US\$171,460, US\$233,530, and US\$340,130 for a low-income, middle-income, and high-income family, respectively (Lino, 2001).

Raising Children is Time Consuming

Raising children is inherently time consuming as evidenced by the following time-use data gathered by Statistics Canada (1999b):

- 1) Fathers who work full-time perform approximately one more hour of unpaid work⁴ each day than full-time male employees who are not parents (3.3 hours per day versus 2.3 hours per day).⁵ They also sleep less (7.5 hours per day versus 7.8

⁴ Unpaid work was defined to include child care, home chores, and volunteer work.

⁵ These figures were averaged over a 7-day week for full-time employees aged 25-44. Parents were defined as individuals with at least one never married child, who lived at home and was aged less than 19.

hours per day) and enjoy less free time (4.2 hours per day versus 4.9 hours per day).

- 2) Mothers who work full-time perform approximately 1.7 more hours of unpaid work each day than full-time female employees who are not parents (4.9 hours per day versus 3.2 hours per day). They also sleep less (7.8 hours per day versus 8.0 hours) and enjoy less free time (3.6 hours per day versus 4.3 hours per day).

The time-consuming nature of parental child care may explain why, as noted above, the demographic group most likely to be juggling work and child care responsibilities (married men and women aged 25 to 44 who are employed full-time with children at home) is also the demographic group most likely to report being “time-stressed” (Statistics Canada, 1999b).

2.3.1.2 NONPARENTAL CHILD CARE

Large numbers of parents in both the United States and Canada rely on nonparental care in order to juggle work and/or education with their family responsibilities. An American survey of approximately 60,000 households, conducted in 1999 by the National Center for Education Statistics, found that most children from birth through the third grade (54%) received some form of nonparental care on a regular basis (U.S. Department of Education, 2001). In Canada, the National Longitudinal Survey of Children and Youth (NLSCY), which currently follows 15,000 children, found that many parents rely on nonparental care in order to balance work and family (HRDC, 2001). More specifically,

as of 1996-97, almost one-quarter of infants and almost one-half of children aged 1-5 years (46%) and 6-11 (44%) received regular nonparental care (Johnson et al., 2001, p. 43).⁶

Given the current prevalence of nonparental child care, issues concerning the impact of nonparental child care on children's emotional and intellectual development have loomed large on the list of contemporary parental concerns. Research on nonparental care, which includes "self-care" in which children are unsupervised, can be divided into three areas based on the age of the child:

- 1) **Preschool.** Research in this area focuses on the correlation between assessments of emotional, social, and cognitive development and participation in various forms of nonparental care. Forms of nonparental care that are studied with respect to this age group include: participation in day-care centres, family care (care provided in family homes for children who are not related to the care provider), and relative care (such care is often provided by grandmothers).
- 2) **School-aged children.** Research in this area concentrates on the effects of latch-key arrangements in which children are unsupervised in the family home and supervised after-school programs where activities are provided.

⁶ The precise percentage for the category of infants did not appear in the publication cited.

- 3) Adolescents and teenagers. This area of research centers on trends in alcohol and drug use, sexual experimentation, teen pregnancy, and criminal behaviour for children in this age group who are unsupervised after school hours.

In all three areas of research, there is no clear evidence that nonparental care is necessarily harmful (Belle, 1999; Lamorey et al., 1998; Scarr, 1998). Those studies that have found negative effects have often been flawed in that: 1) they fail to control for factors that could provide alternative explanations for negative effects such as poor parenting skills (Deater-Deckard et al., 1996; Howes, 1990) and 2) they focus only on children who are at risk and fail to compare results to an appropriate control group (Belle, 1999; Lamorey et al., 1998).

In any event, concerns about the potentially negative effects of nonparental child care (even though they may be, to at least some extent, either misplaced or somewhat overdrawn) may increase the stress of working parents because it may prompt parents to avoid its use altogether. Other avoidance strategies may include taking less satisfying jobs that allow for more flexible schedules and having one parent work night shifts (Garey, 1995; Hattery, 2001; Hertz 1997; Lilly et al., 1997; Presser, 1988). Sadly, such avoidance strategies are also associated with higher levels of employee stress (Boggild & Knutsson, 1999; Jamal & Baba, 1997; Frederick & Fast, 2001; Schechter et al., 1997).

Scarcity and Expense

In practice, however, the key problem that often faces working parents or parents who would like to work is not so much issues around the effects of nonparental child care, but rather its cost and availability (Peyton et al., 2001). For example, while 64% of Canadian mothers with children under the age of three were in the labour force in 1997 (Gunderson, 1998), fewer than 20% of their children could be accommodated in regulated day care (HRDC, 1998). Moreover, the high cost of much nonparental child care constitutes a major expense for many young families (Johnson et al., 2001; Krashinsky, 2001). Along these lines, several studies have indicated that a direct relationship exists between the cost and availability of nonparental child care and women's participation in the labour force (Glass & Estes, 1996; Glass & Riley, 1998; Gordon & Chase-Lansdale, 2001; Lifton, 2001; Michalopoulos & Robins, 2000; Taylor, 2001).

In sum, the role of child caregivers is quite demanding. This high level of demands suggests that child caregivers may well experience difficulty balancing work and family and therefore may experience high WIF and/or high FIW. Further implications with respect to WIF and FIW will be discussed in Section 2.7.

2.3.2 ELDER CARE

The notion of "elder care" can be defined as encompassing caring activities with respect to elders. In practice, however, it has been operationalized in a wide variety of different

ways, such as “being responsible for” (Buffardi et al., 1999) or “currently assisting” (Fredriksen & Scharlach, 1999; MacBride-King, 1990) an elderly relative or elderly individual. This variation in operational definition often leads to considerable difficulty in comparing results across different studies as well as in estimating the overall prevalence of elder care activities. For example, Gorey et al. (1992) reviewed 17 studies, published between 1985 and 1990, which estimated the percentage of elder caregivers in the American labour force. The definition of elder care used in these 17 studies varied in terms of:

- 1) The amount of care that had to be provided in order that an individual be classified as an elder caregiver. This amount ranged from “any type of care in any amounts” (p. 402) to “a minimum of 10 hours of direct, face-to-face care” (p. 402).
- 2) The minimum age of the individual receiving the care. This minimum age ranged from a low of 55 years to a high of 60 years, with no minimum age being specified in 9 of the 17 studies.
- 3) The relationship between the elder care recipient and the elder caregiver required for inclusion in the study. This relationship ranged from being a parent, to being a relative, to being any elderly individual.

Naturally, these different definitions have an impact when trying to estimate the prevalence of elder caregivers in the labour force. Bearing in mind the difficulties

caused by these quite different methods of classification, Gorey et al. (1992) estimated that between 21.1% and 23.1% of American employees provided care for an elderly dependent. The percentage of employed elder caregivers seems to be very similar in Canada. Data supplied by Statistics Canada indicates that just shy of 21% of full-time Canadian employees provided an hour or more per week of care to an elderly person in 1998.⁷

Very few studies in the field of organizational behaviour have considered the issue of elder care in any detail (Barling et al., 1994; Doress-Worters, 1994; Hepburn & Barling, 1996). Indeed, until very recently, research into elder care issues was more or less confined to the field of gerontology in which the major focus was the effect of caregiving on the elderly recipient rather than the effect of caregiving on the elder caregiver. The need to study elder care is clear, however, as there is now a significant proportion of the workforce who must balance work and elder care responsibilities. Moreover, it seems likely that the need for elder care will only increase in the future as the population continues to age. In the year 2001, 12.9% of the Canadian population is expected to be aged 65 years or older. This percentage is expected to grow to 23.2% by 2036 (Desjardins, 1993). A similar trend is expected in the United States. The U.S. Bureau of the Census estimated that 12.6% of the American population was aged 65 or

⁷ Computed from data reported in the Statistics Canada 1998 Time-Use Survey (Statistics Canada, 1998b).

older in the year 2000 and expects this percentage to grow to 20.5% in the year 2035 (U.S. Bureau of the Census, 1997).

Perhaps most importantly, the number of the “oldest of the old”, those aged 85 or older, is set to rise dramatically over the next few decades. In the U.S., this population segment is expected to increase from 12.3% of the elderly population (i.e. 12.3% of those aged 65 or older) in 2000 to 14.9% in 2035 (U.S. Bureau of the Census, 1997). The comparable figures for Canada are 11.9% and 14.7% (National Advisory Council on Aging, 1996).

As one would expect, the prevalence of disability increases steadily with age and older elders generally require more assistance (Archbold, 1983; Bond et al., 1990; Feller, 1986; Frederick & Fast, 1999; Hing, 1987; National Advisory Council on Aging, 1996). For example, the 1996 General Social Survey reported that women helping older seniors dedicated four more hours of elder care per week than those looking after younger seniors (Frederick & Fast, 1999).

These ongoing developments will have a profound impact on the working population for at least the following three reasons:

- 1) A very significant proportion of the elder care provided in both the U.S. and Canada is provided by family members. In the U.S., over 80% of the long-term care assistance needed by older adults is provided by unpaid family members

(U.S. Senate Special Committee on Aging, 1986). For Canada, Angus et al. (1995) estimated that over 90% of elder care is provided unpaid, mainly by family members.

- 2) Most elder caregivers are between the ages of 30 and 59 with an average age of 46 years for female elder caregivers and 44 years for male elder caregivers. It follows that over two-thirds of elder caregivers are in the workforce (Frederick & Fast, 1999).
- 3) Policy-makers in both the U.S. and Canada are attempting to reduce the anticipated crisis in healthcare due to the aging population by encouraging family members to care for the elderly in the family home (Arras & Dubler, 1994; Statistics Canada, 1997).

The policy of encouraging elder care in the family home is very attractive to governments due to the considerable potential savings to the public purse. A recent study, undertaken by Dr. Marcus Hollander for the Government of British Columbia, indicates that each elderly person cared for in the community rather than in an institution saves the government an average of \$8,000 per year (Globe and Mail, 1999a). Indeed, Dr. Hollander's report recommends that seniors be kept at home for as long as possible, because the potential cost savings become larger as the condition of the senior "gradually deteriorates" (Globe and Mail, 1999a).

Such a policy, however, would impose a huge burden on elder caregivers. Any increase in the level of care required might well have serious implications for employees with elder care responsibilities as even now elder caregivers appear to have difficulty in balancing work and family. For example, Scharlach and Boyd (1989) found that employees with elder care responsibilities had approximately the same levels of RI as those caring for young children. Along similar lines, Buffardi et al. (1999) have found that employees with elder care responsibilities reported less satisfaction with perceived organizational support, pay, leave, and less work-family balance than employees with child care responsibilities. For a number of reasons, combining elder care and work responsibilities may lead to high WIF and/or high FIW: 1) uncertainty about what constitutes an acceptable standard of care; 2) a reluctance to use paid elder care services; and 3) a shortage of high-quality paid services. These issues will be taken up in the following paragraphs.

Contributing to the level of stress experienced by elder caregivers may be society's lack of experience with issues around balancing elder care and work. The relative novelty of the situation is believed by some authors to be associated with uncertainty about what level of care is acceptable and, therefore, possibly unreasonable guilt about the actual level of care being provided (Biegel & Blum, 1990; Brody, 1985; Horowitz, 1985b; Kingsmill & Schlesinger, 1998). In point of fact, most elder caregivers feel that they should be doing more for the people they help (63%) and most feel that they could be doing a better job of helping (58%) (Keating et al., 1999).

The lack of a socially agreed standard for the responsibilities of elder caregivers may also contribute to a reluctance to use paid elder care services which further increases the burden on elder caregivers. This reluctance has been noted by a number of commentators. Stone et al. (1987) found that only 10% of elder caregivers were utilizing paid elder care services to ease the burden. Wagner and Hunt (1994), who studied the utilization rates for elder care services in two large American companies which provided comprehensive information and referral services, found that utilization rates for the program were only 1% for one company and only 4% for the other. Researchers have also found that caregivers who do use paid services report the highest levels of burden (Bond et al., 1990; Stoller & Pugliesi, 1989; Wagner & Hunt, 1994). Thus, it may be the case that only those employees who are forced to use paid elder care services because of unbearably high levels of burden do in fact do so.

This reluctance to use paid elder care services and the ambiguity with respect to socially acceptable standards for elder care may lessen over time as demographic changes ensure that elder care becomes a more widespread concern. Society may gradually become more accepting of the use of paid elder care services and realize that their use is in fact really necessary for many employed elder caregivers. After all, as mentioned in Section 2.2.3, the majority of Canadians now accept that paid daycare is “good for children” and virtually a necessity. In this vein, Wagner and Hunt (1994) found that what distinguished elder caregivers who used paid services from elder caregivers who did not use paid

services was not so much the number of hours of elder care they provided, but rather how comfortable they felt about discussing elder care issues.

Finally, it should be noted that society's lack of experience with elder care issues and the ambiguity with respect to what is required from elder caregivers may have led to the lack of adequate and convenient paid elder care services observed by Kingsmill and Schlesinger (1998). It goes without saying that neither employers, nor governments, nor the private sector are likely to provide services that elder caregivers fail to demand.

In sum, as was the case for child caregivers, the role of elder caregivers is quite demanding. This high level of demands suggests that employed elder caregivers, like employed parents, may well experience difficulty balancing work and family and therefore may experience high WIF and/or high FIW. Further implications with respect to WIF and FIW will be discussed in Section 2.7.

2.3.3 SANDWICH

"Sandwich care" can be defined as encompassing caring activities with respect to both children and elders. Statistics Canada (2000) defines the sandwich group to include those individuals who provide care both to their children and to their aging parents. It is estimated that, in 1996, 15% of women and 9% of men between the ages of 25 and 54 provided unpaid assistance to both children and elders (Statistics Canada, 2000). Moreover, the percentage of Canadian employees that have children at home and provide

elder care is increasing rapidly, from 9.5% to 15% over the last decade (MacBride-King & Bachmann, 1999).⁸

Although a neglected area of research (Barling et al., 1994; Buffardi et al., 1999; Doress-Worters, 1994; Fredriksen & Scharlach, 1999), sandwich care is an important area of study because it seems likely that the sandwich group is facing considerable stress. In particular, it seems likely that those in the sandwich group will experience both the stress associated with child care and the stress associated with elder care. This combination of stresses plus the need to coordinate two types of care and employment may well lead to high WIF and/or FIW. In support of this, a 1990 study carried out by the Conference Board of Canada reported that sandwich group individuals found it very difficult to balance work and family responsibilities (MacBride-King, 1990). Furthermore, Neal et al. (1993) and Scharlach and Boyd (1989) reported that this group experienced higher stress, negative somatic symptoms, and lower work-family balance than employees who had either just child care or just elder care responsibilities.⁹

An interesting question is whether the stress associated with the combination of child care and elder care is:

⁸ Cited in Johnson et al. (2001).

⁹ As will be discussed in Section 2.4, it is not clear that the differences reported in MacBride-King (1990), Neal et al. (1993), and Scharlach and Boyd (1989) are statistically significant.

- 1) Additive. Equal to the sum of the stress associated with elder care and the stress associated with child care.
- 2) Less than additive. There may be economies of scale involved in combining the two roles. For example, children may help to supervise elders or conversely, elders may help to supervise children.
- 3) More than additive. There may be negative economies of scale, given the requirement for additional co-ordination of work and caring activities.

Not surprisingly, given the discussion above in relation to elder care, society offers no clear guidelines as to what constitutes an acceptable level of care for sandwich caregivers. Indeed, this ambiguity may even be magnified as caregivers attempt to juggle child care and elder care and try to live up to unrealistic standards for both. Moreover, as with the case of elder care, the relative novelty of the problem may be associated with a lack of support services that in turn may add to the perceived burden for caregivers. Hopefully, society will become more aware of the problems facing the sandwich group as demographic change swells their numbers. Also, with time, those in the sandwich group may become more comfortable demanding the services that they undoubtedly require.

In sum, it seems likely that providing care to both children and elders while holding paid employment is a demanding combination of roles. This high level of demands, and the

need to coordinate these demands, may mean that members of the sandwich group experience higher WIF and FIW than members of either the child care group or the elder care group. Further implications with respect to WIF and FIW will be discussed in Section 2.7.

2.3.4 NO-CARE

The no-care group can be defined as that group of individuals who neither provide care to children nor provide care to elders. This no-care group represents a substantial proportion of the working population (estimated to be approximately 50% of the Canadian labour force),¹⁰ but has not been the specific focus of much research in the work and family literature for the obvious reason that individuals in the no-care do not have to juggle child care and/or elder responsibilities with work. It is not a homogeneous group, however, as it includes: 1) individuals who desire children, but have yet to actually have them; 2) individuals who have made the decision to remain childless; 3) individuals who are involuntarily childless; and 4) individuals whose children have already grown to adulthood (and may or may not have left home). Overall, it seems likely that those in the no-care group will experience lower WIF and FIW than those in the three caregiving groups because their family responsibilities are likely to be significantly less onerous. In any event, due to their lower level of caregiving demands,

¹⁰ This percentage is very much an approximation and is interpolated from the not strictly comparable figures cited above with respect to the child care, elder care, and sandwich groups.

the no-care group serves a useful purpose for researchers as a benchmark. After all, if it is not the case that individuals in the no-care group experience lower WIF and FIW than individuals in the three caregiving groups, this would suggest that WIF and FIW are not as strongly related to family demands as has commonly been supposed.

2.4 THE RELATIONSHIP BETWEEN CARE GROUP AND THE TWO COMPONENTS OF RI

This section reviews what is known about the empirical relationship between care group and the two components of RI. Ideally, it would be nice to identify a number of well-executed studies that have compared WIF and FIW across the four care groups. Unfortunately, no such studies have been published to date. One study (Scharlach & Boyd, 1989) that compared an overall measure of RI across the four care groups is available, however, as are four additional studies (Buffardi et al., 1999; Fredriksen & Scharlach, 1999; MacBride-King, 1990; Neal et al., 1990) that looked at work-family balance (or some similar measure). In the circumstances, it seems appropriate to present a brief summary of the findings of these five studies as a starting point for this research with the following caveat: the findings should probably be regarded as indicative, rather than conclusive, as all five studies suffer to at least some extent from methodological deficiencies.¹¹

¹¹ A more detailed tabular summary of these five studies appears in Appendix A.

Four of the five studies found that the sandwich group experienced more difficulty in balancing the responsibilities of work and family than any other comparison group. The fifth study (Fredriksen & Scharlach, 1999) found no difference between the sandwich and child care groups. Of the three studies that included a no-care group, all found that this group had the least difficulty balancing work and family (Buffardi et al., 1999; MacBride-King, 1990; Neal et al., 1990). Of the three studies that compared child caregivers with elder caregivers, two studies found child caregivers to have lower work-family balance than elder caregivers (Buffardi et al., 1999; Neal et al., 1990) and one study found child caregivers to have “approximately the same” work-family balance as elder caregivers (Scharlach & Boyd, 1989, p. 385).

On the face of it, these results would seem to suggest that a tentative ranking could be established across the four care groups in terms of some broad measure of work-family balance (though not necessarily in terms of RI or the two components of RI). From high to low, this tentative ranking would be: no-care, elder care, child care, and sandwich. Such a conclusion would be misleading, however, because these studies suffer from a number of methodological deficiencies (summarized in Table 1) that make it very difficult to have much faith in any kind of overall ranking. These methodological problems are discussed below.

Table 1. A summary of the methodological problems associated with the five studies

	Study				
	Buffardi et al. (1999)	Fredriksen & Scharlach (1999)	MacBride- King (1990)	Neal et al. (1990)	Scharlach & Boyd (1989)
Lack of statistical information on care group comparisons	X	X	X	X	X
Measure of work-family balance	Single-item scale for work-family balance.	Three-item scale for caregiving strain.	Single-item scale for work-family balance.	Single-item scale for stress of balancing work & family.	Single-item scale for RI.
No control variables	X	Insufficient information	X	X	X
Problems with construction of care groups		Combined results for disabled adults & elderly. No comparison with no-care.	"Other dependents" category combined results for disabled adults & elderly.		No comparison with no-care.

Many of the methodological problems with these studies relate to a lack of detail in the reported results. All of the studies failed to provide complete statistical information with respect to how the authors compared the various care groups. Some gave only rankings of the care groups with respect to the relevant measure of work-family balance without providing any information as to whether the differences between the care groups were statistically significant (Buffardi et al., 1999; MacBride-King, 1990; Scharlach & Boyd,

1989). Others provided an indication of the statistical significance for only some of the differences between the care groups (Fredriksen & Scharlach, 1999; Neal et al., 1990). For example, Scharlach and Boyd (1989) made the following statement: "Interference between job and family was particularly great for employees with both elder care and child care responsibilities" (p. 385). No indication of the magnitude of the difference in the level of interference between the sandwich group and any other group was given. Nor was there any indication of whether or not this difference was statistically significant.

Four studies quantified the relevant measure of work-family balance using single-item scales (Buffardi et al., 1999; MacBride-King, 1990; Neal et al., 1990; Scharlach & Boyd, 1989). Single-item scales are inherently unreliable (Nunnally & Bernstein, 1994).¹² Two studies used measures for work-family balance that are not typically used in the literature, namely, caregiving strain (Fredriksen & Scharlach, 1999) and the stress of balancing work and family responsibilities (Neal et al., 1990).

Furthermore, four of the five studies (Buffardi et al., 1999; MacBride-King, 1990; Neal et al., 1990; Scharlach & Boyd, 1989) failed to control for the confounding effects of important variables such as hours of work and hours of care, which are known to be correlated both with WIF and with FIW (Gutek et al., 1991). Moreover, the one study

¹² In general, multi-item scales are more reliable (Nunnally & Bernstein, 1994).

that did use control variables (Fredriksen & Scharlach, 1999) failed to indicate exactly which variables these were. For example, the authors stated:

“Employees combining child and adult care responsibilities reported consistently high levels of overall caregiving strain and occupational impacts. However, when controlling for a variety of background characteristics, demands, and resources, employees with dual care responsibilities do not seem to experience greater caregiving and occupational impacts than did working parents in general” (p. 191).

The authors did not, however, explicitly list the control variables included in their analysis, nor did they provide any statistical detail to justify this claim. The failure to provide such critical information means that it is difficult to know how exactly to interpret the results.

Incomplete or imprecise information as to the operationalization of the four care groups was also a problem. Thus, with regard to child care, three studies classified respondents as being members of the child care group based simply on whether or not they shared a household with a child (Buffardi et al., 1999; Neal et al., 1990; Scharlach & Boyd, 1989). Fredriksen and Scharlach (1999), on the other hand, classified respondents as being child caregivers if they reported that they had children for whom they had child care responsibilities. In no case was there a clear indication of a minimum level of care

threshold. With respect to elder care, the following alternative relationships with an elder were used to specify group membership: “being responsible for one or more elderly relatives or individuals” (Buffardi et al., 1999), “currently assisting someone age 65 or older” (Fredriksen & Scharlach, 1999), “providing assistance to an elderly relative” (MacBride-King, 1990) “providing assistance to a person aged 60 years or older” (Scharlach & Boyd, 1989), and “helping someone 60 or more years of age” (Neal et al., 1990). Again, there was no clear indication of a minimum level of care threshold, although Neal et al. (1990) did at least expand on what they meant by “helping”; it was stipulated to mean helping with “shopping, home maintenance or transportation, checking on them by phone, making arrangements for care, etc.”

A further complication was that one study explicitly combined elder caregivers and caregivers of disabled adults in a single group (Fredriksen & Scharlach, 1999), while another study (MacBride King, 1990) used a definition involving the care of “other dependents”, where the term “other” was used to refer to individuals other than children. In short, it is not clear that the group definitions across the five studies are strictly comparable.

Overall, there is a clear need for additional, methodologically sound, research into the relationship between care group and the two components of RI. This would allow both researchers and practitioners to draw firm conclusions as to which of the four care groups suffers most from WIF and/or FIW.

2.5 THE RELATIONSHIP BETWEEN GENDER AND THE TWO COMPONENTS OF RI

This section reviews what is known about the empirical relationship between gender and the two components of RI. A review of existing theory in this area is presented below in Sections 2.6 and 2.7.

There are ten published studies that have compared WIF and FIW across gender: Duxbury and Higgins (1994); Duxbury et al. (1994); Eagle et al. (1997); Frone and Yardley (1996); Frone et al. (1992b); Frone et al. (1997a); Gignac et al. (1996); Gottlieb et al. (1994); Gutek et al. (1991); and Kinnunen and Mauno (1998). The results of these studies are summarized below.¹³

Beginning with WIF, five studies found that women experienced higher levels of interference than men (Duxbury & Higgins, 1994; Duxbury et al., 1994; Frone et al., 1992b; Gottlieb et al., 1994; Gutek et al., 1991), four studies did not find a significant gender difference (Eagle et al., 1997; Frone et al., 1997a; Gignac et al., 1996; Kinnunen & Mauno, 1998), and one study found that men experienced a higher level of interference than women (Frone & Yardley, 1996).

¹³ A more detailed tabular summary of these ten studies appears in Appendix B.

Turning to FIW, four studies found that women experienced higher levels of interference than men (Duxbury & Higgins, 1994; Duxbury et al., 1994; Frone et al., 1992b; and Frone et al., 1997a). The other six studies, however, did not find a significant gender difference.

At first glance then, it would seem that the evidence leans towards the conclusion that women suffer more distress from both WIF and FIW than men, although the evidence is less convincing in the case of FIW. Unfortunately, however, six of these studies suffer from at least one important methodological deficiency that may have influenced their results.

Firstly, four of the studies (Eagle et al., 1997; Frone et al., 1992b; Frone et al., 1997a; Kinnunen & Mauno, 1998) measured WIF and FIW using two-item scales, developed by Frone et al. (1992b). Two-item scales are inherently unreliable (Nunnally & Bernstein, 1994).

Secondly, four of the studies did not take steps to reduce the level of variability in the dependent variable by controlling for confounding variables (Frone & Yardley, 1996; Frone et al., 1997a; Gignac et al., 1996; Kinnunen & Mauno, 1998).

In view of these methodological shortcomings in six of the studies, it might be wiser to place more emphasis on the results of the other four studies (Duxbury & Higgins, 1994;

Duxbury et al., 1994; Gottlieb et al., 1994; Gutek et al., 1991). With respect to WIF, these four studies all found that women experienced higher levels of interference than men. With respect to FIW, two of these four studies found that women experienced higher levels of interference than men (Duxbury & Higgins, 1994; Duxbury et al., 1994), while the other two failed to find a significant gender difference (Gottlieb et al., 1994; Gutek et al., 1991).

Thus overall, at least in terms of the more statistically reliable studies, it would seem that there is fairly strong evidence that women experience higher WIF than men. There is also some evidence, though less conclusive, that women experience higher FIW than men.

2.6 FOUR THEORETICAL PERSPECTIVES: OVERVIEW

Four theoretical perspectives are used in this thesis as a lens through which to view the literature in organizational behaviour and gerontology. These four theoretical perspectives (Multiple Role Theory, Gender Role Theory, Perceived Control, and the Application of Gender Role Theory to Perceived Control) provide insights into the relationship between caregiving and gender and the two components of RI, WIF and FIW. These insights will prove useful in developing the theoretical framework for the thesis.

To this end, this section briefly outlines the salient features of the four theoretical perspectives and their *general* insights into the relationship between caregiving and gender and WIF and FIW. The following section, Section 2.7, discusses in much more detail the specific predictions of each of the four theoretical perspectives for WIF and FIW. These predictions are based on a review of both available theory and empirical evidence with respect to each individual care group and, where possible, with respect to each gender.

2.6.1 MULTIPLE ROLE THEORY

Multiple Role Theory is grounded in two diametrically opposed views of the effects of multiple roles: the expansion approach and the scarcity approach (Barling, 1990; Barnett & Baruch, 1987a; Pleck, 1995).

The expansion approach takes an optimistic view of human energy levels. In this view, personal resources are seen to be expandable so that activity in one domain “creates energy for use in that role or other role performances” (Marks, 1977, p. 926). The scarcity approach, on the other hand, takes the view that human time and energy is limited so that each additional role taken on by an individual further depletes a finite supply of personal resources (Burr et al., 1979; Goode, 1960; Voydanoff & Donnelly, 1999).

In short, the expansion approach and the scarcity approach make conflicting predictions as to the consequences of an individual performing multiple roles. The expansion approach views an increasing number of roles to be beneficial while the scarcity approach views it to be detrimental. The implications for work-family conflict and role interference are clear. The expansion approach suggests that employees with more caregiving roles will have lower WIF and FIW than employees with fewer caregiving roles. The scarcity approach, on the other hand, suggests that employees with more caregiving roles will have higher WIF and FIW than employees with fewer caregiving roles.

More specifically, the expansion approach predicts that: 1) the sandwich group would be likely to experience the lowest WIF and FIW; 2) the no-care group would be likely to experience the highest WIF and FIW; and 3) the child care and elder care groups would lie somewhere in the middle. The scarcity approach, on the other hand, predicts that: 1) the sandwich group would be likely to experience the highest WIF and FIW; 2) the no-care group would be likely to experience the lowest WIF and FIW; and 3) the child care and elder care groups would lie somewhere in the middle. The only agreement between the expansion and scarcity approaches is that the child care and the elder care groups would lie somewhere in the middle.

2.6.2 GENDER ROLE THEORY

Gender Role Theory is predicated on the view that men and women are perceived to have different core roles. According to this theory, society expects that the core role for men is that of a wage earner while the core role for women is centred round family responsibilities (Barnett & Baruch, 1987a; Simon, 1995; Voydanoff, 1987). Other roles may be important too, but are considered to be subordinate. Accordingly, individuals are primarily judged by their ability to fulfill their core role.

Some empirical support for this view is provided by Simon (1995)'s interviews of dual-income married parents of minor children. Differences emerged when men and women were asked if "being a good father (mother) depends, in part, on a man's (woman's) ability to provide economic support for his (her) children" (p. 189). There were clear differences in beliefs about the primary responsibilities of men and women. The majority of men believed that providing economic support was a key component of their family roles but only a minority of women believed this to be important for wives and mothers. Eighty percent of men emphasized the negative consequences for men's self-image of not making a financial contribution to the family. Almost all of the men interviewed felt that providing economic support was synonymous with being a father and husband. For women, the situation was very different. Although 25% of the women interviewed believed that women have economic obligations to their families, because they viewed marriage as a partnership, all of them viewed work as an added responsibility rather than

their core role. A woman's primary obligation was felt to be providing emotional support and nurturance to children and spouse and maintaining a well-kept home.

This study certainly seems to support the view that there are differences in society's perceptions of appropriate core roles for men and women. Clearly, however, these perceptions may have changed in the last decade and a half as society's attitudes towards the roles of men and women continue to evolve. Indeed, gender roles may well be an area of research that requires frequent re-examination.

In short, Gender Role Theory predicts that men will tend to carry a larger share of the responsibility to provide financially for the family, while women will tend to carry a larger share of the responsibility for caregiving. Given that work stressors seem to be more strongly associated with WIF than with FIW and that family stressors seem to be more strongly associated with FIW than with WIF (Frone et al., 1992a), this gender difference with respect to areas of responsibility might be interpreted as suggesting that men will experience higher WIF than women and that women will experience higher FIW than men. The predictions of Gender Role Theory with respect to WIF and FIW for specific care groups will be discussed in Section 2.7.

2.6.3 PERCEIVED CONTROL

Ganster and Fusilier (1989) defined perceived control to be 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. Karasek developed a theory that hypothesizes that greater perceived control can moderate the effects of a demanding job (Karasek, 1979; Karasek, 1989). The basic elements of his approach are summarized in Table 2.

Table 2. The Karasek Demands-Control Model (Karasek & Theorell, 1990)

		Demands	
		High	Low
Control	High	Moderate Strain	Low Strain
	Low	High Strain	Moderate-High Strain

According to Karasek's theory, a job with low perceived control and high demands can lead to high strain which may in turn have negative consequences for an employee's mental and physical health. Examples of such "high strain" jobs include: cashier, assembly line-worker, and data-entry clerk. In these types of jobs, the demand for throughput is high while control over how the job is performed is low. Karasek proposed the idea that employees with high perceived control would take steps to reduce job-related stress by making appropriate changes to their job situation. In making these changes, employees would then develop decision-making and coping skills, which in turn would help them to handle stress more effectively in the future (Karasek, 1989). In support of this theory, Karasek provided evidence that those in high strain jobs had

higher rates of cardiac heart disease and other somatic symptoms associated with stress than those in low strain jobs (Karasek, 1989). Further support for Karasek's theory is provided by a number of studies that have shown that employees with high job demands tend to report fewer negative outcomes if they also have high perceived control (Dwyer & Ganster, 1991; Fox et al., 1993; Wall et al., 1996; Xie, 1996).

Worryingly, high strain jobs are not uncommon. Wilkins and Beaudet (1998) found that 40% of Canadian workers in high strain jobs reported high stress versus 16% in low strain jobs (low demands, high control). The prevalence of high strain jobs is troubling because of the wide range of potentially negative effects. In addition to the evidence provided by Karasek (1989), numerous other studies have also found high strain jobs to be associated with indications of employee distress including: absenteeism, reduced job satisfaction, depression, emotional exhaustion, and poor physical health (Dwyer & Ganster, 1991; Fox et al., 1993; Karasek et al., 1987; Landisbergis, 1988; Wall et al., 1996; Warr, 1990; Xie, 1996).

Observations with respect to the impact of perceived control allow a more sophisticated view of the consequences of high demands: Individuals with high demands that also have high levels of perceived control will suffer fewer negative effects than individuals with high demands and lower levels of perceived control. Perceived control may, in fact, moderate the effects of high demands in the work or family domains resulting in lower

WIF and FIW. Specific evidence for the moderating potential of perceived control for WIF and FIW with respect to individual care groups will be discussed in Section 2.7.

2.6.4 APPLICATION OF GENDER ROLE THEORY TO PERCEIVED CONTROL

Barnett and Baruch (1987a) have applied Karasek (1979)'s Demand-Control Model to Gender Role Theory and have produced some thought-provoking insights that suggest that women may experience higher WIF and FIW than men.

As Barnett and Baruch (1987a) explain, the typical caregiving role of women is onerous for three main reasons:

- 1) Women are always "on call" and have a responsibility that can rarely be delegated. Indeed, "central to the traditional roles of wife and mother is the obligation to be available to meet the demands of the family, to be ready to respond whenever someone calls" (p. 133). This obligation inevitably conflicts with other responsibilities such as work.
- 2) Women feel themselves, and are felt by others, to be responsible for something, which is largely outside their control, namely, the happiness of their husbands and children.
- 3) The cultural expectation that women should naturally perform their caregiving role without negative consequences may increase the strain of caregiving for

women and make them more reluctant to seek social support. As social support has been found to be associated with lower levels of stress (Nelson & Quick, 1991), this reluctance may exacerbate the stressful effects of caregiving for women.

Taken together, Barnett and Baruch (1987a) believe that these three factors constitute “a combination of low control, relentless demands, and great responsibility” (p. 133), which places women in the high strain quadrant of Karasek’s Demand-Control Model. In contrast, they believe that the core family role of breadwinner places most men in the low strain quadrant (high control, low demands).

According to Barnett and Baruch (1987a), the role of breadwinner is more conducive to greater perceived control than is the role of homemaker in part because the two roles are carried out in two very different environments. Usually, the workplace is a much more structured environment than the home with requirements and rewards made relatively clear and fairly set schedules. Moreover, these authors feel that society does not expect the role of breadwinner to come naturally and thus breadwinners are perceived to be entitled to receive emotional support from their wives. This suggests that men may receive more social support in their core role than do women, which may help to reduce their stress (Nelson & Quick, 1991).

There is certainly evidence to support Barnett and Baruch (1987a)'s contention that men and women have different core roles. For example, Simon (1995)'s study suggests that women are perceived, both by men and by women, to bear the prime responsibility for the "happiness of the home." Women may also be affected to a greater extent by family stress than work stress because they take greater responsibility for the family. Along these lines, Kandel et al. (1985) found that for women, but not for men, family stress was more strongly related to measures of negative mental health, such as depression, than was work stress.

Further, the specific types of household tasks that women tend to perform, such as preparing meals (Brody 1990; Statistics Canada, 1999b), may contribute to stress because they are difficult to postpone to a more convenient time. In this connection, Barnett and Shen (1997) found that "low schedule control" household tasks were more likely to be associated with psychological distress than tasks that were easier to postpone such as yard-work.

Overall, the different core roles of men and women may explain why men have typically been found to have greater perceived control than women (Frankenhaeser et al., 1989; Greenhaus & Beutell, 1985; Roxburgh, 1996). This difference in levels of perceived control, which as discussed may be a moderator of stress, could go some way towards explaining why women have generally tended to experience higher levels of stress and

mental illness than men (Bekker et al., 2001; Gove, 1984; Matuszek et al., 1995; Nakao et al., 2001; Nolen-Hoeksema, 2001).

In short, women may be especially at risk from the stress of caregiving because their family roles combine high demands and low control. This greater stress for women may in turn result in women experiencing higher WIF and FIW than men.

2.7 FOUR THEORETICAL PERSPECTIVES: PREDICTIONS FOR WIF AND FIW BY CARE GROUP AND GENDER

Based on a review of both available theory and empirical evidence, this section discusses the specific predictions of each of the four theoretical perspectives for WIF and FIW with respect to each individual care group and, where possible, with respect to each gender. For convenience, the organization of this section is by care group.

With regard to the issue of empirical evidence, it should be stressed that there are currently very few studies available that relate specifically to WIF and FIW or even to RI more generally. Thus, throughout this section it will often be necessary to extrapolate from the cognate empirical research literature.

2.7.1 CHILD CARE

2.7.1.1 MULTIPLE ROLE THEORY

Multiple Role Theory has two conflicting approaches to the effects of multiple roles: expansion and scarcity. The expansion approach predicts that employed child caregivers will have lower WIF and FIW than employees without caregiving responsibilities because more roles provide more opportunities to buffer negative experiences and to learn valuable skills. The scarcity approach, on the other hand, predicts that employed child caregivers will experience higher WIF and FIW than employees without caregiving responsibilities because caregiving depletes a scarce supply of personal resources. Although there is little research that pertains directly to the predictions of Multiple Role Theory for child caregivers, inferences can be drawn from the related literature.

In line with the predictions of the expansion approach, parents who have a larger number of roles seem to enjoy much better emotional and physical health than parents who have a smaller number of roles (Baruch & Barnett, 1986; Thoits, 1986; Verbrugge, 1983). This finding is consistent with that of studies that have focused on women alone (Collijn et al., 1996; Waldron & Jacobs, 1989). Similar results have also been found with respect to well-being in a study of single mothers with developmentally disabled children (Gottlieb, 1997) and with respect to psychological health in a study of women returning to school at a community college (Kopp & Ruzicka, 1993).

These results, however, may simply reflect a sample selection bias in the sense that those in better physical and psychological health may tend to take on more roles. Against this, studies by Barnett and her colleagues suggest that additional roles, and particularly additional roles that are perceived to be high-quality, can actually reduce the negative effects of some forms of distress (Barnett et al., 1992a; Barnett et al., 1992b; Barnett & Hyde, 2001). For example, Barnett et al. (1992) found that a decrease in job quality increased psychological distress for both single women and women without children. A decrease in job quality, though, had no effect on psychological distress for either married women or for women with children. This finding suggests that having an additional role or roles has the potential to “buffer” the potentially negative effects of other roles.

In contrast, studies that have compared employed parents to employed nonparents suggest that parents are suffering from a scarcity of personal resources as the scarcity approach would predict. By way of illustration, Galinsky et al. (1996) found that employed parents perceived their jobs to be more demanding than those of employed nonparents and perceived themselves as both making more sacrifices for their jobs and having less control. In fact, the employed parents were more likely to feel that “difficulties were piling up so high they could not overcome them” (p.127). Also, employed parents felt less able than employed nonparents to “control the important things in their lives” or “to cope with all the other things they had to do” (p. 127).

Perhaps because employed parents felt that they were unable to reduce their level of stress by increasing their level of control, they responded instead by trying to reduce their level of demands. Thus, employed parents were more likely to say that, as a result of their family or personal responsibilities, they had: worked fewer hours, rearranged their work schedules, refused overtime, refused travel, refused promotions, or turned down interesting assignments. This pattern of findings suggests that employed parents are indeed suffering from a scarcity of personal resources and hence that they may experience higher WIF and FIW than employed nonparents.

Furthermore, as mentioned above, a number of studies comparing employed parents to employed nonparents have found that the employed parents experienced greater stress, greater time-pressure, and higher WFC (Barnett & Baruch, 1985; Frederick & Fast, 2001; Friedman & Greenhaus, 2000; Googins, 1991; Gore & Mangione, 1983; Statistics Canada, 1999b). Variables such as stress, time-pressure, and WFC all appear to be fairly closely related to WIF and FIW, so these findings provide additional support for the inference that employed parents may suffer from higher WIF and FIW than employed nonparents.

On balance, the literature seems to support the predictions of the scarcity approach rather than those of the expansion approach. This suggests that the child care group is likely to experience higher WIF and FIW than the no-care group.

2.7.1.2 GENDER ROLE THEORY

Gender Role Theory predicts that employed fathers will devote more time to and take more responsibility for the role of breadwinner, while employed mothers will devote more time to and take more responsibility for child care and home chores. The specific types of child care that parents provide also tend to reflect traditional gender roles. These gender differences in core roles may lead to corresponding gender differences in WIF and FIW.

Time in Role

In support of the predictions of Gender Role Theory, men seem to devote more time to the role of breadwinner than do women. Data from the 1998 Statistics Canada Time Use Study, which is based on diaries and telephone interviews of 10,749 Canadians, indicate that fathers spend significantly more hours in work than mothers. More specifically, married, male, full-time employees aged 25-44 performed an average of 6.9 hours of work per day compared to an average of 5.6 hours for women in the same group (Statistics Canada, 1999b).¹⁴ Similar figures also hold for the United States (Googins, 1991; Spitze et al., 1994).

Interestingly, this gender difference in time devoted to breadwinning exists even for couples in which both partners are highly career-oriented. For example, Duxbury and

¹⁴ Averaged over a seven-day week.

Higgins (1994) found that, in the case of couples with one or more children under the age of 5, where both parents were managers or professionals with high levels of paid work involvement, men spent an average of 9.3 hours per workday in work as opposed to an average of 8.9 hours for women. Moreover, this gender difference does seem to be related to parenthood in that men tend to increase their hours of work after having fathered a child (Lundberg & Rose, 2000), while women tend to decrease their hours of work after returning from maternity leave (Walzer, 1996).

Just as fathers seem to devote more time to breadwinning, mothers seem to devote more time to child care. In 1998, for example, Canadian female full-time employees, living with a spouse and at least one child under the age of 15, performed an average of 41 hours of child care per week compared to an average of 21.8 hours for male full-time employees living in a similar domestic arrangement.¹⁵ This gender difference has also been observed in the United States. As an example, Darling-Fisher and Tiedje (1990) found that, in families with full-time working mothers, mothers spent twice as many hours engaged in child care as fathers. Interestingly, Higgins et al. (1992a) found that this gender difference in the time spent in child care seems to occur both where the parents are full-time managers or professionals and where the parents are working full-time, but neither is working as a manager or as a professional.

¹⁵ Computed from data reported in the Statistics Canada 1998 Time-Use Survey (Statistics Canada, 1998b).

As for gender differences with respect to home chores, Canadian female full-time employees, living with a spouse and at least one child under the age of 15, performed an average of 16.4 hours of home chores per week in 1998 compared to an average of 9.4 hours for male full-time employees living in a similar domestic arrangement.¹⁶ Research by Galinsky et al. (1996), Gutek et al. (1991), and Hochschild (1989) confirms that a comparable situation exists in the United States: American working mothers typically perform more hours of home chores than American working fathers. Interestingly, Higgins et al. (1992a) again found that a similar gender difference seems to occur both where the parents are full-time managers or professionals and where the parents are working full-time, but neither is working as a manager or as a professional.

Finally, to round out this discussion with respect to time allocation, it is useful to give an overall sense of gender differences by focusing on the time use figures for one pertinent population segment. Accordingly, Table 3 presents figures for married, full-time employed parents aged 25-44.

¹⁶ Computed from data reported in the Statistics Canada 1998 Time-Use Survey (Statistics Canada, 1998b).

Table 3. Time use: Married parents employed full-time: Age 25-44

	Hours per day					
	Paid Work (includes commute)	Unpaid Work	Total Work	Sleep	Other Personal Care	Free Time
Males	6.9	3.3	10.2	7.5	2.1	4.2
Females	5.6	4.9	10.5	7.8	2.1	3.6
Difference	1.3	(1.6)	(0.3)	(0.3)	0.0	0.6

Source: Statistics Canada 1998 General Social Survey (Statistics Canada, 1999b).

For this population segment, it can be seen that women, on average, work more hours overall (less paid work, but more unpaid work), sleep more, and enjoy less free time than men.

Responsibility

Turning now to the degree of responsibility taken for particular roles within the family, both men and women, even in the case of dual-earner couples, have a tendency to believe that the primary responsibility for the role of breadwinner should be taken by the man (Coltrane, 1996; Potuchek, 1997; Simon, 1995). Indeed, performing adequately in the role of breadwinner may be so important to men that men who feel that they are under-performing in this role may take even less responsibility than otherwise for child care and home chores and/or become harsher and more rejecting in their interactions with their children (Doherty et al., 1998).

A number of researchers have observed that working women tend to take primary responsibility for child care (Condran & Bode 1982; Darling-Fisher & Tiedj, 1990; Goff et al., 1990; Leslie et al., 1991). As Barnett and Baruch (1987b) have so keenly observed, taking primary responsibility for child care is different from merely carrying it out. In particular, it involves “remembering, planning, and scheduling”. This greater accountability may explain why primary responsibility for child care is associated with higher total absenteeism and higher absenteeism due to family reasons (MacBride-King, 1990),¹⁷ as well as with higher levels of perceived stress and tension (Higgins et al., 1992a; Lero et al., 1993). In addition, interviews with parents suggest that women see themselves as constantly serving in the role of mothers even when attending to other tasks while men are much more comfortable turning off the role of father (Ehrensaft, 1995; Walzer, 1996). The greater responsibility that mothers take for child care and the fact that mothers seem to be less likely to create boundaries between themselves and their parental role may result in mothers experiencing higher levels of FIW than fathers.

Working mothers not only take more responsibility for child care, but also they take more responsibility for home chores than do their partners (Baker, 2001; Coltrane, 1996; Dienhart, 1998; Pleck & Pleck, 1997; Shelton, 1992). In addition, these women are more

¹⁷ As noted above, this author provided no information as to the statistical significance of such comparisons.

likely to supervise the completion of home chores by others, ensuring that a task is done and done adequately, whether done by paid help or other family members (Baker, 2001; Dienhart, 1998; Pleck & Pleck, 1997). Finally, working mothers are more likely to take responsibility for the most tedious and least pleasant household tasks, for example cleaning toilets, than are their partners (Coltrane, 1996; Shelton, 1992).

Types of Child Care

The types of child care that parents provide for their children also seem to differ by gender. Generally speaking, mothers provide more care for infants and younger children and more personal care for children of all ages than fathers. In addition, mothers are more likely to be involved in “emotional work” and to take primary responsibility for almost all types of child care. Support for these points is presented below.

As noted above, women spend more time than men engaged in child care overall. This difference is particularly marked in the case of care for infants and younger children (Silver, 2000; Walzer, 1996). For example, Statistics Canada's 1995 General Social Survey indicated that mothers, who were employed full-time with a child aged 0 to 4 years, spent 2.1 more hours per day caring for that child than fathers in a similar situation (Silver, 2000). To a significant degree, this gender difference in time spent with infants and younger children reflects the greater need of infants and younger children for personal care and the fact that personal care (feeding, washing, dressing, and the provision of medical care) for children of all ages is more likely to be the responsibility

of the mother (Silver, 2000). However, the greater part of this gender difference in time spent with infants and younger children cannot be attributed to such personal care factors and may well indicate that parents are responding to more general societal expectations that women rather than men will take primary responsibility for the care for infants and young children (Silver, 2000; Willinger, 1993).

Mothers are also more likely than fathers to deal with the emotional side of child care or “emotional work”. Typically, a mother’s emotional work includes: 1) noticing when children are unhappy and trying to resolve children’s problems (Lamb, 1995; Walzer, 1996); 2) encouraging the father both to spend time and to share expertise with the children (Aldous et al., 1998; Jordan, 1995); and 3) smoothing over disagreements among family members (Baker, 2001; Seery & Crowley, 2000). Emotional work is widely considered to be vital to the emotional health of individual children and the family unit (Aldous et al., 1998; DeVault, 1991; Seery & Crowley, 2000; Walzer, 1996).

Finally, with respect to types of child care, mothers seem to be much more likely than fathers to take primary responsibility for almost all types of child care. Indeed, Pleck (1997) goes so far as to say that: “Research has yet to identify any child-care task for which fathers have primary responsibility” (p. 73). Some studies, however, have reported that fathers predominate in tasks such as contact with older children (Silver, 2000) and counselling (Aldous et al., 1998), although other studies do not support these findings (Collins & Russell, 1991; Doherty et al., 1998; Lamb, 1995). One clear exception to the

general rule would seem to be that fathers are much more likely to provide "rough-and-tumble play" than are mothers (Collins & Russell, 1991; Dienhart, 1998; Maccoby, 1990; Snarey, 1993).

Overall, the empirical data seem to be more or less consistent with Gender Role Theory which predicts that men perform more hours of work and take more responsibility for earning a living than do women, while women perform more hours of home chores and child care and take more responsibility for these duties than men. Women also seem to perform more typically "female" tasks such as infant care, personal care, and emotional work while men may predominate in rough-and-tumble play.

As hours of work seem to be more associated with WIF and hours of family work seem to be more associated with FIW (Gutek et al., 1991), these gender differences in core roles may mean that men experience higher WIF than women and that women experience higher FIW than men. It should be noted, however, that Gutek et al. (1991), who controlled for hours of work and hours of family work in their study, found women to have both higher WIF and higher FIW than men. This last finding suggests that, when hours of work and hours of family work are controlled for, it is the greater responsibility that women take for child care that results in women having both higher WIF and higher FIW than men.

2.7.1.3 PERCEIVED CONTROL

As discussed in Section 2.6.3, the theory of perceived control contends that perceived control can moderate the potentially negative consequences associated with high job demands. There is also some evidence to suggest that the beneficial effects of perceived control may extend to the domains of work and family in that higher perceived control seems to be associated with lower WIF, FIW, and WFC. Along these lines, the potential moderating effects of perceived control may be particularly important to employed child caregivers because there is some evidence that employed parents have lower levels of perceived control than employed nonparents (Galinsky et al., 1996; Googins, 1991).

Thomas and Ganster (1995) showed the importance of perceived control in reducing WFC by examining "perceptions of control over areas of work and family". To do this, the authors designed a 14-item scale which incorporated items such as: "How much choice do you have over the amount and quality of daycare available for your child/children?" Using this scale, the authors found that flexible schedules and greater perceived supervisor support were associated with increased perceived control. In turn, perceived control was found to be associated with lower levels of WFC. This finding suggests that perceived control may also be associated with lower WIF and FIW, a suggestion that is supported by the results of a study by Duxbury et al. (1994).

Duxbury et al. (1994) contrasted two groups of full-time employees with child care responsibilities by their level of perceived control. An attempt was made to hold family

demands constant by restricting the sample to full-time employees whose children were both living at home 100% of the time and aged between 6 and 12. It was found that full-time employees who had a high level of perceived control tended to have lower levels of WIF, FIW, and WFC.

The findings of these studies imply, using different types of perceived control, that higher levels of perceived control for child caregivers are likely to be associated with lower levels of WIF and FIW.

2.7.1.4 APPLICATION OF GENDER ROLE THEORY TO PERCEIVED CONTROL

The Application of Gender Role Theory to Perceived Control contends that mothers experience higher strain than fathers because the core role of mothers is characterized by both high demands and low control. The following discussion presents the evidence for this contention. This is a useful exercise because if mothers do experience higher strain than fathers, then mothers may also experience higher WIF and FIW.

In terms of the antecedents of strain, there does seem to be evidence linking the role of mother to high demands and low control. As noted above, women perform significantly more hours of family-related work and take more responsibility for child care. This heavy load can be interpreted as representing high demands. In addition, mothers typically have low control because they are more likely to be continuously “on call” than men. As a case in point, MacBride-King (1990) found that employed mothers were

almost four times more likely than their male counterparts to report that they stay home when their children are ill. Googins (1991) also found that two-thirds of women in dual-income families reported that they stayed home with a sick child as opposed to 21% of men.

There is evidence to suggest that motherhood is associated with high strain. In a study of women's social roles, role conflict and role overload were found to be associated with motherhood but not with the roles of employee or wife (Barnett & Baruch, 1985). In another study, interviews indicated that women found the role of mother to be particularly stressful because of the lack of structure and the apparently limitless demands (Baruch et al., 1985). The high level of stress associated with motherhood might explain why mothers who juggle work and family have been found to experience higher levels of perceived stress than fathers in the same situation (Bolger et al., 1989; Duxbury & Higgins, 1994; Fast & Frederick, 1996; Wiersma, 1990).

In short, there is evidence to support the claim that the role of motherhood is characterized by high demands and low control as well as by high strain. If employed mothers do experience higher strain than men, this suggests that women may also experience higher WIF and FIW than men. Furthermore, as this strain is primarily associated with the family domain, and as family stressors appear to be more associated with FIW than with WIF, the likely gender difference in FIW may be more marked than that in WIF.

2.7.2 ELDER CARE

Research and theory with respect to the impact of combining child care and work suggest that fulfilling both these roles together may be associated with higher levels of WIF and FIW. Similar arguments can be made with respect to the impact of combining elder care and work.

2.7.2.1 MULTIPLE ROLE THEORY

As in the case of child caregivers, Multiple Role Theory offers two conflicting predictions with regard to the impact of combining care and employment for elder caregivers: expansion and scarcity. Again, the literature does not provide direct support for either approach. Consequently, inferences must be drawn from the related literature.

In line with the expansion approach, elder caregivers who are also both married and working appear to enjoy better mental health and to be less likely to resent the role of elder caregiver than elder caregivers who fulfill fewer roles (Brody et al., 1987; Frederick & Fast, 1999; Scharlach, 1994; Skaff & Pearlin, 1992; Stull et al., 1994). Moreover, Brody et al. (1987) found that female elder caregivers who remained employed had better mental health than those who had had to quit work in order to care for an elderly relative. This last finding, however, may reflect a self-selection bias in that the female elder caregivers who remained employed may have been caring for elders who required less attention.

There is also evidence to suggest that performing more roles may reduce the effects of some forms of elder care distress (Scharlach, 1994; Skaff & Pearlin, 1992; Stull et al., 1994). For example, Skaff and Pearlin (1992) found that elder caregivers who held a number of roles as parent, spouse, and employee were less likely to perceive a “loss of self” as the result of the caring demands of an elderly person. Similarly, Scharlach (1994) reported that 58% of the female elder caregivers that he surveyed reported that they felt better able to relate to the elder under their care because of the stimulation and satisfaction that they received from their work. Thus, it may be the case that holding a variety of roles allows the positive benefits of additional roles to reduce the strain associated with elder caregiving (Brody, 1990; Frederick & Fast, 1999). It may also be the case, as mentioned above, that elder caregivers who hold a number of roles provide care for elders who require less intensive support. Hence, it may be that the expansion effect occurs only at a relatively low level of caregiving demands.

In line with the scarcity approach, on the other hand, employed elder caregivers tend to report lower work-family balance and higher absenteeism than employees without caregiving responsibilities (Buffardi et al., 1999; MacBride-King, 1990; Neal et al.,

1990).¹⁸ In addition, Murphy et al. (1997) found that those with three roles (parent, worker, and elder caregiver) had higher levels of stress and exhaustion than those with only one of these roles. These results seem to suggest that those who combine elder care and employment are, as the scarcity hypothesis would suggest, suffering from a scarcity of personal resources. Furthermore, the high levels of work-family balance, absenteeism, stress, and exhaustion that were observed in these studies all appear strongly to suggest that these elder caregivers also experience high WIF and FIW.

On balance, the literature seems to support the predictions of the scarcity approach rather than those of the expansion approach. This suggests that the elder care group is likely to experience higher WIF and FIW than the no-care group.

2.7.2.2 GENDER ROLE THEORY

Gender Role Theory predicts that female elder caregivers will perform more hours of care, take more responsibility for elder care, and provide different types of care than male elder caregivers.

¹⁸ Neal et al. (1990) reported that this difference was statistically significant. The other two studies provided no information on statistical significance. As discussed above, there are methodological concerns with respect to the results of these studies.

Research evidence provides support for Gender Role Theory with respect to elder care. Women provide more hours of care and represent the majority of employed caregivers in both Canada (Frederick & Fast, 1999; Keating et al., 1999; Lero & Johnson, 1994) and the United States (Brody et al., 1995; Crawford et al., 1994; Franklin et al., 1994; Mui, 1995). In 1998, of those full-time employees who spent more than an hour per week engaged in unpaid elder care, women spent an average of 7.1 hours per week as against an average of 5.6 hours per week for men.¹⁹ Also, some authors report that men provide significant help to parents only if they have no female sibling (Brody, 1990; Horowitz, 1985a). In these cases, men rely heavily on their wives' support, particularly for personal care (Brody, 1990; Horowitz, 1985a).

As with child care, women also tend to take more responsibility for their elder caregiving role than men (Brody, 1990; Horowitz, 1985a; Keating et al., 1999). Along these lines, women are more likely to be involved in caregiving that requires a high degree of dedication because they are more likely to be the main, and often the only, caregiver (Keating et al., 1999). In addition, women are more likely to care for elders with higher levels of impairment (Starrels et al., 1997). Furthermore, as Dwyer and Coward (1991) concluded, based on a study of 13,000 sons and daughters, not only are

¹⁹ Computed from data reported in the Statistics Canada 1998 Time-Use Survey (Statistics Canada, 1998b).

daughters more involved in elder care than sons, but they are also less likely to drop out of the caregiving role as the elder care recipient's functional level worsens over time.

Moreover, women and men tend to provide different types of care. Women provide more personal care such as help in dressing, personal hygiene, toileting, eating, and help in taking medication (Dwyer & Coward, 1991; Gignac et al., 1996; Keating et al., 1999). Women also provide more emotional support than men (Brody, 1990; Kingsmill & Schlesinger, 1998). In contrast, male caregivers tend to perform more "traditionally male" tasks such as yard-work or financial management (Blieszner & Alley, 1990; Keating et al., 1999). They are also more likely to supervise paid caregivers than to provide care personally (Bond et al., 1990). In addition, male caregivers are more likely to receive household help or financial assistance from the elderly care recipient, usually their mother, than are female caregivers (Starrels et al., 1997).

It should be noted that most of the studies referred to above do not distinguish between the elder care behaviour of employed and nonemployed women. It may be the case that the gender differences found simply reflect higher work rates for males than females. It is not clear, however, that engaging in employment reduces the level of commitment for female elder caregivers. Indeed, some studies have found no difference between the caregiving hours of employed women and nonemployed women (Stoller, 1983; Walker et al. 1995). Stoller (1983), for example, found that, while employment reduced hours of caregiving by an average of 22.9 hours per month for sons, there was no such reduction

for daughters. Other studies, though, have found a difference. For example, Lang and Brody (1983) found that employed daughters provided only half as many hours of elder care (6.2 hours per week) as nonemployed daughters (12.3 hours per week). It has also been observed that employed women are more likely to hire elder care services, which may reduce the number of hours of care that they have to provide themselves (Brody & Schoonover, 1986; Doty 1998).

Overall, it seems fair to say that, as with child care, the elder care behaviour of men and women tends to conform to the general predictions of Gender Role Theory. Women tend to provide more care and especially more personal care and emotional support. Thus, the greater family demands that female elder caregivers respond to may result in women suffering higher WIF and FIW than male elder caregivers. Moreover, as family stressors seem to be more related to FIW than to WIF, the greater family demands that female elder caregivers experience may mean that the gender difference is more marked in the case of FIW.

2.7.2.3 PERCEIVED CONTROL

As discussed above with respect to child caregivers, perceived control may play a crucial role in moderating WIF and FIW. As elder care appears to be a low control activity, elder caregivers may have low perceived control and therefore higher WIF and FIW. There are a number of reasons to believe that elder caregiving is associated with a low level of perceived control. First, there is often a distinct lack of choice involved in

assuming elder care responsibilities. Second, there is often a lack of predictability associated with the time-frame and the time requirements of elder care responsibilities. Third, there are often significant issues related to the interpersonal dynamics between the elder caregiver and the elder care recipient. Fourth, there is a lack of control over the final outcome, that of the elder care recipient's ultimate demise. These issues are considered in turn below:

Lack of Choice in Assuming Elder Care Responsibilities

Contrasting the onset of child care responsibilities with the onset of elder care responsibilities can be instructive. While the birth of a child is an event likely to be planned and eagerly anticipated, this is unlikely to be the case for elder care. Indeed, the requirement to begin providing elder care is often the result of a sudden deterioration in the health of an elderly relative. Thus, not infrequently, the new elder caregiver finds herself or himself thrown into a caregiving situation at an emotional time without being fully prepared to cope with the demands (Barling, 1990; Desjardins, 1993).

Moreover, watching an elderly relative deteriorate mentally and/or physically is something few people would relish. Brody (1990) quotes a woman with elder care responsibilities saying, "It's not like having a child in the sense the older person is not getting more exciting or interesting and adventurous every day but going into the other direction. So it is a downer" (p. 86). Eldercare therefore is clearly different from the

typical child care situation in which the time-frame is more certain and the anticipated outcome is more positive; the development of an independent adult (Neysmith, 1998).

Lack of Predictability as to the Time-Frame and Time Requirements of Elder Care

One of the biggest challenges related to elder care is the uncertainty surrounding the overall time-frame as the elder care recipient can often potentially linger in an increasingly debilitated state for many years into the future (Buffardi et al., 1999). This makes it very difficult for the elder caregiver to plan.

A separate, but related, issue is that the short-term time requirements of elder care can be quite different from the short-term time requirements of child care (Barling et al., 1994). In particular, the time demands of elder care can be much more unpredictable. For example, sudden health emergencies can lead to more frequent interruptions during work (Hepburn & Barling, 1996). This is especially likely in the case of elder caregivers who eschew paid services and try to monitor the requirements of the elder care recipient during work.

In addition, emotional support, which is often considered to be the most important type of care (Brody, 1990; MacBride-King, 1990; Raphael & Schlesinger, 1994), can be the most difficult type of elder care requirement to fulfill as it is not confined to set tasks which can more easily be scheduled. As a result, this type of care may be the most difficult to reconcile with the demands of working life (Keating et al., 1999).

Interpersonal Dynamics Between the Elder Caregiver and the Elder Care Recipient

The nature of the interpersonal relationship between the elder caregiver and the elder care recipient can also significantly influence the elder caregiver's level of perceived control. In particular, this relationship is not always free of conflict. Elderly parents sometimes attempt to dominate their adult children and this can turn the caregiving relationship into something of an ordeal. This in turn can increase the strain on the caregiver considerably (Horowitz, 1995b). As Brody (1990) observes, "Often the psychological balance of power is held by the elderly parent. There is insufficient attention on the part of professionals to empowering some caregivers by helping them to extricate themselves from control that sometimes amounts to tyranny" (p. 89). In this regard, Keating et al. (1999), using information from Statistics Canada's 1996 General Social Survey, found that 22.9% of elder caregivers reported feeling anger when they were around the person receiving their help.

A related factor is the emotional readjustment that is often required on the part of the elder caregiver. Most elder caregivers are caring for an elderly parent, usually their mother (Keating et al., 1999), and part of the strain of elder care may come from having to come to terms with the reality that the parent is no longer someone who can supply strength, but rather someone who needs emotional support (Horowitz, 1985b).

Lack of Control Over the Final Outcome

The inevitable outcome of elder care, namely, the ultimate demise of the elder care recipient, is also stressful and contributes to the low level of perceived control associated with this type of caregiving. As Stoller and Pugliesi (1989) have pointed out, "Caring for older people in poor health involves emotional as well as physical burdens as caregivers must cope with the anticipatory bereavement accompanying the irreversible decline in their elderly relative or friend" (p. S232). Furthermore, as Horowitz (1985b) has observed, adult children must accept their own lack of control. Adult children can only do so much and must come to terms with the fact that the elderly parent is eventually going to die and the elder caregiver cannot change this. Caring for an aging person may also force caregivers to acknowledge the inevitability of their own aging and mortality, thus further increasing their own sense of helplessness.

Overall, it seems likely that elder caregiving is associated with a low level of perceived control. This low level of control may result in elder caregivers experiencing higher WIF and FIW.

2.7.2.4 APPLICATION OF GENDER ROLE THEORY TO PERCEIVED CONTROL

As mentioned above, Baruch and Barnett (1987a) believe that mothers are more likely than fathers to experience high strain because the caregiving role of mothers is characterized by high demands and low perceived control. This theory can reasonably be extended to elder care. If female elder caregivers do experience higher demands and

lower control in their elder care role than do male elder caregivers, this would imply that female elder caregivers experience greater strain. Higher strain for female elder caregivers may be associated with higher WIF and FIW.

As discussed above in Section 2.7.2.2, there is certainly evidence that female elder caregivers deal with a high level of demands. For example, women perform significantly more hours of elder care and take more responsibility for the elder care role than men (Brody, 1990; Dowler et al., 1992; Frederick & Fast, 1999; Horowitz, 1985a; Keating et al., 1999; Lero & Johnson, 1994).

In addition, there is also reason to believe that women may experience low perceived control in their role of elder caregiver. Women are more likely to be more or less continuously “on call” in this role because women perform tasks that are difficult to postpone and to schedule. For example, women provide more personal care such as dressing, feeding, helping the elderly person to the toilet, and supervising medication than do men (Dwyer & Coward, 1991; Gignac et al., 1996; Keating et al., 1999). Men, on the other hand, tend to take responsibility for tasks that can be delayed or done at the caregiver’s convenience such as yard-work and managing personal finances (Blieszner & Alley, 1990; Keating et al., 1999). Men are also more likely to hire paid services than are women (Bond et al., 1990). This difference in the type of care provided suggests a difference in the level of control that men and women have with respect to elder care tasks.

This possible difference in the level of control in male and female elder caregiving may explain why perceived control is so important to female elder caregivers. In this connection, Parks and Pilisuk (1991) found that perceived control over the elder care situation was the single most important predictor of burden for women, but was not associated with burden for men.

Men's attitudes towards elder care may also allow them to maintain more control over elder caregiving than women. Male caregivers seem to maintain control by limiting the degree to which they allow the demands of elder care to affect their lives. In this way, a number of authors have commented that male caregivers are better able to cope because they are better able to distance themselves emotionally from the elder's problems and are less likely to allow an elder's needs to intrude on their leisure time (Bond et al., 1990; Kaye & Applegate, 1990; Walker et al., 1995). For example, men are more likely to leave the elderly person unattended and are therefore less likely to be socially isolated than women (Gilhooly, 1984).

In addition to the evidence presented above which suggests that female elder caregivers respond to greater demands than do male elder caregivers, there is also evidence that female elder caregivers experience greater strain in their role of elder caregiver as well. For example, Horowitz (1985a) found, in her interviews of men and women who provided the primary source of unpaid care for an elderly relative, that women were

more likely than men to be negatively affected by elder caregiving. Men, in this study, were more likely than women to spontaneously respond “no problem” when asked about problems of providing care (34% of men versus 11% of women). Women, however, were more likely to believe that they had to give up something because of caregiving responsibilities (60% of women versus 32% of men) or to believe that they had neglected other family responsibilities (31% of women versus 9% of men). Moreover, women were also more likely to report that their leisure time had been affected (56% of women versus 22% of men), that their emotional state had been affected for the worse (59% of women versus 31% of men), or that their plans for the future had been negatively affected (43% of women versus 16% of men). Of course, these attitudes and behaviours may not necessarily reflect any greater degree of callousness on the part of male elder caregivers. Rather, they may simply reflect the fact that male elder caregivers are more likely to be providing care for elders with a lower degree of impairment and to be involved in less critical tasks (Kaye & Applegate, 1990; Walker et al., 1995). These findings do suggest, however, that females may experience higher strain in their role of elder caregiver than do men.

A recent study by Keating et al. (1999), summarized in Table 4, provides further support for the view that in many different ways female elder caregivers seem to find the provision of elder care to be more of a strain than do male elder caregivers.

Table 4. Strain experienced by elder caregivers over the past 12 months

	% positive response		
	Female elder caregivers	Male elder caregivers	Overall
Looking back over the past 12 months:			
a) Has helping others caused your health to be affected?	27.5	10.6	20.8
b) Do you feel that, because of the time you spend helping people, you don't have enough time for yourself?	45.1	35.5	41.3
c) Do you feel stressed between helping others and trying to meet other responsibilities for your family or work?	59.4	44.7	44.7
d) Do you feel angry when you are around the person(s) you are helping?	25.2	19.4	22.9
e) Do you wish that someone else would take over your caregiving burden?	37.3	34.0	36.0
f) Do you feel burdened in helping others?	18.9	17.0	18.2

Source: Keating et al. (1999) using data from the Statistics Canada 1996 General Social Survey.

Overall, it seems more than reasonable to conclude that, with respect to elder care, women are responding to greater demands under conditions of lower control than are men. Women also appear to experience greater strain in this role. This higher level of strain suggests that female elder caregivers may experience higher WIF and FIW than male elder caregivers. If, as is believed, the association between family stressors and FIW is stronger than the association between family stressors and WIF (Frone et al.,

1992a), the hypothesized gender difference may be more marked in the case of FIW than in the case of WIF.

2.7.3 SANDWICH

Empirical research with respect to the sandwich group and WIF and FIW is sparse. The theories discussed below, however, do imply that the sandwich group faces a combination of the issues associated with the child care group and the elder care group and is, therefore, likely to suffer higher WIF and FIW than either of these two groups.

2.7.3.1 MULTIPLE ROLE THEORY

There is very little empirical evidence available that addresses the predictions of either the expansion or the scarcity approach in the case of the sandwich group and the evidence that is available is not terribly reliable. Consequently, conclusions with respect to the sandwich group and WIF and FIW will have to be based largely on what can reasonably be extrapolated from the earlier conclusions with respect to the child care and elder care groups.

In support of the expansion approach, there is some evidence that those who juggle a variety of roles may be better off in some circumstances. Studies by Baruch and Barnett (1986) and Kopp and Ruzicka (1993) have found that women who occupy two or three roles have higher levels of self-esteem than women who occupy only one role. These studies, however, referred to the roles of partner, mother, and employee, rather than the

roles of child caregiver, elder caregiver, and employee. It is not clear that all roles are necessarily equal and it may well be the case that the combination of child care, elder care, and work is associated with such a high level of demands that an expansion effect does not occur.

In support of the scarcity approach, four of the five studies, reviewed above in Section 2.4, which compared the sandwich group to other care groups on measures of work-family balance found that those in the sandwich group were worst off in terms of these measures (Buffardi et al., 1999; MacBride-King, 1990; Neal et al., 1990; Scharlach & Boyd, 1989). These studies, however, were found to suffer from a number of methodological shortcomings that makes it difficult to place much faith in their conclusions.

As noted above, research with respect to the child care group and elder care group seems to support the scarcity approach more strongly than the expansion approach. It seems probable therefore that the scarcity approach will also provide more reliable predictions for the sandwich group. This implies that the sandwich group will experience higher WIF and FIW than either the child care group or the elder care group as the sandwich group performs an additional role.

2.7.3.2 GENDER ROLE THEORY

Little research effort has been devoted to the collection of data on possible gender differences in hours and responsibility of care for the sandwich group. Both Gender Role Theory and empirical research pertaining to the child care group and the elder care group, however, suggest that sandwich group women will tend to be the primary caregivers and perform more hours of care than sandwich group men. Moreover, there is evidence that women outnumber men in the sandwich group. In 1996, 15% of Canadian women between the ages of 25 and 54 provided both unpaid child care and unpaid elder care, while only 9% of Canadian men in the same age cohort provided both types of care (Statistics Canada, 2000). The fact that a greater percentage of women provide sandwich care than men provides some additional indirect support for the view that women take more responsibility for sandwich care than men.

There may also be gender differences in the manner in which men and women respond to the need to combine child care and elder care. There is evidence to suggest that women in the sandwich group permit themselves to provide a lower level of elder care than they would otherwise on the grounds that motherhood is their core role. Along these lines, Keating et al. (1999) found that mothers of children under the age of 15 scored an average of 19% lower in terms of guilt (on a guilt index) about their elder care responsibilities than did other women. This suggests that women in the sandwich group feel that they have a socially acceptable excuse for concentrating their efforts on child care and that they believe that elder care, although important, should receive secondary

attention. In other words, for sandwich group women, the strain of child care may not simply be added to the strain of elder care. Indeed, this kind of mechanism may serve the socially useful purpose of preventing too much overextension for these women.

Intriguingly, sandwich group men were found to feel more guilt about their elder care responsibilities than other men. In fact, fathers of children under the age of 15 scored an average of 13% higher in terms of guilt about their elder care responsibilities than other men. Keating et al. (1999) concluded that this reflected the fact that men feel less comfortable about dealing with any type of caregiving than women and that as a result this means that they may experience particular difficulty in combining two types of caregiving.

Another reason why sandwich group men may feel more guilt than other men with elder care responsibilities might be that fathers have gained a greater understanding of the commitment involved in raising a child than men without children. Consequently, fathers may be more likely to feel obligated to the parent who raised them than men without children. Sandwich group women, on the other hand, may have been socialized from childhood, like most women, to value caregiving more highly than men and therefore do not need to experience parenthood in order to realize the importance of elder caregiving.

Overall, it seems very likely that sandwich group women may experience higher WIF and FIW than sandwich group men. The gender difference in FIW is likely to be more

marked than in WIF, however, as family stressors seem to be more associated with FIW than WIF (Frone et al., 1992a).

2.7.3.3 PERCEIVED CONTROL

Empirical research with respect to the relationship between perceived control and WIF and FIW for the sandwich group is almost non-existent. Consequently, it will be necessary to theorize in order to make predictions. For example, it seems likely that the level of perceived control for those in the sandwich group may well be adversely affected by the competing needs of the two types of care recipients. The requirement to co-ordinate both types of care and to be “on call” for both children and elders suggests that the sandwich group may have lower levels of perceived control than either the child care group or the elder care group. As low perceived control is believed to be associated with higher WIF and FIW, those in the sandwich group may, therefore, experience higher WIF and FIW than caregivers with only one caregiving responsibility.

2.7.3.4 APPLICATION OF GENDER ROLE THEORY TO PERCEIVED CONTROL

The Application of Gender Role Theory to Perceived Control predicts that women will suffer from high strain because they experience high demands and low control in their roles as caregivers. There is little direct evidence to support the claim that this theory is applicable to women in the sandwich group. What is known about women in the sandwich group, however, strongly implies that they experience both high demands and low control. The need to balance caregiving for both children and elders is clearly

demanding. Consequently, members of the sandwich group may well perceive that they have less control over the manner in which they allocate their time and money than they would wish. In fact, the women in this group likely experience both the strains of child caregivers and the strains of elder caregivers and in addition need to co-ordinate the two types of care. This combination of strains suggests that sandwich group women may experience higher WIF and FIW than either sandwich group men or female caregivers with just a single caregiving responsibility. As family stressors seem to be most associated with FIW (Frone et al., 1992a), women in the sandwich group may experience particularly high FIW.

2.7.4 NO-CARE

In general, researchers in the work and family area have not tended to focus on the problems of the no-care group, it being implicitly assumed that the no-care group is best off in terms of WIF and FIW and other measures of work-family balance due to the absence of either child or elder care responsibilities. As a result, most empirical studies that have included a no-care group have only considered it as a control group

2.7.4.1 MULTIPLE ROLE THEORY

As noted above, research with respect to the child care group and elder care group seems to support the scarcity approach more strongly than the expansion approach. It seems probable therefore that the scarcity approach will also provide more reliable predictions for the no-care group.

The scarcity approach implies that members of the no-care group should be less likely to suffer from WIF and FIW than members of the three caregiving groups because they do not have caregiving responsibilities competing for their scarce personal resources. Although little research evidence exists that pertains specifically to the no-care group, the studies that do exist seem to support the scarcity approach. Of the five studies discussed in Section 2.4 that compared care groups in terms of work-family balance, three included a no-care group. All of these studies reported that those in the no-care group experienced less difficulty balancing work and family than those in the other care groups (Buffardi et al., 1999; MacBride-King, 1990; Neal et al., 1990).²⁰

Overall, it seems likely that the no-care group will experience lower WIF and FIW than the three caregiving groups.

2.7.4.2 GENDER ROLE THEORY

One of the implications of Gender Role Theory is that women take more responsibility for the home. This is certainly borne out in terms of who performs the most household chores, as will be discussed below, and this gender difference can be observed whether or not there are children living in the home.

²⁰ It should be noted, however, that two of the studies failed to indicate if this difference was statistically significant (Buffardi et al., 1999; MacBride-King, 1990).

According to figures reported by the Vanier Institute, 94% of women living in a home with children participated daily in household chores as compared to 53% of men. Similarly, 80% of women living in a home without children participated daily in household chores as compared to 51% of men (Vanier Institute of the Family, 1994). Moreover, not only do more women than men participate in daily household chores, they also tend to devote more time to them when they do participate. Again, according to figures reported by the Vanier Institute, women living in a home with children perform an average of 3 hours and 22 minutes of daily household chores when they do participate as opposed to an average of 2 hours and 1 minute for men. The comparable figures for those living in a home without children are 2 hours and 39 minutes for women and 1 hour and 49 minutes for men.

These findings suggest that women who do not live in a home with children and who therefore presumably do not have direct child care responsibilities still perform considerably more hours of household chores than men in a similar domestic situation. This, in turn, suggests that no-care group women probably have higher WIF and FIW than no-care group men. As family stressors are believed to be associated to a greater extent with FIW than with WIF (Frone et al., 1992a), it seems likely that the gender difference with respect to FIW may be more marked than that with respect to WIF.

2.7.4.3 PERCEIVED CONTROL

Again, a scarcity of empirical research makes it necessary to rely to a great extent on theory to make predictions for WIF and FIW. It seems probable that those without caregiving responsibilities will have greater perceived control than those with caregiving responsibilities because the former have fewer demands on their time and greater control with respect to how they arrange their lives. In this connection, MacBride-King (1990) found that 50.4% of those with no dependents in her study reported that balancing work and family was not at all difficult, compared with 24.3% of child caregivers. MacBride-King's work, along with the previously discussed association between perceived control and lower levels of WIF and FIW (Duxbury et al., 1994), suggests that those in the no-care group will have lower WIF and FIW than those with caregiving responsibilities.

2.7.4.4 APPLICATION OF GENDER ROLE THEORY TO PERCEIVED CONTROL

Although there is a scarcity of direct evidence, it seems reasonable to expect that no-care group women will experience lower strain than women in the three caregiving groups because no-care group women have fewer domestic responsibilities. Women in the no-care group may, therefore, suffer lower WIF and FIW than women in the three caregiving groups. Moreover, as noted above, no-care group women perform more hours of home chores than no-care group men, so it seems likely that no-care group women will experience higher WIF and FIW than no-care group men. These differences may be particularly marked in the case of FIW. It is expected that the differences in domestic duties, just discussed, will tend to be more strongly reflected in FIW than in WIF

because family stressors seem to be more strongly related to FIW than to WIF (Frone et al., 1992a).

2.7.5 SUMMARY

Research with respect to the child care group and the elder care group seems to support the predictions of the scarcity approach of Multiple Role Theory rather than those of the expansion approach. Moreover, the predictions of the scarcity approach seem more likely to hold true for the sandwich group and the no-care group. This suggests that: (i) the sandwich group will have higher WIF and FIW than either the child care group or the elder care group and (ii) the child care group and the elder care group will have higher WIF and FIW than the no-care group. There is no clear indication, however, as to the relative ranking of the child care group and the elder care group.

Gender Role Theory predicts that women will take more responsibility for and provide more hours of caregiving than men. There is a significant body of empirical evidence to suggest that the predictions of Gender Role Theory apply to both the child care and elder care groups and also considerable reason to believe that these predictions also apply to the sandwich group. Research also suggests that no-care group women, who do not by definition have caregiving responsibilities, perform more hours of home chores than no-care group men. These data imply that women will likely experience higher WIF and higher FIW than men. The fact that women seem to experience more demands on the home front and that family stressors seem to be more related to FIW than to WIF (Frone

et al., 1992a) suggests that the expected gender difference with respect to FIW may be more marked than that with respect to WIF.

Lower perceived control seems to be associated with higher WIF and FIW (Duxbury et al., 1994). The care groups that have lower levels of perceived control, therefore, may experience higher WIF and FIW than others. As discussed both child and elder caregivers may have lower perceived control than those in the no-care group. It is also possible that those in the sandwich group, who need to juggle more caregiving responsibilities, may have lower levels of perceived control than those in either the child care group or the elder care group. It seems likely, therefore, based on the relationship between perceived control and WIF and FIW, that those in the sandwich group will experience the highest levels of WIF and FIW and that those in the no-care group will experience the lowest levels of WIF and FIW, with those in the child care and the elder care groups lying somewhere in between.

Finally, the Application of Gender Role Theory to Perceived Control suggests that women in general experience higher strain than men because their core roles tend to be characterized by a combination of high demands and low control. Moreover, because caregivers are particularly subject to high demands and low control, it seems likely that caregiving women will experience higher strain than non-caregiving women, with sandwich care women experiencing the highest strain of all. In view of the fact that higher strain is very likely to be associated with higher WIF and FIW, this line of

reasoning suggests that: (i) women will experience higher WIF and FIW than men; (ii) sandwich group women will experience higher WIF and FIW than either women with just child care responsibilities or women with just elder care responsibilities; and (iii) women with just child care responsibilities and women with just elder care responsibilities will experience higher WIF and FIW than women in the no-care group. Finally, gender differences with respect to FIW are likely to be more marked than those with respect to WIF because the strain associated with caregiving appears to be most closely related to the family domain and family stressors appear to be more associated with FIW than with WIF (Frone et al., 1992a).

2.8 OTHER VARIABLES THAT MAY BE ASSOCIATED WITH WIF AND FIW

This section discusses a number of additional variables drawn from the domains of work and family that the literature suggests may also be directly associated with WIF and FIW or which may influence the relationship between care group and/or gender and WIF and FIW.

In a perfect world, there would be a generous strand of literature relating each of these additional variables specifically to WIF and to FIW. Unfortunately, however, this is generally not the case. Consequently, this section relies to a considerable extent on extrapolation from the cognate research literature that focuses on how these additional variables relate to RI more generally and, where even this research is sparse or virtually

non-existent, to associated constructs such as depression and distress. Clearly, extrapolation along these lines is not ideal, but in the absence of any viable alternative, it is the only practical way forward.

For purposes of exposition, this discussion is divided into two parts, that relating to work variables and that relating to family variables. In each case, a special effort is made to identify any research that speaks to possible interrelationships with care group and/or gender.

2.8.1 WORK VARIABLES

The literature suggests a number of work-related variables that may be associated with WIF and FIW. This literature review focuses on the following such variables: hours of work, hours of supplemental work at home, perceived work flexibility, job type, perceived organizational support of work-family balance, and perceived supervisor support.

2.8.1.1 HOURS OF WORK

The variable hours of work, an important component of work demands, can be defined as the number of hours (per week) that an individual devotes to paid work. There is substantial evidence to suggest that higher hours of work is associated with higher WFC for both men and women (Gottlieb et al., 1994; Gutek et al., 1991; Stoner et al., 1990; Voydanoff, 1987). This relationship suggests in turn that higher hours of work is linked,

in particular, to higher WIF, because, as theorized by Voydanoff (1995), more time spent in work means less time available to be spent with family.

Two studies have looked specifically at the effect of hours of work on WIF and FIW. Both of these studies found that WIF, but not FIW, was associated with hours of work (Gottlieb et al., 1994; Gutek et al., 1991). This finding is consistent with Frone et al. (1992a)'s observation that stressors associated with the domain of work are related more strongly to WIF than to FIW.

Care Group

Interestingly, the Gutek et al. (1991) study focused on the child care group, while the Gottlieb et al. (1994) study focused on the elder care group. The fact that both of these studies found hours of work to be associated with WIF suggests that hours of work is related to WIF across care groups.

Gender

Both Gutek et al. (1991) and Gottlieb et al. (1994) found that hours of work was more strongly associated with WIF for women than for men. There is some evidence, however, that higher hours of work may lead to a reduction in WIF for men. Along these lines, Spitze et al. (1994) found that men who worked long hours experienced less distress with respect to their level of elder care than men who worked shorter hours. Long hours of work may actually help to reduce the effects of distress for men by

providing an alternative source of focus, as the expansion approach from Multiple Role Theory would predict. Alternatively, work may provide a socially acceptable excuse for men not to help more because work rather than caregiving is the core role for men. That this was not also found to be the case for women is consistent with the predictions of Gender Role Theory as well as with the scarcity approach from Multiple Role Theory which predicts that occupying more roles has an enervating effect.

Brett & Stroh (2003) provide further evidence which suggests that working long hours is perceived differently by men and women. These authors found that, for men but not for women, higher hours of work was associated with greater intrinsic satisfaction and job involvement. Such a finding suggests that men who performed higher hours of work did so because they enjoyed doing so and because they found their jobs to be highly interesting. Gender differences in attitudes to higher hours of work may be associated with gender differences in WIF and thus may help to explain why men typically work longer hours than do women (Duxbury & Higgins, 1994 Googins, 1991; Spitze et al., 1994; Statistics Canada, 1999b).

2.8.1.2 HOURS OF SUPPLEMENTAL WORK AT HOME

The variable hours of supplemental work at home can be defined as the number of hours (per week) that an individual devotes to activities in their homes related to their paid work "after normal work hours or on weekends" (Venkatesh & Vitalari, 1992, p. 1688). The word "supplemental" is used to underline the fact that these hours of work are

performed over and above the hours of work that the employee is paid to perform at the office (Duxbury et al., 1996). Research which looks explicitly at the relationship between supplemental work at home and RI is truly sparse. There is considerable circumstantial evidence, however, to suggest that supplemental work at home may lead to increased levels of both WIF and FIW. This circumstantial evidence is discussed immediately below.

One key reason why supplemental work at home is likely to be associated with higher WIF is that supplemental work at home may lead employees to perform higher total hours of work than otherwise: Firstly, companies often make significant investments in expensive computer and telecommunications equipment to facilitate their employees engaging in supplemental work at home (Hill et al., 1996; Riley & McCloskey, 1996) and, consequently, employees may feel compelled to justify these costs by working longer hours. Secondly, the practice of working at home after regular hours may tempt employees who are particularly prone to workaholism to focus excessively on their work (Riley & McCloskey, 1996; Sullivan & Lewis, 2001). Supplemental work at home may also result in higher FIW because working at home in the presence of family members has been found to increase the difficulty of concentrating on work tasks (Ahrentzen, 1990; Christensen, 1989; Heck, 1992; Hill et al., 1996; Huws et al., 1990; Olson, 1989; Olson & Primps, 1984; Riley & McClosky, 1996; Sullivan & Lewis, 2001).

Care Group

Research that focuses specifically on child care also suggests that supplemental work at home may be associated with higher RI. For example, teleworkers report that simultaneously providing child care and performing work tasks leads to inadequate performance in both areas (Ahrentzen, 1990; Christensen, 1989; Gurstein, 2001; Heck, 1992; Huws et al., 1990; Olson, 1989; Olson & Primps, 1984; Riley & McClosky, 1996; Sullivan & Lewis, 2001). Indeed, some studies have found that teleworkers carefully avoid mixing child care and work either by arranging alternative care for their children when working or by working when their children are asleep (Ahrentzen, 1990; Christensen, 1989; Heck, 1992). Along similar lines, Venkatesh and Vitalari (1992) found that employees with children were less likely to perform supplemental work at home than employees without children.

There is little research that specifically examines the effect of combining supplemental work at home and elder care on RI. Nevertheless, the research discussed immediately above, with respect to the problems associated with the combination of supplemental work at home and child care, is indicative of what may be expected to result from the combination of supplemental work at home and elder care. Moreover, in the case of elder care the psychological power that elderly parents sometimes exert over their adult children may tend to exacerbate FIW. For example, elder care recipients may fail to recognize that the work of their adult children is worthy of respect and therefore that they should be interrupted as little as possible (Brody, 1990; Horowitz, 1995b). In short,

although research in this area is very limited, there is good reason to suspect that elder caregivers who attempt to perform supplemental work at home may experience higher RI than otherwise.

Gender

Both men and women who work at home may experience difficulty in keeping family and work domains separate leading to higher WIF for both men and women. In support of this, Duxbury et al. (1992) found that hours of supplemental work at home was associated with WIF for both men and women. Furthermore, Heck (1992) found that male and female teleworkers were equally likely to make use of nonparental child care which suggests that both men and women find the combination of supplemental work at home and child care to be problematical.

Women may have more difficulty taking work home than do men. In support of this, some writers imply that female teleworkers have greater difficulty than men in separating work from family because of the different core rules of men and women (Christensen, 1989; Gurstein, 2001; Sullivan & Lewis, 2001). As Gurstein (2001) describes, "Female teleworkers see themselves as primary caregivers when they are at home. Men don't." (p. 48). This author also describes women as needing to "train" their families to respect their work priorities (p. 98). The tendency of women to be constantly on-call with respect to family demands (Barnett & Baruch, 1987a) may mean that women suffer from more interruptions when they work at home than do men.

Considerably more research is required in order to make any definitive statement about the effects of bringing work home on WIF and FIW. Tentatively, however, it seems that both men and women who perform hours of supplemental work at home may suffer from higher WIF and/or FIW, although women may be at greater risk than men.

In conclusion, supplemental work at home seems more likely than not to lead to higher WIF and/or FIW, the one clear mitigating factor is the higher degree of perceived control reported by employees who work at home (Christensen, 1989; Gurstein, 2001; Sullivan & Lewis, 2001). As discussed in Section 2.7.1.3, perceived control may be associated with lower WIF and FIW. Future research on this subject may allow researchers to draw more definite conclusions.

2.8.1.3 PERCEIVED WORK FLEXIBILITY

The term perceived work flexibility refers to the amount of flexibility with regard to working arrangements to which employees feel that they have access. Pierce et al. (1989) discuss a number of alternative work schedules including: flextime (flexibility in starting and ending times for the workday), compressed work weeks (condensing work weeks into fewer days), shift work, and part-time work. Duxbury and Higgins (1998) broaden this idea and focus on what they call "informal work flexibility", a more comprehensive notion of perceived work flexibility encompassing the two dimensions of: 1) Informal Work Time Flexibility and 2) Informal Work Location Flexibility.

In practice, the ability of employees to access flexible work schedules of any kind is really quite limited. A Canadian survey of dual-income couples with children found that in 60% of cases neither husband nor wife reported that they had access to work flexibility options (Lero et al., 1993). Despite this apparent lack of enthusiasm for work flexibility on the part of employers, employees view flexible schedules to be an extremely valuable mechanism by which to balance work and family. For example, when Lee et al., (1992) asked employees what their employer could do to help them to balance work and family responsibilities, flexible work hours was the single most popular response. Respondents felt that flexible work arrangements gave employed parents more control in organizing their workday and helped them to deal with unexpected family requirements.

Employees value work flexibility because rigid schedules tend to interfere with family life and make scheduling work and family activities more difficult (Pleck et al., 1980). Work flexibility may help to reduce the extent to which work interferes with family by giving some control over schedules back to family members. As Thomas and Ganster (1995) explained, “the ability to choose starting and ending times at work, the freedom to make personal phone calls to check on the arrival of children after school ... may each serve to augment one’s ability to execute paid work and family responsibilities and to lessen the accompanying strain.” (p. 7). In Golembiewski and Proehl (1978)’s review of seventeen studies all but two found that the introduction of work flexibility led to greater perceived control of work.

Perceived work flexibility seems to be associated with lower RI in general and, in particular, with lower WIF. Marshall and Barnett (1994) found that, for a random sample of 300 couples, higher perceived work flexibility was associated with lower scores on their "work-family interface" measure, a 2-item measure where both items related to WIF. A study that focused on working women in Singapore found a negative relationship between perceived work flexibility and a 5-item measure of WIF called "job-homemaker conflict", the extent to which work interferes with the role of homemaker (Aryee, 1992). Along similar lines, Christensen and Staines (1990)'s review of four studies that relate to flexible work patterns suggests that perceived work flexibility significantly alleviates WIF for both men and women.²¹ One study found that both men and women wished that their employers would allow more flexible schedules and that this was particularly the case if the employees were experiencing high FIW or WIF (Frone & Yardley, 1996).²²

Care Group

Work flexibility is popular with nonparents as well as with parents (Hicks & Klimoski, 1981; Higgins et al., 1992b). Flexible schedules, however, may be particularly important

²¹ The four studies reviewed by Christensen and Staines (1990) used a variety of scales that relate to aspects of WIF such as the impact of flexible work schedules on access to paid child care services.

²² Frone and Yardley (1996) used two separate 6-item scales to measure WIF and FIW.

to parents because it helps them to balance their heavier family responsibilities. The research evidence, although limited, does seem to indicate that work flexibility is more important to parents than to nonparents. Galinsky et al. (1996) found that 38% of parents reported that they either would or might change jobs to gain access to work flexibility compared to 27% of nonparents. It would be useful to be able to determine more definitively if work flexibility is more important to parents than to nonparents.

There is little evidence with respect to the effect of work flexibility on elder caregivers. It seems likely, however, that flexible schedules may well help elder caregivers to balance caregiving and work. Keating et al. (1999) found that 36% of elder caregivers needed to make adjustments to their work schedules in order to provide elder care. This suggests that more flexible schedules may reduce the strain on elder caregivers by requiring fewer adjustments to their work schedules. Gottlieb et al. (1994) found some evidence to support this assertion in that elder caregivers who had flexible schedules were less likely to miss meetings or training sessions and to refuse to travel for business purposes. They were also less likely to decline promotions or extra projects or to be unavailable to work outside of regular hours.

Gender

Perceived work flexibility may be more important to female employees than to male employees because female employees tend to bear a heavier load in terms of family responsibilities (Statistics Canada, 1999b). In support of this, Wiersma (1990) found that

employed mothers expressed a stronger preference for flexible work schedules than did employed fathers. Moreover, the availability of work flexibility may have a greater impact on women than on men. For example, the results of the 1992 General Social Survey, as analyzed by Fast and Frederick (1996), indicate that women who report having access to work flexibility are less likely to describe themselves as being highly time-stressed than those without this option (18% versus 23%). Although a larger proportion of employed men than employed women had access to work flexibility (40% versus 30%), its presence did not make a substantial difference in the percentage of males who described themselves as being highly time-stressed (14% versus 16%). Those who perceive themselves as being highly time-stressed may well have difficulty balancing work and family and so may also experience higher WIF and FIW.

2.8.1.4 JOB TYPE

The variable job type reflects the employment category into which particular employees fall. Job type appears to be positively associated with both education and income (Karasek, 1989; Karasek et al., 1987; Karasek & Theorell, 1990; Statistics Canada, 2001). For this reason, researchers have often used job type as a surrogate for socioeconomic status (Duxbury & Higgins, 1994; Friedman & Greenhaus, 2000; Karasek, 1989; Xie, 1996). Because perceived control also appears to be positively associated with both education and income (Barnett & Baruch, 1987a; Karasek, 1989; Karasek et al., 1987; Karasek & Theorell, 1990), job type and perceived control are likely to be positively correlated. Job type is often included in studies of organizational behaviour

because it reflects differences in job demands (Friedman & Greenhaus, 2000; Xie, 1996). As noted in Section 2.1.2, job demands are expected to be much more strongly associated with WIF than with FIW, so the focus of the discussion in this subsection will be on the relationship between job type and WIF.

There are two radically different views as to the impact of job type on WIF. Karasek and his colleagues believe that those in higher-ranking positions have greater freedom in making decisions and in planning the process of their paid work. This freedom, it is argued, leads to higher perceived control, which, as discussed previously, may help to reduce the stress associated with higher job demands (Karasek, 1979; Karasek et al., 1987; Karasek & Theorell, 1990). In support of this, Karasek (1989) and Xie (1996) found that employees holding managerial and professional positions were less prone to somatic and psychological problems than employees holding less prestigious positions. Since, as discussed in Section 2.7.1.3, perceived control may also be an important moderator of WIF, this data supports the idea that those in managerial and professional positions may have lower WIF.

Against this, however, it has been argued that employees in managerial and professional positions may have higher WIF due to higher work demands and work involvement. As Friedman and Greenhaus (2000) point out, professional and managerial employees must often cope with a higher level of demands than other employees. For example, professionals must be prepared to make themselves available for business travel and

must often work outside regular business hours. Moreover, Duxbury et al. (1992) have found that male and female managerial and professional employees have significantly higher job involvement than other employees. In addition, managerial and professional employees are also significantly more likely to feel that their career should take precedence over other areas of their lives (Friedman & Greenhaus, 2000). This would suggest that managerial and professional employees may experience higher WIF than others.

Job type may be an important variable not only for the reasons explained above, but also because access to flexible schedules may depend to some extent on job type. Both American and Canadian researchers have found that those with higher-ranking positions, such as managers and professionals, are more likely to work in job situations that allow more personal control over work schedules and that these advantages in turn allow greater flexibility in meeting the commitments of parenting (Christensen & Staines, 1990; Fast & Frederick, 1996; O'Neil & Greenberger, 1994; Scharlach et al., 1991). Indeed, Greenhaus and Parasuraman (1997) found that in the U.S. many "family-friendly" programs such as flexible schedules are targeted mainly at managerial or professional staff and that some are only available to a select group of high flyers on a case-by-case basis.

Gender

As discussed in Section 2.5, studies have tended to find that women experience higher WIF than men. It is possible that some of these apparent gender differences may be attributable, at least in part, to the fact that women are less likely to hold professional and managerial positions than men (Higgins et al., 1992a; Statistics Canada, 2000).

Firstly, as discussed above, job type and perceived control are likely to be positively correlated. Consequently, because women are generally less likely to be managers and professionals than men, women may experience lower perceived control than men because of the relationship between job type and perceived control. This in turn suggests that women may experience higher WIF than men, given the fact that perceived control has been observed to be a significant moderator of WIF (Duxbury et al., 1994).

Secondly, as discussed above, those in higher-ranking positions seem to enjoy greater access to flexible schedules than those in lower-ranking positions. Thus, men would be expected to have greater access to flexible schedules than women. This appears to be the case: Using data from the 1992 Statistics Canada Time Use Study, Fast and Frederick (1996) found that 68.5% of male full-time employees reported that they had access to work flexibility as compared to 31.5% of female full-time employees. Higgins et al. (1992a) also found, in their survey of Canadian private sector employees, that men enjoyed more flexible work arrangements than women. As discussed above, greater

perceived work flexibility has been found to be associated with lower WIF. Again, the fact that women are less likely to be managers and professionals than men may mean that women are more likely to experience higher WIF than men.

In sum, the fact that women are less likely to hold managerial and professional positions than men means that women may be more likely to experience higher WIF than men. This also suggests that it is important to control for job type when investigating the possibility of true gender differences in WIF. Indeed, to at least some extent, the apparent gender differences in WIF found in previous studies may simply reflect gender differences in job type.

2.8.1.5 PERCEIVED ORGANIZATIONAL SUPPORT OF WORK-FAMILY BALANCE

The variable perceived organizational support of work-family balance is designed to assess the extent to which an organization promotes a balance between work and family for its employees (Duxbury & Higgins, 1998). In supporting such a balance, an organization must allow sufficient flexibility for employees to handle both their work and their family responsibilities (Thomas & Ganster, 1995). In particular, it is important that an organization reward its employees based on actual job performance rather than “face time” (hours spent at the place of work). Organizations that focus on face time often make it difficult for employees to achieve balance while advancing in their careers (Parasuraman & Greenhaus, 1997; Thompson et al., 1999).

It should be noted that the concept of perceived organizational support of work-family balance is closely related to the earlier concept of “perceived organizational support” developed by Eisenberger et al. (1986). This earlier concept is defined as the degree to which employees perceive that “the organization values their contributions and cares about their well-being” (Eisenberger et al., 1986, p. 500). Throughout the thesis, the concept of perceived organizational support of work-family balance is preferred to the earlier concept of perceived organizational support because the focus of interest here is organizational support of *work-family balance* and not organizational support of employee well-being more generally.

Some studies suggest that supportive organizations may help employees to improve work-family balance. Nichols et al. (1995) surveyed male and female faculty and staff at the University of Idaho. When asked what the University could do to help employees to balance work and family, both male and female staff and faculty responded that the top priority should be the establishment of a supportive work environment.

A number of studies have noted, however, that the mere provision of supportive programs is often not enough. Often the unwritten norms of the organization suggest that there may be negative consequences associated with taking advantage of such programs. As a result, employees may be reluctant to make use of “family-friendly” programs if

they suspect that their organization is not truly supportive of work-family balance (Conner et al., 1997; Greenhaus & Parasuraman, 1997; Perlow, 1995; Powell, 1997).

There is some evidence to suggest that employees who perceive their organization to be supportive are better able to balance work and family. Judge et al. (1994) found that male executives who worked for organizations that they felt emphasized work-family balance reported lower WIF.²³ Allen (2001) found that perceived organizational support of work-life balance was directly related to scores on her measure of "work-family conflict", a measure that is probably better thought of as a measure of RI, for a sample of mainly college-educated men and women.²⁴ Moreover, Thompson et al. (1999) recorded a similar result using a 4-item measure of WIF, again for a sample of mainly college-educated men and women. In addition, Kossek et al. (2001) found that those who perceived that it was permissible to share family concerns in their work environment reported greater well-being. Those, however, who perceived that their work environment demanded that they put their career before their family reported higher WIF and FIW and lower well-being.²⁵

²³ Judge et al. (1994) used a 4-item scale to measure WIF.

²⁴ Allen (2001) used a 16-item scale to measure "work-family conflict." Eight of the items related to WIF and eight of the items related to FIW.

²⁵ Kossek et al. (2001) used two separate 4-item scales to measure WIF and FIW.

Care Group

It seems reasonable to expect that employees with greater caregiving responsibilities would find a supportive organization to be more important than employees with less demanding caregiving responsibilities. In support of this, Wiersma (1990) found that both male and female parents with higher scores on a 22-item scale designed to measure "work-home role conflict" expressed a greater desire for supportive policies than did parents with lower scores.²⁶ It may well be that those in the sandwich group, who have more care responsibilities than others, value perceived organizational support the most.

Gender

Supportive organizations may be more important to women than to men. Nichols et al. (1995) reported that both male and female employees at the University of Idaho felt that the establishment of a supportive work environment should be a top priority in helping faculty and staff to balance work and family. Both female staff and female faculty, however, felt that this was more important than did either male staff or male faculty. Female employees may give greater priority to a supportive work environment because they carry a greater burden of family responsibilities that must be balanced with work responsibilities.

²⁶ The three sample items supplied by Wiersma (1990) all seem to be intended to relate to both WIF and FIW.

2.8.1.6 PERCEIVED SUPERVISOR SUPPORT

While organizations as a whole may support the provision of flexible work schedules, this may not actually mean that employees will be allowed to access such programs by their immediate supervisors. Some authors believe strongly that in many cases supervisors are reluctant to allow their subordinates to make use of work flexibility programs (Christensen & Staines, 1990; Fierman, 1994; Galinsky et al., 1996; Powell & Mainiero, 1999; Thompson et al., 1999). Two studies have found that employees who perceived their manager to be supportive were more likely to feel that their company valued a healthy balance between work and family (Duxbury & Higgins, 1997; Thompson et al., 1999). Moreover, Galinsky et al. (1996) and Thompson et al. (1999) both found that the attitude of the manager was crucial in determining whether employees were actually able to make use of supportive programs such as parental leave and flexible work schedules. As Duxbury & Higgins (1997) so poignantly put it, “WHO you work for within an organization has become more important than WHERE you work” (p. 2).

Ironically, while the approval of supervisors can be crucial for employees to gain access to supportive programs, there is some evidence that these individuals may be the least likely to favour such programs because of the potential impact on their own jobs. In Powell and Mainiero (1999)’s “policy-capturing” study, MBA students with managerial experience made judgments about whether or not they would allow their subordinates to access “family-friendly” programs. Fifty-three students were asked to make judgments

about whether they would allow immediate subordinates to take part in specific alternative work arrangements including flexible schedules, part-time work, telecommuting, and work-at-home. Responses indicated that these managers tended to focus on their own short-term interests rather than in the interest of the subordinate or in the long-term interests of the organization. For example, these managers were much less likely to allow subordinates in key positions and with critical skills to take part in alternative work arrangements. The tendency of managers to act in their own short-term interest may explain why Duxbury and Higgins (1997) found in their survey of almost 50,000 private and public sector workers across Canada that fewer than half of the respondents considered their managers to be supportive.

Perceived supervisor support, perhaps in part because it relates to an employee's ability to access alternative work arrangements, such as flexible work programs, has been found to be associated with lower WFC. As mentioned previously, Thomas and Ganster (1995) found that perceived supervisor support and flexible schedules were associated with higher perceived control and lower WFC.²⁷ Goff et al. (1990) found an inverse relationship between the supportiveness of managers and scores on their measure of "work-family conflict", a measure that is probably better thought of as a measure of RI,

²⁷ Thomas and Ganster (1995) used a 24-item scale to measure WFC. This scale included items that related to WIF, FIW, and role overload.

for a sample of employed parents.²⁸ Galinsky et al. (1996) echoed this result, in a review of Families and Work Institute studies, finding a similar inverse relationship between manager support and the degree of WFC, again with respect to employed parents. Moreover, low levels of perceived supervisor support are strongly associated with negative job feelings, worrying about work, depressive symptoms, and negative physical symptoms (Klitzman et al., 1990). It should also be noted that, consistent with these other findings, Frone et al. (1997b) has found that while perceived supervisor support was associated with lower WIF, there was no significant relationship between perceived supervisor support and FIW.

Gender

There is some evidence to suggest that perceived supervisor support is more important to female employees. This may be because female employees need to balance family with work to a greater extent than do male employees. Lee et al. (1992)'s study provides some support for this conclusion. When the authors asked, "What does your employer do that helps you balance work and family?" they found that 52.8% of mothers (versus 42.2% of fathers) reported, "supervisors' understanding of work and family". On the other hand, Fierman (1994) believes that perceived supervisor support may be a more crucial requirement for male employees to take advantage of flexible work programs than for

²⁸ Goff et al. (1990) used a 16-item scale to measure "work-family conflict." Eight items related to WIF and eight items related to FIW.

female employees. She bases her conclusions on the idea that male employees may need more explicit support from their supervisors to overcome the fact that it is less socially acceptable for them to put their families before their work.

2.8.1.7 WHAT WE KNOW ABOUT THE RELATIONSHIP OF THE WORK VARIABLES TO WIF AND FIW

There is definitely some evidence to suggest that these six work variables (hours of work, hours of supplemental work at home, perceived work flexibility, job type, perceived organizational support of work-family balance, and perceived supervisor support) are associated with WFC. In several cases, there is also evidence to suggest that these variables are associated with WIF. Research in this area has tended to focus on WIF, perhaps because work variables tend to be more strongly associated with WIF than with FIW, as discussed above in Section 2.1.2. There are also some interesting gender differences in the findings reported in the literature. Higher hours of work seems to be associated with higher WIF for women (Gottlieb et al., 1994; Gutek et al., 1991). This relationship, however, may be weaker or even reversed for men (Gottlieb et al., 1994; Gutek et al., 1991; Spitze et al., 1994).

Perceived work flexibility, perceived organizational support of work-family balance, and perceived supervisor support seem to be positively associated with lower WFC and, in particular, with lower WIF. These relationships seem to be stronger for those individuals with greater caregiving responsibilities such as women. The relationship of job type to

WIF is not clear. As noted, there are arguments to suggest that higher-ranking positions are associated with either higher or lower levels of WIF. There is very little research to date which looks at the relationship between RI and hours of supplemental work at home. What little research evidence there is, however, suggests that hours of supplemental work at home may be positively associated not only with WIF, but possibly with FIW as well.

Finally, it should be stressed that the research discussed in this subsection is primarily child care research. It may well be that similar results would be found with respect to the stresses of combining work and elder care, but there has been limited research on this issue to date. There is even less information available with respect to the stresses of combining both child care and elder care with work. The scarcity approach from Multiple Role Theory suggests that those fulfilling more roles will experience greater WFC and possibly greater WIF and/or greater FIW. The limited research that has been done also suggests that those in the sandwich group experience more WFC than those in either the child care group or the elder care group (Buffardi et al., 1999; MacBride-King, 1990; Neal et al., 1990; Scharlach & Boyd, 1989).²⁹ If those in the sandwich group actually do experience greater problems with WFC than other groups, then perceived

²⁹ As noted in Section 2.4, it is not always clear if these differences are statistically significant and there are also methodological concerns with respect to these studies.

work flexibility, perceived organizational support of work-family balance, and perceived supervisor support may be most important to this group.

2.8.2 FAMILY VARIABLES

The literature suggests a number of family-related variables that may be associated with WIF and FIW. This literature review focuses on the following such variables: perceived control over caregiving services, hours of caregiving, and hours of home chores.

2.8.2.1 PERCEIVED CONTROL OVER CAREGIVING SERVICES

The variable perceived control over caregiving services can be defined as the perceived degree of control that caregivers have over the availability, cost, and quality of auxiliary care-related services for children and dependent elders (Duxbury & Higgins, 1998). This variable represents a modification of Thomas and Ganster (1995)'s "Control Scale", a measure of perceived control over areas of work and family.

There is very little research available that focuses directly on the relationship of perceived control over caregiving services to WIF and FIW, so attention here is devoted largely to drawing inferences from studies involving related constructs such as satisfaction with child care services. Moreover, the research that is available has tended to focus almost exclusively on child caregivers.

Care Group

The adequacy of child care services seems to be important to parents. Hughes and Galinsky (1998) believe that, for American working parents, finding quality child care services is one of their greatest problems. Emlen and Koren (1984) found that 75% of female employees and 57% of male employees reported difficulty in finding their current child care arrangements. In Canada, approximately half of employed parents report problems in finding or maintaining appropriate child care services (Lero & Johnson, 1994).

There is some empirical evidence for a negative relationship between the adequacy of child care services and RI. Goff et al. (1990) found a negative relationship between satisfaction with child care services and their measure of "work-family conflict", which, as noted above, is probably better thought of as a measure of RI. Frone and Yardley (1996), who examined WIF and FIW separately, found that there was a negative relationship between organizational assistance with child care and both WIF and FIW. Moreover, Frone and Yardley also found that this negative relationship was stronger in the case of FIW. This last finding is consistent with Frone et al. (1992a)'s observation that family stressors are more strongly related to FIW than to WIF.

There is very little research that looks at the importance of caregiver services to elder caregivers. It may be the case, however, that those with elder care responsibilities are less concerned with control over caregiver services than those with child care

responsibilities. After all, as noted above in Section 2.3.2, elder caregivers are often reluctant to use paid services. On the other hand, this reluctance to use elder care services may simply reflect the fact that the availability of quality elder care services is often quite limited (Kingsmill & Schlesinger, 1998).

Gender

The adequacy of child care services seems to be much more important to female employees than to male employees (Emlen & Koren, 1984; Frone & Yardley, 1996; Hughes & Galinsky, 1988; Wiersma, 1990). Bedeian et al. (1988) found that female employees who were dissatisfied with their child care services had lower life satisfaction, but that this was not found to be the case for male employees. Again, this pattern may reflect, in accordance with the predictions of Gender Role Theory, the greater degree of responsibility that women take for caregiving.

2.8.2.2 HOURS OF CAREGIVING AND HOURS OF HOME CHORES

The variable hours of caregiving can be defined as the number of hours (per week) that an individual devotes to caregiving activities. The variable hours of home chores can be defined as the number of hours (per week) that an individual devotes to housework and home maintenance. The sum of these two variables, hours of caregiving *plus* hours of home chores, which is often referred to in the literature as "hours of family work",

represents the family analogue of the work variable hours of work.³⁰ Perhaps surprisingly, the literature is very sparse in this area and there is clearly a need for further research.

Care Group

Three studies that have focused on parents, give some indication of the relationship between hours of caregiving and hours of home chores and the two components of RI for the child care group. Two studies, which looked at how parents balance work and family, found a link between hours of family work and psychological distress (Blair & Johnson, 1992; Ross et al., 1983). The third study, by Gutek et al. (1991), found that higher hours of family work were associated with higher FIW for both men and women, but were not associated with WIF. This finding is consistent with the observation that family stressors are more associated with FIW than with WIF (Frone et al., 1992a).

Although little research has been devoted to the effect of hours of elder caregiving on WIF or FIW, some research has been done with respect to the effects of elder caregiving on stress and burden. For example, hours of elder caregiving have been found to be associated with higher stress for both men and women (Frederick & Fast, 1999; Spitze et al., 1994; Stoller & Pugliesi, 1989). Moreover, this seems to be particularly true at high

³⁰As noted above, throughout this thesis the term "work" refers to paid work unless explicitly specified otherwise.

levels of care (which may reflect the degree of impairment of the elderly person). Using data from Statistics Canada's 1996 General Social Survey, Frederick and Fast (1999) found that those who provided more hours of care were more likely to perceive caregiving to constitute a "burden". Frederick and Fast (1999) do not explicitly define this concept of "burden", but they do provide a listing of the items used to construct the measure. From this listing, it can be inferred that the concept of "burden" involves the following perceptions on the part of the elder caregiver: 1) a sense of being overwhelmed; 2) a sense of anger around the care recipient; 3) the desire that someone else would take over the caregiving responsibilities; and 4) a feeling of there being a negative impact on the caregiver's own emotional and physical health. Of those elder caregivers who spent 7.5 hours or more per week providing elder care, most reported some level of burden (83% of women and 89% of men).

This research that indicates that higher hours of elder caregiving are associated with greater stress and perceived burden, suggests that higher hours of elder caregiving may also be associated with higher WIF and/or FIW. As FIW tends to be more associated with the family domain than WIF, however, higher hours of elder caregiving are more likely to be associated with higher FIW than with higher WIF.

Gender

It is difficult to draw firm conclusions about the interrelationships among gender, hours of family work, and the two components of RI. It seems to be the case, however, that

hours of family work may well be associated with higher FIW for women, while the situation with respect to men remains unclear. Frederick and Fast (2001) found that for women each additional hour of housework was associated with a 10% drop in satisfaction with family balance while hours of housework had no such effect for men. Gutek et al. (1991) noted that the positive relationship they found between hours of family work and FIW was stronger for women than for men. One explanation for Gutek et al. (1991)'s findings may be that women who have heavy family demands may be more concerned with family matters while at work than men.

Interestingly, Voydanoff (1995) found that higher hours of child care were associated with lower RI for men, although this was not the case for women.³¹ Men may feel that caring for children is a source of relaxation because caregiving is not part of their core role. It is not clear, therefore, what affect hours of home chores has for WIF and FIW in the case of male employees. As mentioned, Frederick and Fast (2001) found that hours of housework was not related to satisfaction with family balance for men. Glass and Fujimoto (1994), however, found that spending more hours in home chores was associated with greater depression for both men and women.

Overall, the inter-relationships between gender, hours of caregiving, and RI as well as those between gender, hours of home chores, and RI are far from clear. To help obtain a

³¹ As noted above, this study used a single-item scale to measure RI.

clearer picture of the dynamics of these relationships, researchers should treat hours of caregiving and hours of home chores as separate variables in future studies. In line with this recommendation, hours of caregiving and hours of home chores will appear as separate variables in the empirical work of the thesis below.

2.8.2.3 WHAT WE KNOW ABOUT THE RELATIONSHIP OF THE FAMILY VARIABLES TO WIF AND FIW

The literature suggests that these three family variables (perceived control over caregiving services, hours of caregiving, and hours of home chores) are associated with FIW, although due to the lack of research devoted specifically to the relationship of family variables to FIW this conclusion is based largely on extrapolation from studies relating to variables associated with FIW rather than with FIW itself. Moreover, there is also some evidence to suggest that family variables are more strongly associated with FIW than with WIF.

The relationship of hours of family work and FIW may follow a pattern similar to that of hours of work and WIF. Hours of family work seem to be associated with higher FIW for women (Gutek et al., 1991). This relationship, however, may be weaker or, in fact, reversed for men (Gutek et al., 1991; Voydanoff, 1995).

Perceived control over caregiving services may be associated with lower FIW for both male and female parents. Some research suggests that perceived control over child care

services is more important to women. There has been little research that addresses the effect of perceived control over caregiving services for elder caregivers. One should bear in mind, however, that research that involves elder care services may be complicated because quality paid elder care is not widely available (Kingsmill & Schlesinger, 1998).

Again, there is very little research available with respect to the sandwich group. Some insights may be gained from looking at the research findings for single care responsibilities, but this is no substitute for research that specifically addresses sandwich care issues.

2.9 CONCLUDING REMARKS

RI is best thought of as being composed of two distinct constructs, namely, WIF and FIW. There are important reasons to study differences in both WIF and FIW across care groups and across gender. A review of the relevant literature indicates that the experience of each care group is qualitatively different and men and women vary in their responses to these different experiences. Knowledge of differences in WIF and FIW across care groups and gender is thus essential for the identification of specific sub-groups of employees that may require specific interventions by employers and/or governments. It is also necessary to the development of appropriate interventions to help alleviate RI.

The study of RI and its two components is important because RI can have a significantly deleterious effect on the emotional and physical health of individual employees and as a result is associated with a number of undesirable and costly consequences in the workplace, such as increased absenteeism and lower productivity (Barling et al., 1994; Brody et al., 1987; Frone et al., 1997a; Galinsky et al., 1996; Gottlieb et al., 1994; Scharlach & Boyd, 1989). Moreover, research effort must continue to be devoted to the study of RI because: 1) the prevalence of RI is likely to increase over time and 2) society's attitudes towards work and family keep changing, thus rendering previous research in this area less and less relevant over time.

Applying the four theoretical perspectives from organizational behaviour to the analysis of RI in the four care groups leads to many interesting insights. For example:

- 1) The scarcity approach from Multiple Role Theory seems to be more useful than the expansion approach in explaining trends in WIF and FIW. As the scarcity approach predicts, research with respect to variables associated with WIF and FIW, such as absenteeism, stress, time-pressure, work-family balance, and WFC (Barnett & Baruch, 1985; Buffardi et al., 1999; Frederick & Fast, 2001; Friedman & Greenhaus, 2000; Googins, 1991; Gore & Mangione, 1983; MacBride-King, 1990; Neal et al., 1990; Statistics Canada, 1999b), suggests that employees who perform more caregiving roles may experience higher WIF and FIW than employees who perform fewer caregiving roles. This support for the scarcity

approach suggests that the sandwich group may experience the highest WIF and FIW and the no-care group may experience the lowest WIF and FIW, with the child care group and the elder care group lying somewhere in between.

- 2) Gender Role Theory, which contends that women will take more responsibility for and perform more hours of family tasks, while men will take more responsibility for financial provision, seems to be supported with respect to members of the child care and elder care groups and perhaps (although research is very limited) to members of the sandwich group as well (Keating et al., 1999; Statistics Canada, 1999b). These gender differences in the activities of men and women suggest that there may also be gender differences in levels of WIF and FIW.
- 3) Perceived Control may help to moderate levels of WIF and FIW (Duxbury et al., 1994; Thomas & Ganster, 1995).
- 4) The Application of Gender Role Theory to Perceived Control predicts that the combination of lower perceived control and higher caregiving demands may lead women to experience greater strain with respect to caregiving than men (Barnett & Baruch, 1987a). This prediction is supported by the fact that female caregivers tend to report higher stress than male caregivers (Bekker et al., 2001; Gove, 1984; Matuszek et al., 1995; Nakao et al., 2001; Nolen-Hoeksema, 2001). These gender differences imply that women may experience higher WIF and FIW than men, regardless of caregiver group.

Unfortunately, however, much of the existing literature in the area of RI suffers from a variety of methodological shortcomings and/or limitations that serves to reduce the comparability, generalizability, and overall utility of many individual research studies.

More specifically:

- 1) Despite the fact that it is now generally recognized that RI consists of two distinct constructs (Allen et al., 2000; Carlson et al., 2000; Frone et al., 1992a; Kossek & Ozeki, 1998; Netemeyer et al., 1996), a number of authors continue to treat it as a single construct in their empirical research (Hammer et al., 1997; Thomas & Ganster, 1995; Voydanoff, 1995).
- 2) A number of studies have used single-item scales to measure RI and work-family balance (Buffardi et al., 1999; Neal et al., 1990; Scharlach & Boyd, 1989; Voydanoff, 1995). Single-item scales, however, are much less reliable than multi-item scales (Nunnally & Bernstein, 1994).
- 3) The fact that many different definitions and measures of RI have been used in the literature makes it very difficult to compare results and may account for many of the observed differences in findings (Carlson et al., 2000; Kossek & Ozeki, 1998).
- 4) Many empirical studies have used survey data drawn from very specific employee groups or work contexts with the result that their conclusions may not reasonably be generalized to broader populations (Kossek & Ozeki, 1998). Examples of such restricted data sets include: bank employees (Hammer et al.,

1997), technicians working in a single laboratory (Fredriksen & Scharlach, 1999), and employees at a single university (Eagle et al., 1997; Nichols et al., 1985).

- 5) Failure to control for confounding variables that may reasonably be expected to influence the relationships under investigation often severely limits the usefulness of research findings in this area. For example, as noted above, several studies that looked at differences in WIF and FIW across gender (Frone & Yardley, 1996; Frone et al., 1997a; Gignac et al., 1996; Kinnunen & Mauno, 1998) failed to control for variables for which there are well-known and consistent gender differences, such as hours of work and hours of caregiving (Gutek et al., 1991; Keating et al., 1999; Statistics Canada, 1999b). More generally, there are a number of important variables from the domains of work and family that are very likely to impact the relationship between care group and/or gender and the two components of RI. If the influence of such confounding variables is not taken into account in some way when conducting empirical studies, then the conclusions drawn are very likely to be flawed.

In short, the literature would clearly benefit from further empirical research into the relationship between care group and gender and RI that: 1) clearly separates RI into its two constituent component constructs; 2) uses multi-item measures; 3) controls for a comprehensive set of likely confounds; and 4) uses data drawn from a broadly-based survey that includes a range of different occupational groups and organizational settings.

In this connection, it should be stressed that the empirical work of this thesis, to be reported in the chapters below, has been carefully designed to meet these criteria.

The next chapter, Chapter 3, outlines the theoretical framework that will underpin the empirical work to follow and presents the 14 specific research hypotheses to be investigated.

3. THEORETICAL FRAMEWORK

The primary aim of the empirical work in this thesis is to investigate the relationship between care group and gender and the two distinct components of RI, WIF and FIW, within the context of the theoretical framework suggested by the literature review. This theoretical framework is depicted in Figure 1. The salient feature of this theoretical framework is the recognition that the key relationships between care group and gender and the two components of RI are also influenced by a number of extraneous factors that should be taken into account. These extraneous factors are represented in the theoretical framework by the work variables and the family variables and reflect the findings of the literature review above. The work variables include: hours of work, hours of supplemental work at home, perceived work flexibility, job type, perceived organizational support of work-family balance, and perceived supervisor support. The family variables include: perceived control over caregiving services, hours of caregiving, and hours of home chores.³² For convenience in the sequel, the phrase “the set of work and family variables” will be used to refer to the collection of the work variables and the family variables.

³² To reduce further the influence of extraneous factors, the sample data used below is selected in such a way as to control for work status (full-time/part-time), marital status, and work status of spouse/partner. Details are given in Section 4.1.

Figure 1. Schematic diagram of theoretical framework

It should be noted, in particular, that the structure of this theoretical framework implies that in order to be able to address such central research issues as the impact of care group and gender on WIF and FIW, it will be necessary to control for the set of work and family variables. Moreover, the decision to include care groups *per se* rather than just using a continuous measure of caregiving burden is grounded in the desire to make the results of the empirical analysis below as comparable as possible to those of the existing literature.

The next section, Section 3.1, introduces and discusses the various research hypotheses to be addressed in the thesis.

3.1 RESEARCH HYPOTHESES

This section presents 14 specific research hypotheses that will be addressed in the empirical work. For convenience, these 14 research hypotheses are collected into five thematic clusters: A) The relationship between care group and WIF when controlling for gender and the set of work and family variables; B) The relationship between care group and FIW when controlling for gender and the set of work and family variables; C) The relationship between gender and WIF when controlling for care group and the set of work and family variables; D) The relationship between gender and FIW when controlling for care group and the set of work and family variables; and E) The tendency for within-domain relationships. For ease of later reference, a summary listing of the 14

research hypotheses is presented at the end of this section in Table 5. Details as to the statistical testing of the research hypotheses are presented in Section 4.3.4.

A) Relationship Between Care Group and WIF

Multiple Role Theory contrasts two contradictory approaches with respect to the impact of performing multiple roles, namely, the expansion approach and the scarcity approach. The expansion approach predicts that an individual who performs additional roles will be better off than an individual who does not perform additional roles on the grounds that performing additional roles: (i) has the potential for enriching learning experiences and (ii) provides an opportunity for negative experiences in one role to be buffered by positive experiences in another. Thus, an employee who performs one or more caregiving roles in addition to his or her work should be better off than an employee who does not. The scarcity approach, on the other hand, predicts that an individual who performs additional roles will be worse off than an individual who does not perform additional roles on the grounds that performing additional roles puts additional demands on the individual's limited supply of energy and personal resources. Thus an employee who performs one or more caregiving roles in addition to his or her work should be worse off than an employee who does not.

All roles, however, are not necessarily equal. In particular, caregiving roles may be inherently more stressful and/or more difficult to combine with employment than other roles. Moreover, the *number* of caregiving roles may be related to WIF. As discussed in

Section 2.4, the few studies that have compared employees who perform multiple caregiving roles with employees who perform fewer roles tend to be flawed both in terms of methodology and in terms of the reporting of results. Bearing these limitations in mind, however, these studies do suggest that (i) no-care employees will tend to experience lower RI than employees with caregiving responsibilities and (ii) employees with both child care and elder care responsibilities will tend to experience higher RI than employees with fewer caregiving responsibilities. Overall, these findings suggest that employees performing more caregiving roles may experience higher WIF than employees performing fewer caregiving roles.

Accordingly, the following research hypotheses will be tested in the thesis:

Research Hypothesis A.1 Controlling for gender and the set of work and family variables, the mean level of WIF for employees with at least one caregiving responsibility will be higher than that for employees with no caregiving responsibilities.

Research Hypothesis A.2 Controlling for gender and the set of work and family variables, the mean level of WIF for employees with two caregiving responsibilities will be higher than that for employees with one caregiving responsibility.

A related question of interest is whether the mean level of WIF for the child care group will be higher than, the same as, or lower than the mean level of WIF for the elder care

group. Employees in both of these care groups have the same number of caregiving responsibilities, namely, one, so Multiple Role Theory does not speak to this issue. Perceived control, however, may be relevant to this comparison. As discussed in Section 2.7.1.3, perceived control may help to moderate WIF. Once confounding variables, such as hours of work and hours of caregiving, have been controlled for, differences in the level of perceived control between these two groups may well drive any observed differences in WIF.

As noted above in Section 2.7.2.3, there are a number of reasons for believing that elder care is a particularly low control activity. For example, the assumption of the role of elder caregiver often results from a sudden, and perhaps unanticipated, deterioration in the condition of an elderly relative. Furthermore, the duration and burden of the resulting elder care responsibilities are often extremely hard to predict. In contrast, it seems reasonable to conclude that child care, despite its myriad trials and tribulations, is a relatively high control activity (at least in comparison to elder care). This suggests that child caregivers may experience higher perceived control and hence lower WIF than elder caregivers.

Empirical evidence that relates to the question of whether the mean level of WIF for the child care group will be higher than, the same as, or lower than the mean level of WIF for the elder care group is very thin indeed. As reported in Section 2.4, there currently appear to be no published studies that directly compare child caregivers and elder

caregivers in terms of WIF. Moreover, the three studies that have compared child caregivers and elder caregivers in terms of the broader concept of work-family balance (Buffardi et al., 1999; Neal et al., 1990; Scharlach & Boyd, 1989) all seem to be methodologically flawed.³³

Accordingly, the following research hypothesis will be tested in the thesis:

Research Hypothesis A.3 Controlling for gender and the set of work and family variables, the mean level of WIF for the child care group will be lower than that of the elder care group.

B) Relationship Between Care Group and FIW

The issues around the relationship between care group and FIW are very similar to those around the relationship between care group and WIF. Along these lines, it is predicted that those who hold more caregiving roles will experience higher FIW than those who hold fewer caregiving roles.

Accordingly, the following research hypotheses will be tested in the thesis:

³³ As noted above in Section 2.4, the relevant measure of work-family balance varied across these three studies: work-family balance (Buffardi et al., 1999), stress of balancing work and family responsibilities (Neal et al., 1990), and RI (Scharlach & Boyd, 1989).

Research Hypothesis B.1 Controlling for gender and the set of work and family variables, the mean level of FIW for employees with at least one caregiving responsibility will be higher than that for employees with no caregiving responsibilities.

Research Hypothesis B.2 Controlling for gender and the set of work and family variables, the mean level of FIW for employees with two caregiving responsibilities will be higher than that for employees with one caregiving responsibility.

Similarly to the discussion above with respect to WIF, a related question of interest is whether the mean level of FIW for the child care group will be higher than, the same as, or lower than the mean level of FIW for the elder care group. Again, employees in both of these care groups have the same number of caregiving responsibilities, namely, one, so Multiple Role Theory does not speak to this issue. Again, also, it seems likely that perceived control could be relevant, because, as noted above in Section 2.7.1.3, perceived control may help to moderate FIW as well as WIF. Thus, as above, once confounding variables, such as hours of work and hours of caregiving, have been controlled for, differences in the level of perceived control between these two groups may well drive any observed differences in FIW. Given the fact that child caregivers seem likely to experience higher perceived control than elder caregivers and the paucity of empirical evidence on the issue, it seems reasonable to hypothesize that the mean

level of FIW for the child care group will be lower than the mean level of FIW for the elder care group.

Accordingly, the following research hypothesis will be tested in the thesis:

Research Hypothesis B.3 Controlling for gender and the set of work and family variables, the mean level of FIW for the child care group will be lower than that of the elder care group.

C) Relationship Between Gender and WIF

Gender Role Theory predicts that women will take more responsibility for the family domain than men (Barnett & Baruch, 1987a). If this prediction is true, then women may experience higher WIF than men.

The Application of Gender Role Theory to Perceived Control predicts that women will perform their role of wife and caregiver under conditions of low control. The combination of low control and high family demands is believed to lead to high strain (Barnett & Baruch, 1987a). High strain for women in their primary role of wife and caregiver may be associated with higher levels of WIF for women than for men.

As discussed above in Section 2.5, the empirical research to date on the issue of which gender experiences higher WIF is somewhat mixed, but the more reliable studies, that

employ both multi-item scales and control for at least some likely confounds, have tended to find that women experience higher WIF than do men (Duxbury & Higgins, 1994; Duxbury et al., 1994; Gottlieb et al., 1994; Gutek et al., 1991). To throw more light on this issue, it would be useful to control for a more comprehensive set of variables that might reasonably be expected to affect WIF. The advantage would be that controlling for these potential confounds would reduce the chances of reflecting contextual differences in the manner in which men and women perform their roles (e.g. hours of work and hours of caregiving) rather than actual gender differences.

Accordingly, the following research hypothesis will be tested in the thesis:

Research Hypothesis C.1 Controlling for care group and the set of work and family variables, the mean level of WIF for women will be higher than that for men.

Having addressed the general issue of whether or not there is a gender difference in the mean level of WIF, it would also be interesting to examine whether or not the mean level of WIF for women is higher than that for men for each care group separately. After all, as noted in the literature review, the experience of each care group is qualitatively different and men and women may well vary in their responses to these different experiences. Knowledge of whether or not the mean level of WIF for women is higher than that for men for each individual care group would help identify specific sub-groups

that may require specific intervention. Unfortunately, there is very limited empirical evidence to date on this issue for individual care groups.

Accordingly, the following research hypothesis will be tested in the thesis:

Research Hypothesis C.2 Controlling for the set of work and family variables, the mean level of WIF for women will be higher than that for men with respect to: (a) the child care group (b) the elder care group (c) the sandwich group (d) the no-care group.

D) Relationship Between Gender and FIW

As discussed previously, Gender Role Theory and the Application of Gender Role Theory to Perceived Control predict that women experience greater strain in the family domain than men for two key reasons: 1) women take more responsibility for family tasks and 2) women handle these greater family demands under conditions of low control.

Research evidence on a possible gender difference in FIW is somewhat mixed. Of four studies that used multi-item scales and controlled for at least some potential confounds, two found that women experienced higher FIW than men (Duxbury & Higgins, 1994; Duxbury et al., 1994) and two failed to find a significant gender difference (Gottlieb et al., 1994; Gutek et al., 1991).

Accordingly, the following research hypothesis will be tested in the thesis:

Research Hypothesis D.1 Controlling for care group and the set of work and family variables, the mean level of FIW for women will be higher than that for men.

As with the question of a gender difference in the mean level of WIF discussed above, it would also be interesting to examine whether or not the mean level of FIW for women will be higher than that for men for each care group separately. Again, there is very limited empirical evidence to date on this issue for individual care groups.

Accordingly, the following research hypothesis will be tested in the thesis:

Research Hypothesis D.2 Controlling for the set of work and family variables, the mean level of FIW for women will be higher than that for men with respect to: (a) the child care group (b) the elder care group (c) the sandwich group (d) the no-care group.

E) Tendency for Within-Domain Relationships

As noted in Section 2.1.2, one very useful aid in understanding patterns in WIF and FIW is the observation that WIF tends to be more strongly associated with work variables than with family variables and that FIW tends to be more strongly associated with family variables than with work variables.

It would be interesting, therefore, to investigate this "tendency for within-domain relationships" to see whether or not (i) WIF tends to be more strongly associated with work variables than with family variables and (ii) FIW tends to be more strongly associated with family variables than with work variables.

Accordingly, the following two research hypotheses will be tested in the thesis:

Research Hypothesis E.1 Controlling for care group and gender, WIF will be more strongly associated with the work variables than with the family variables.

Research Hypothesis E.2 Controlling for care group and gender, FIW will be more strongly associated with the family variables than with the work variables.

As noted in Section 2.8, research evidence suggests that gender differences often exist in the relationships of individual work and family variables to WIF and FIW. It seems plausible, therefore, that there may also be gender differences with respect to this tendency for within-domain relationships.

Accordingly, the following two research hypotheses will be tested in the thesis:

Research Hypothesis E.3 Controlling for care group, there will be a gender difference as to whether WIF is more strongly associated with the work variables than with the family variables.

Research Hypothesis E.4 Controlling for care group, there will be a gender difference as to whether FIW is more strongly associated with the family variables than with the work variables.

Table 5. Summary listing of research hypotheses

Research Hypotheses
Research Hypothesis A.1 Controlling for gender and the set of work and family variables, the mean level of WIF for employees with at least one caregiving responsibility will be higher than that for employees with no caregiving responsibilities.
Research Hypothesis A.2 Controlling for gender and the set of work and family variables, the mean level of WIF for employees with two caregiving responsibilities will be higher than that for employees with one caregiving responsibility.
Research Hypothesis A.3 Controlling for gender and the set of work and family variables, the mean level of WIF for the child care group will be lower than that for the elder care group.
Research Hypothesis B.1 Controlling for gender and the set of work and family variables, the mean level of FIW for employees with at least one caregiving responsibility will be higher than that for employees with no caregiving responsibilities.
Research Hypothesis B.2 Controlling for gender and the set of work and family variables, the mean level of FIW for employees with two caregiving responsibilities will be higher than that for employees with one caregiving responsibility.
Research Hypothesis B.3 Controlling for gender and the set of work and family variables, the mean level of FIW for the child care group will be lower than that for the elder care group.

Table 5. Summary listing of research hypotheses (cont.)

Research Hypotheses
Research Hypothesis C.1 Controlling for care group and the set of work and family variables, the mean level of WIF for women will be higher than that for men.
Research Hypothesis C.2 Controlling for the set of work and family variables, the mean level of WIF for women will be higher than that for men with respect to: (a) the child care group, (b) the elder care group, (c) the sandwich group, and (d) the no-care group.
Research Hypothesis D.1 Controlling for care group and the set of work and family variables, the mean level of FIW for women will be higher than that for men.
Research Hypothesis D.2 Controlling for the set of work and family variables, the mean level of FIW for women will be higher than that for men with respect to: (a) the child care group, (b) the elder care group, (c) the sandwich group, and (d) the no-care group.
Research Hypothesis E.1 Controlling for care group and gender, WIF will be more strongly associated with the work variables than with the family variables.
Research Hypothesis E.2 Controlling for care group and gender, FIW will be more strongly associated with the work variables than with the family variables.
Research Hypothesis E.3 Controlling for care group, there will be a gender difference as to whether WIF is more strongly associated with the work variables than with the family variables.
Research Hypothesis E.4 Controlling for care group, there will be a gender difference as to whether FIW is more strongly associated with the work variables than with the family variables.

4. METHODOLOGY

This chapter discusses in turn the sample data, the measures, and the data analysis. Section 4.1 introduces the sample data, Section 4.2 outlines the measures, and Section 4.3 lays out the data analysis.

4.1 SAMPLE DATA

The sample used in the empirical work was a sub-sample of 2120 employees drawn from an overall sample of 5426 employees who responded to a recent survey conducted by Duxbury and Higgins (1998). The employees in this sample worked full-time (35 hours or more per week), were of normal working age (18-65), and were either married or living with a significant other who was also a full-time employee.³⁴ This particular sample was chosen in order to focus on the primary goal of investigating the relationship between care group and/or gender and RI and to eliminate from the analysis such potential confounds as: 1) work status of respondent (i.e. all respondents working part-time were excluded); 2) marital status (i.e. all single people were excluded); and 3) work

³⁴ For convenience in the sequel, persons who are “either married or living with a significant other” will henceforward be referred to as persons who are “living with a partner”.

status of partner (i.e. all respondents whose partners were not working full-time were excluded).^{35, 36}

It is useful to study this particular population because it represents a sizeable percentage of the Canadian workforce (Statistics Canada, 2003b) and, therefore, conclusions drawn about this particular population will have considerable generalizability. In addition, the proportion of full-time employees living with partners who are also full-time employees will only increase as the percentage of women holding full-time positions continues to rise (Gunderson, 1998).

The overall sample was drawn from 40 randomly selected medium and large organizations (i.e. organizations employing 100 or more workers) located in the province of Saskatchewan. Companies were selected so that the overall sample was representative with respect to company size (excluding small business) and sector. Employees in the following types of organizations participated in the study: four large, private sector companies (i.e. those with more than 1000 employees), fifteen large-medium private sector companies (i.e. those with 501 to 1000 employees), eight provincial government departments, two crown corporations (quasi-governmental organizations), ten

³⁵ It should be noted that full-time employees caring for disabled adults were also excluded from the sample.

³⁶ A brief statistical profile of the sample by care group and gender appears in Appendix C.

organizations from the not-for-profit sector and one government commission. The overall response rate was 36%.

The following subsection briefly outlines the overall survey procedure. Further details are available in Duxbury and Higgins (1998).

4.1.1 OVERALL SURVEY PROCEDURE

The Deputy Minister of Labour for the province of Saskatchewan issued an invitation to the various organizations to participate in the study. Following this invitation, a contact person was identified in each of the organizations that agreed to participate. The contact person provided a list of the employees in their organization. Within each organization, the sample was selected as indicated in Table 6.

Table 6. Sample selection within each organization

Organization Size	Percentage of Employees Surveyed
100 - 500 employees	Total organization surveyed
501 - 1000 employees	Random sample of 50% of employees
> 1000 employees	Random sample of 25% of employees

Questionnaires were sent to the contact person in each of the organizations. The contact person then distributed the questionnaires through the organization's internal mail system. The completed questionnaires were subsequently collected through the

mailroom and returned unopened to the researchers. For reasons of confidentiality, the responses were anonymous.

4.2 MEASURES

This section defines and, where appropriate, assesses the reliability of the measures used in the empirical modelling.³⁷

It should be noted that, unless otherwise indicated, questionnaire responses to all items referred to below were recorded on a five-point Likert Scale ranging from 1 ("strongly disagree") through 5 ("strongly agree"). Moreover, all multi-item scales are summated scales, that is, scores on individual component items are averaged after any necessary recoding for directional consistency. The reliability or internal consistency of each multi-item scale is indicated using Cronbach's Alpha, also known as the "alpha coefficient" or "coefficient alpha." The score for Cronbach's Alpha can range in value from 0.0 through 1.0 with a higher score suggesting that there is a higher probability that the set of items in the index are measuring the same thing (Vogt, 1999). Hair et al. (1998) judge that a Cronbach's Alpha score in the range of 0.60 through 0.70 represents the lower limit of acceptable reliability. All of the multi-item scales discussed below exceed this criterion.

³⁷ Basic descriptive statistics for the variables used in the empirical analysis by care group and gender appear in Appendix D.

4.2.1 CARE GROUP DEFINITIONS

As mentioned in Section 2.4, most studies that have compared employees by care group have used imprecise classification methods that give no indication as to the minimum level of care that caregivers were providing. For example, most studies classified a respondent as a child caregiver even if the individual simply reported sharing a household with a child (Buffardi et al., 1999; Neal et al., 1990; Scharlach & Boyd, 1989), while respondents have been classified as elder caregivers based on such vague criteria as "currently assisting" an elderly person (Fredriksen & Scharlach, 1999).

The care group definitions used here are based on the number of hours of child care per week and the number of hours of elder care per week reported by caregivers, hours of care being a common yardstick in the literature for measuring caregiving demands (Gorey et al, 1992).³⁸ A minimum threshold of one hour of care was used in part because the relevant questionnaire items were phrased in terms of hours of care and in part because it was felt that a certain minimum time spent in a particular form of caregiving is necessary for the caregiver to be "psychologically engaged."

Along these lines, four care group dummy or 0-1 variables were defined as follows: 1) child care dummy variable equal to 1 if the respondent indicated that they spent an hour

³⁸ Frequency distributions for hours of child care and hours of elder care for the three caregiving groups are given in Appendix E.

or more per week engaged in child care and spent less than an hour per week engaged in elder care and equal to 0 otherwise; 2) elder care dummy variable equal to 1 if the respondent indicated that they spent an hour or more per week engaged in elder care and spent less than an hour per week engaged in child care and equal to 0 otherwise; 3) sandwich dummy variable equal to 1 if the respondent indicated that they spent an hour or more per week engaged in child care and spent an hour or more per week engaged in elder care and equal to 0 otherwise; and 4) no-care dummy variable equal to 1 if the respondent indicated that they spent less than an hour per week engaged in child care and spent less than an hour per week engaged in elder care and equal to 0 otherwise. For convenience, these care group definitions are summarized in Table 7.

Table 7. Care group definitions

Care Group	Hours of Child Care Per Week	Hours of Elder Care Per Week
Child Care	≥ 1 hour	< 1 hour
Elder Care	< 1 hour	≥ 1 hour
Sandwich	≥ 1 hour	≥ 1 hour
No-Care	< 1 hour	< 1 hour

4.2.2 DEPENDENT VARIABLES

The measures used for the two dependent variables, WIF and FIW, were 6- and 4-item scales, respectively, developed by Duxbury and Higgins (1998) and based on earlier work by Gutek et al. (1991). It should be noted that very few previous studies have used

separate multi-item scales to measure WIF and FIW in comparisons across care groups. The use of multi-item scales is inherently more reliable (Nunnally & Bernstein, 1994).

WIF

The mean and standard deviation for all component items as well as for the overall WIF scale are given in Table 8. For all component items, a higher score indicates a higher degree of interference. The internal consistency score for this scale was 0.90 (N = 2119).

Table 8. WIF: Component items

Item	Mean	Standard Deviation
My work schedule often conflicts with my personal life.	2.84	1.20
My family dislikes how often I am preoccupied with my work when I work at home.	2.60	1.24
The demands of my job make it difficult to be relaxed at home.	2.75	1.21
My work takes up time I would like to spend with my family or friends.	3.00	1.22
My work makes it hard to be the kind of spouse I would like to be.	2.92	1.24
My work makes it hard to be the kind of parent I would like to be.	3.09	1.24
Overall Scale	2.87	1.00

FIW

The mean and standard deviation for all component items as well as for the overall FIW scale are given in Table 9. For all component items, a higher score indicates a higher degree of interference. The internal consistency score for this scale was 0.80 (N = 2119).

Table 9. FIW: Component items

Item	Mean	Standard Deviation
Making arrangements for my children while I work involves a lot of effort.	2.45	1.19
Making arrangements for my elderly relatives while I work involves a lot of effort.	2.15	1.02
My family/personal life often keeps me from spending the amount of time I would like on my job/career.	2.01	1.03
My family/personal life often interferes with my responsibilities at work (i.e. getting to work on time, ability to work overtime).	2.14	1.16
Overall Scale	2.19	0.87

4.2.3 WORK VARIABLES

The work variables controlled for in the empirical modelling included: hours of work, hours of supplemental work at home, perceived work flexibility, job type, perceived organizational support of work-family balance, and perceived supervisor support. The measures used for the work variables are summarized in Table 10. Further discussion appears below.

Table 10. Measures used for the work variables

Variable	Measure	Supporting Study
Hours of Work	Single-item	Duxbury et al. (1992)
Hours of Supplemental Work at Home	Single-item	Duxbury et al. (1992)
Perceived Work Flexibility	10-item	Duxbury & Higgins (1998)
Job Type	Single-item	N/A
Perceived Organizational Support of Work-Family Balance	10-item	Duxbury & Higgins (1998)
Perceived Supervisor Support	14-item	Duxbury & Higgins (1998), Bahr (1995)

Hours of Work

The variable hours of work was measured using the following item: "At present, approximately how many hours per week do you spend in paid employment?"

Hours of Supplemental Work at Home

The variable hours of supplemental work at home was measured using the following item: "At present, approximately how many hours per week do you spend working at home outside regular hours?"

Perceived Work Flexibility

The variable perceived work flexibility was measured using a 10-item scale based on the concept of informal work flexibility, as defined by Duxbury and Higgins (1998). This

measure is more comprehensive than typical measures of perceived work flexibility and encompasses both informal work time flexibility and informal work location flexibility.

The responses to the component items for the perceived work flexibility scale were recorded on a five-point Likert Scale ranging from 1 (“very difficult”) through 3 (“neither easy nor difficult”) through 5 (“very easy”). The mean and standard deviation for all the component items as well as for the overall scale are given in Table 11. The internal consistency score for this scale was 0.86 (N = 1863).

Table 11. Perceived work flexibility: Component items

Item	Mean	Standard Deviation
How easy or difficult is it for you:		
To vary your working hours (i.e. arrival and departure times)?	3.06	1.38
To spend some of your regular work day working at home?	1.85	1.18
To take your holidays when you want?	3.26	1.25
To take time off to attend a course or conference?	3.29	1.20
To interrupt your work day for personal/family reasons and then return to work?	3.32	1.32
To make or receive personal phone calls while you are at work?	3.79	1.11
To balance your work and personal/family commitments?	3.05	1.11
To arrange your work schedule (i.e. shifts, overtime) to meet family/personal commitments?	3.08	1.21
To take a paid day off work when a child is ill?	3.48	1.36
To take a paid day off when you have a crisis with an elderly relative?	3.45	1.33
Overall Scale	3.17	0.84

Job Type

As noted above in the literature review, researchers have often observed that job type is strongly associated with both education and income (Karasek, 1989; Karasek et al., 1987; Karasek & Theorell 1990; Statistics Canada, 2001). Indeed, similarly strong

associations hold true for the present data set.³⁹ For this very reason, researchers have frequently used job type as a surrogate for socio-economic status (Duxbury & Higgins, 1994; Friedman & Greenhaus, 2000; Karasek, 1989; Xie, 1996). With this in mind and also to facilitate the comparison of the empirical results to those in the existing literature, variables that measure educational attainment and family income were not explicitly included in the empirical modelling. Along similar lines, to facilitate further the comparison of the empirical results to those in the existing literature and to be able to focus on a number of potentially interesting contrasts between managerial/professional employees and non- managerial/professional employees, the variable job type was defined here as a simple dummy variable equal to 1 for employees who reported themselves as being either Managerial or Professional, and equal to 0 for employees who reported themselves as being either Technical, Administrative, Clerical, Retail, Production, or Other.⁴⁰

³⁹ Cross-tabulations between job type and educational attainment and between job type and family income for the present data set are reported in Appendix F.

⁴⁰ For convenience in the sequel, managerial/professional employees will henceforward be referred to as manprofs, while non-managerial/professional employees will henceforward be referred to as non-manprofs.

Perceived Organizational Support of Work-Family Balance

The variable perceived organizational support of work-family balance was operationalized in the form of two separate variables, good management practice and culture of hours, using measures derived from a comprehensive 10-item scale for perceived organizational support of work-family balance developed by Duxbury and Higgins (1998).

Good management practice and culture of hours represent two distinct facets of perceived organizational support of work-family balance. Good management practice is a “positive” concept and reflects the degree to which the organization promotes a balance between work and personal life, rewards on the basis of performance, and allows sufficient flexibility to enable employees to balance work and family. Culture of hours is a “negative” concept and reflects the tendency of the organization to reward employees based on face time rather than actual performance.

The decision to divide perceived organizational support of work-family balance into good management practice and culture of hours was prompted by the results of an exploratory factor analysis using the ten constituent items of the Duxbury and Higgins (1998) scale.⁴¹

⁴¹ Details of this exploratory factor analysis are reported in Appendix G.

The exploratory factor analysis itself was prompted by some earlier preliminary data analysis by Duxbury and Higgins (2002b) with respect to a different data set. The decision to divide perceived organizational support of work-family balance into good management practice and culture of hours also reflected the belief that these two distinct facets of perceived organizational support of work-family balance might have a differential impact on WIF and/or FIW.

The mean and standard deviation for all the component items of the good management practice scale as well as for the overall scale are given in Table 12. The internal consistency score for the overall scale was 0.84 ($N = 2090$).

Table 12. Good management practice: Component items

Item	Mean	Standard Deviation
To what extent do you agree or disagree with the following statements:		
Conditions in my organization allow me to be about as productive as I can be.	3.37	1.13
This organization promotes an environment that supports a balance between work and personal life.	3.02	1.14
This organization's policies are supportive of my family needs.	3.21	1.10
This organization has a sincere interest in the well-being of its employees.	3.05	1.19
This organization has a strong interest in the well-being of the community.	3.59	0.99
There are open and respectful discussions of work/family issues in this organization.	2.69	1.04
Overall Scale	3.20	0.83

The mean and standard deviation for all the component items of the culture of hours scale as well as for the overall scale are given in Table 13. The internal consistency score for the overall scale was 0.67 (N = 2091).

Table 13. Culture of hours: Component items

Item	Mean	Standard Deviation
To what extent do you agree or disagree with the following statements:		
If I were unable to work long hours, it would limit my career opportunities.	2.99	1.25
If I were to take a leave of absence for family reasons, it would limit my career advancement.	2.81	1.20
Family responsibilities make it difficult for people to advance in this organization.	2.63	1.00
It is not acceptable in this organization to say "no" to more work.	3.28	1.15
Overall Scale	2.93	0.82

Perceived Supervisor Support

The variable perceived supervisor support was measured using a 14-item scale developed by Duxbury and Higgins (1998), based on earlier work by Bahr (1995). This scale is designed to assess both supportive and nonsupportive behaviours typifying perceived supervisor support. (The scores on the six items representing nonsupportive behaviours were recoded so that a high score indicates a very supportive supervisor).

The mean and standard deviation for all the component items of the perceived supervisor support scale as well as for the overall scale are given in Table 14. The internal consistency score for this scale was 0.92 (N = 2116).

Table 14. Perceived supervisor support: Component items

Item	Mean	Standard Deviation
My Manager/Supervisor:		
Gives recognition when I do my job well.	3.33	1.22
Provides constructive feedback when performance standards are not met.	3.20	1.13
Displays favouritism in assigning work tasks and promotions. (R)	3.31	1.27
Listens to my concerns.	3.64	1.11
"Puts me down" in front of colleagues or clients. (R)	4.26	1.07
Shares information with me.	3.47	1.14
Is available to answer questions.	3.68	1.10
Only talks to me when I make a mistake. (R)	4.12	1.11
Makes me feel guilty about time off for family reasons. (R)	4.03	1.23
Focuses on hours of work rather than output. (R)	3.96	1.15
Makes sure I have the tools/equipment I need to do my job.	3.64	1.05
Is effective at planning the work to be done.	3.12	1.13
Asks for input before making decisions that will affect my work.	3.28	1.24
Has unrealistic expectations about how much work can be done. (R)	3.44	1.21
Overall Scale	3.64	0.79

The designation (R) indicates that the scores for this item were recoded for directional consistency.

4.2.4 FAMILY VARIABLES

The family variables controlled for in the empirical modelling included: perceived control over caregiving services, hours of caregiving, and hours of home chores. The measures used for the family variables are summarized in Table 15. Further discussion appears below.

Table 15. Measures used for the family variables

Variable	Measure	Supporting Study
Perceived Control Over Caregiving Services	6-item	Duxbury & Higgins (1998), Thomas & Ganster (1995)
Hours of Caregiving	2-item	Duxbury et al. (1992)
Hours of Home Chores	Single-item	Duxbury et al. (1992)

Perceived Control Over Caregiving Services

Thomas and Ganster (1995) developed an influential scale to measure perceptions of control over areas of work and family. Duxbury and Higgins (1998) subsequently modified Thomas and Ganster's Control Scale to produce a 6-item scale designed to measure the perceived degree of control that caregivers have over the availability, cost, and quality of auxiliary care services for children and dependent elders. This 6-item scale was used to measure the variable perceived control over caregiving services.

The mean and standard deviation for all the component items of the perceived control over caregiving services scale as well as for the overall scale are given in Table 16. The internal consistency score for this scale was 0.91 ($N = 314$).

It should be noted that this scale is not really valid for respondents in the no-care group, as they do not actually use caregiving services. Moreover, along similar lines, not all of the six items included in this scale pertain to issues of relevance to either the respondents in the child care group or the respondents in the elder care group. Consequently, the sample size used in the computation of the internal consistency score for this scale was relatively small.⁴²

⁴² The computation of Cronbach's Alpha requires that there be no missing values for any of the items relating to a particular observation.

Table 16. Perceived control over caregiving services: Component items

Item	Mean	Standard Deviation
How much choice do you have:		
Over the amount of high quality day care available for your children?	2.99	1.43
Over the amount of high quality care available for a sick child?	2.72	1.39
In obtaining adult supervision for your children before or after school?	2.97	1.34
Over the amount of high quality care available for a dependent parent or other relative?	2.67	1.23
Over the amount you pay for dependent care?	2.38	1.24
In making unanticipated child care arrangements?	2.48	1.26
Overall Scale	2.69	1.08

Hours of Caregiving and Hours of Home Chores

Taken together, the variables hours of caregiving and hours of home chores represent family demands in the same way that hours of work represents work demands. As noted above, there may be some interesting gender differences associated with both hours of caregiving and hours of home chores (Frederick & Fast, 2001; Gutek et al., 1991; Voydanoff, 1995). Consequently, it was useful to treat hours of caregiving and hours of home chores as two separate variables.

The variable hours of caregiving was defined as the sum of hours of child care and hours of elder care. Hours of child care was measured using the item: "At present, approximately how many hours per week do you spend in child care or activities with your children?" and hours of elder care was measured using the item: "At present, approximately how many hours per week do you spend in caring for elderly relatives?"

The variable hours of home chores was measured using the item: "At present, approximately how many hours per week do you spend in home chores and errands?"

4.3 DATA ANALYSIS

This section outlines the data analysis and empirical methodology used in the thesis. All actual results are reported and discussed in Chapter 5.

To test the set of 14 research hypotheses, within the context of the theoretical framework outlined in Chapter 3, required an appropriate empirical framework. Treating the two components of RI, namely, WIF and FIW, as two distinct constructs, implied the use of two separate dummy variable regression models, denoted the WIF Regression Model and the FIW Regression Model. These regression models are presented in Section 4.3.1 and Section 4.3.2, respectively.

The empirical work proper included the following three components: (i) estimation and evaluation of the WIF Regression Model and the FIW Regression Model, (ii) a relative importance analysis, and (iii) testing the 14 research hypotheses.

Estimation and evaluation of the WIF Regression Model and the FIW Regression Model was essential because the better the overall performance of the two regression models and the more plausible the parameter estimates, the more faith that could be placed in both the theoretical framework and the results of testing the 14 research hypotheses. This analysis involved standard regression technology.

The second component of the empirical work proper involved a relative importance analysis in which the relative contribution of the individual independent variables included in the WIF Regression Model and the FIW Regression Model was assessed. This issue is conceptually distinct from the significance testing that routinely accompanies a regression analysis. In particular, significance testing can be thought of as testing whether each individual independent variable actually contributes to the explanatory power of the model, whereas relative importance analysis is asking the question, "What is the relative contribution of each individual independent variable?" The relative importance methodology is discussed in Section 4.3.3.

The third component of the empirical work proper was the formal testing of the 14 research hypotheses. Details of the testing procedures are taken up in Section 4.3.4.

4.3.1 WIF REGRESSION MODEL

The WIF Regression Model included the following terms:

- 1) the dependent variable WIF
- 2) a set of 3 care group dummy variables to represent the child care, elder care, and sandwich groups (the no-care group was used as the bench-mark group)
- 3) a dummy variable for gender (1 = female, 0 = male)
- 4) the set of work and family variables:
 - work variables: hours of work, hours of supplemental work at home, perceived work flexibility, job type, good management practice, culture of hours, and perceived supervisor support
 - family variables: perceived control over caregiving services,⁴³ hours of caregiving, and hours of home chores

In equation form, this model can be represented as follows:

⁴³ As mentioned above in Section 4.2.4, the variable perceived control over caregiving services is not really valid for the no-care group. Moreover, the number of observations available for this variable with respect to the elder care group was very limited. As a result, this variable was only included in the child care and sandwich only regressions used in connection with Research hypothesis C.2 a) and c) and Research hypothesis D.2 a) and c).

$$WIF = \alpha_0 + \alpha_1 D_{CC} + \alpha_2 D_{EC} + \alpha_3 D_S + \alpha_4 D_G + X_W \alpha_W + X_F \alpha_F + u$$

where: WIF is an $(N \times 1)$ vector of observations on the dependent variable WIF , D_{CC} is an $(N \times 1)$ vector of observations on the child care group dummy variable, D_{EC} is an $(N \times 1)$ vector of observations on the elder care group dummy variable, D_S is an $(N \times 1)$ vector of observations on the sandwich group dummy variable, D_G is an $(N \times 1)$ vector of observations on the gender dummy variable, X_W is an $(N \times 7)$ matrix of observations on the work variables, X_F is an $(N \times 3)$ matrix of observations on the family variables, u is an $(N \times 1)$ vector of random disturbances, $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$, are scalar parameters, and, finally, α_W and α_F are conformable vectors of parameters.

4.3.2 FIW REGRESSION MODEL

The FIW Regression Model was identical in structure to the WIF Regression Model except for FIW being the dependent variable instead of WIF.

In equation form, this model can be represented as follows:

$$FIW = \beta_0 + \beta_1 D_{CC} + \beta_2 D_{EC} + \beta_3 D_S + \beta_4 D_G + X_W \beta_W + X_F \beta_F + u$$

where all terms are defined as above except for FIW , which is an $(N \times 1)$ vector of observations on FIW , β_0 , β_1 , β_2 , β_3 , and β_4 , which are scalar parameters, and β_w and β_F , which are conformable vectors of parameters.

4.3.3 RELATIVE IMPORTANCE

A number of alternative measures of variable importance and relative importance have been discussed in the literature and a succinct review of these alternative measures, together with a number of additional references, is provided by Thomas and Decady (1999).

The principal criterion used in this thesis to assess the relative importance of the j -th independent variable was derived by Thomas et al. (1996, 1998) and represents a sample estimate of Pratt's (1987) measure of variable importance divided by R^2 . This criterion can be expressed as:

$$\hat{\delta}_j = \hat{\gamma}_j \hat{\rho}_j / R^2 \quad j = 1, 2, \dots, p$$

where $\hat{\gamma}_j$ denotes the ordinary least squares estimate of the standardized regression coefficient or "beta coefficient" associated with the j -th independent variable, $\hat{\rho}_j$ denotes the sample correlation coefficient between the dependent variable and the j -th independent variable, and R^2 denotes the R-squared value for the regression. Following

Thomas et al. (1996, 1998), this measure will be referred to in the sequel as the “standardized Pratt measure”.

One of the convenient features of the standardized Pratt measure is that the sum of the standardized Pratt measures for a regression must equal 1. This property follows from the fact that $R^2 = \sum_{j=1}^{j=p} \hat{\gamma}_j \hat{\rho}_j$. Moreover, the standardized Pratt measure has a cardinal interpretation. This implies, for example, that an independent variable X with a standardized Pratt measure equal to twice that of another independent variable Y can be considered to be twice as important. Along similar lines, the importance of a subset of independent variables is equal to the sum of the standardized Pratt measures for the independent variables in the subset.

Finally, there are two further preliminary issues that need to be briefly discussed. Firstly, as stressed by Thomas et al. (1996), it is possible that some of the independent variables in a regression may be so-called “suppressor variables”, that is, the impact of some of the independent variables on the dependent variable may be indirect or through other independent variables rather than direct. In this case, it is necessary to separate out the set of suppressor variables and to focus the relative importance analysis on the remaining “non-suppressor” variables, leaving an assessment of the relative importance of the

suppressor variables to one side.⁴⁴ In practice, Thomas et al. (1998) suggest that suppressor variables may be identified by looking for independent variables with a combination of a small, although not necessarily zero, standardized Pratt measure and an estimated standardized regression coefficient which is comparable in absolute value to that of other independent variables believed on *a priori* theoretical grounds to be important. Secondly, it is important to check for multicollinearity as it can be shown that multicollinearity can lead to the possibility of negative values of the standardized Pratt measure. Indeed, in this connection, Thomas et al. (1998) have derived the following negative lower bound for the standardized Pratt measure:

$$\hat{\delta}_j \geq -(1/2)[(\text{VIF}_j)^{1/2} - 1]$$

where $\text{VIF}_j = 1/(1 - R_j^2)$ is the Variance Inflation Factor for the *j*-th independent variable, a common indicator used to detect multicollinearity, and R_j^2 is the R-squared value from an auxiliary regression in which the *j*-th independent variable is regressed on all the other independent variables in the model. It follows that, in the event that

⁴⁴ Thomas et al. (1998) suggest that “a natural measure” of the relative importance of the set of suppressor variables is given by $(R^2 - R_{\text{NS}}^2)/R^2$, where R_{NS}^2 denotes the proportion of the total variation of the dependent variable explained just by the set of non-suppressor variables.

multicollinearity is a serious problem, it may well be necessary to pursue appropriate remedies.⁴⁵

4.3.4 TESTING THE RESEARCH HYPOTHESES

The WIF Regression Model and the FIW Regression Model, together with some simple variants, were used to test each of the 14 research hypotheses. Details of the testing methodology are given below.

Research Hypothesis A.1 Controlling for gender and the set of work and family variables, the mean level of WIF for employees with at least one caregiving responsibility will be higher than that for employees with no caregiving responsibilities.

This research hypothesis was addressed by pooling the observations for the child care, elder care, and sandwich groups into a new group, the "at least one caregiving responsibility" group. Then, estimating the following variant of the WIF Regression Model:

$$WIF = \alpha_0 + \alpha_5 D_{ALOCR} + \alpha_4 D_G + X_W \alpha_W + X_F \alpha_F + u$$

⁴⁵ Thomas et al. (1996) suggest that one possible remedy would be to omit one or more offending variables from the regression. Alternatively, as they point out, where this strategy might be inappropriate, a ridge regression methodology could be employed.

where everything is defined as above except for D_{ALOCR} , which is an $(N \times 1)$ vector of observations on the at least one caregiving responsibility group dummy variable, and α_5 , which is a scalar parameter. And, finally, testing the null hypothesis $H_0 : \alpha_5 = 0$ against the alternative hypothesis $H_1 : \alpha_5 > 0$ using a one-sided t-test.

Research Hypothesis A.2 Controlling for gender and the set of work and family variables, the mean level of WIF for employees with two caregiving responsibilities will be higher than that for employees with one caregiving responsibility.

This research hypothesis was addressed by estimating the following variant of the WIF Regression Model:

$$WIF = \alpha_0 + \alpha_3 D_S + \alpha_6 D_{NC} + \alpha_4 D_G + X_W \alpha_W + X_F \alpha_F + u$$

where everything is defined as above except for D_{NC} , which is an $(N \times 1)$ vector of observations on the no care group dummy variable, and α_6 , which is a scalar parameter. Then, testing the null hypothesis $H_0 : \alpha_3 = 0$ against the alternative hypothesis $H_1 : \alpha_3 > 0$ using a one-sided t-test. (Notice that in this variant of the WIF Regression Model the benchmark group is the "one caregiving responsibility" group that includes the observations on both the child care group and the elder care group).

Research Hypothesis A.3 Controlling for gender and the set of work and family variables, the mean level of WIF for the child care group will be lower than that of the elder care group.

This research hypothesis was addressed by estimating the following variant of the WIF Regression Model:

$$WIF = \alpha_0 + \alpha_1 D_{CC} + \alpha_3 D_S + \alpha_6 D_{NC} + \alpha_4 D_G + X_W \alpha_W + X_F \alpha_F + u$$

where everything is defined as above. Then testing the null hypothesis $H_0 : \alpha_1 = 0$ against the alternative hypothesis $H_1 : \alpha_1 < 0$ using a one-sided t-test. (Notice that in this variant of the WIF Regression Model the benchmark group is the elder care group).

Research Hypotheses B.1 through B.3 were addressed in an entirely analogous way to that outlined above for Research Hypotheses A.1 through A.3. For completeness, the details are provided below:

Research Hypothesis B.1 Controlling for gender and the set of work and family variables, the mean level of FIW for employees with at least one caregiving responsibility will be higher than that for employees with no caregiving responsibilities.

This research hypothesis was addressed by pooling the observations for the child care, elder care, and sandwich groups into a new group, the "at least one caregiving responsibility" group. Then, estimating the following variant of the FIW Regression Model:

$$FIW = \beta_0 + \beta_5 D_{ALOCR} + \beta_4 D_G + X_W \beta_W + X_F \beta_F + u$$

where everything is defined as above except for β_5 , which is a scalar parameter. And, finally, testing the null hypothesis $H_1 : \beta_5 = 0$ against the alternative hypothesis $H_1 : \beta_5 > 0$ using a one-sided t-test.

Research Hypothesis B.2 Controlling for gender and the set of work and family variables, the mean level of FIW for employees with two caregiving responsibilities will be higher than that for employees with one caregiving responsibility.

This research hypothesis was addressed by estimating the following variant of the FIW Regression Model:

$$FIW = \beta_0 + \beta_3 D_S + \beta_6 D_{NC} + \beta_4 D_G + X_W \beta_W + X_F \beta_F + u$$

where everything is defined as above except for β_6 , which is a scalar parameter. Then testing the null hypothesis $H_0 : \beta_3 = 0$ against the alternative hypothesis $H_1 : \beta_3 > 0$ using a one-sided t-test. (Notice that in this variant of the FIW Regression Model the benchmark group is the "one caregiving responsibility" group that includes the observations on both the child care group and the elder care group).

Research Hypothesis B.3 Controlling for gender and the set of work and family variables, the mean level of FIW for the child care group will be lower than that of the elder care group.

This research hypothesis was addressed by estimating the following variant of the FIW Regression Model:

$$\text{FIW} = \beta_0 + \beta_1 D_{\text{CC}} + \beta_3 D_{\text{S}} + \beta_6 D_{\text{NC}} + \beta_4 D_{\text{G}} + X_{\text{W}} \beta_{\text{W}} + X_{\text{F}} \beta_{\text{F}} + u$$

where everything is defined as above. Then, testing the null hypothesis $H_0 : \beta_1 = 0$ against the alternative hypothesis $H_1 : \beta_1 < 0$ using a one-sided t-test. (Notice that in this variant of the FIW Regression Model the benchmark group is the elder care group).

Research Hypothesis C.1 Controlling for care group and the set of work and family variables, the mean level of WIF for women will be higher than that for men.

This research hypothesis was addressed by estimating the WIF Regression Model and then testing the null hypothesis $H_0 : \alpha_4 = 0$ against the alternative hypothesis $H_1 : \alpha_4 > 0$ using a one-sided t-test.

Research Hypothesis C.2 Controlling for the set of work and family variables, the mean level of WIF for women will be higher than that for men with respect to: (a) the child care group (b) the elder care group (c) the sandwich group (d) the no-care group.

All four parts of this research hypothesis were addressed using a similar procedure. In each case, the following variant of the WIF Regression Model:

$$WIF = \alpha_0 + \alpha_4 D_G + X_W \alpha_W + X_F \alpha_F + u$$

was estimated using *only* the observations for the relevant care group. The null hypothesis $H_0 : \alpha_4 = 0$ was then tested against the alternative hypothesis $H_1 : \alpha_4 > 0$ using a one-sided t-test.

Research Hypotheses D.1 and D.2 were addressed in an entirely analogous way to that used for Research Hypotheses C.1 and C.2. For completeness, details are provided below:

Research Hypothesis D.1 Controlling for care group and the set of work and family variables, the mean level of FIW for women will be higher than that for men.

This research hypothesis was addressed by estimating the FIW Regression Model and then testing the null hypothesis $H_0 : \beta_4 = 0$ against the alternative hypothesis $H_1 : \beta_4 > 0$ using a one-sided t-test.

Research Hypothesis D.2 Controlling for the set of work and family variables, the mean level of FIW for women will be higher than that for men with respect to: (a) the child care group (b) the elder care group (c) the sandwich group (d) the no-care group.

All four parts of this research hypothesis were addressed using a similar procedure. In each case, the following variant of the FIW Regression Model:

$$FIW = \beta_0 + \beta_4 D_G + X_W \beta_W + X_F \beta_F + u$$

was estimated using *only* the observations for the relevant care group. The null hypothesis $H_0 : \beta_4 = 0$ was then tested against the alternative hypothesis $H_1 : \beta_4 > 0$ using a one-sided t-test.

Research Hypothesis E.1 Controlling for care group and gender, WIF will be more strongly associated with the work variables than with the family variables.

One way to address this research hypothesis is to think of it in terms of a non-nested hypothesis test and this was the method used in this thesis.⁴⁶ Consider the following two variants of the WIF Regression Model:

$$WIF = \alpha_0 + \alpha_1 D_{CC} + \alpha_2 D_{EC} + \alpha_3 D_S + \alpha_4 D_G + X_W \alpha_W + u$$

$$WIF = \alpha_0 + \alpha_1 D_{CC} + \alpha_2 D_{EC} + \alpha_3 D_S + \alpha_4 D_G + X_F \alpha_F + u$$

These variants, which, for convenience, can be denoted the Work Model and the Family Model, are both identical to the WIF Regression Model except that the term involving the family variables is omitted from the Work Model and the term involving the work variables is omitted from the Family Model. Essentially, the Work Model says that the work variables help to explain the variation in WIF and the family variables do not, while the Family Model says that the family variables help to explain the variation in WIF and the work variables do not. A comparison of these two models can be used to see which is "best". If the Work Model is deemed to be best, then it would be concluded that the work variables affect WIF more strongly than the family variables. If the Family Model is deemed to be best, then it would be concluded that the family variables affect WIF more strongly than the work variables.

⁴⁶ For a good survey of non-nested hypothesis testing, see Doran (1993).

Comparing the Work Model and the Family Model is complicated slightly by the fact that neither model is a special case of the other, i.e. they are "non-nested" models. In particular, this means that it is not possible to compare the two models directly by using the regular (nested) testing methodology of testing a restriction (or a set of restrictions) on the more general model.

One fairly simple and intuitive approach to this non-nested testing problem is to use the non-nested F-test.⁴⁷ The non-nested F-test can be outlined as follows:

First, specify the simplest more general model that encompasses both the Work Model and the Family Model. Conveniently, the "encompassing model" in this case turns out to be the WIF Regression Model:

$$WIF = \alpha_0 + \alpha_1 D_{CC} + \alpha_2 D_{EC} + \alpha_3 D_S + \alpha_4 D_G + X_W \alpha_W + X_F \alpha_F + u$$

Second, estimate the WIF Regression Model and test the null hypothesis $H_0 : \alpha_F = 0$ against the alternative hypothesis $H_1 : \textit{otherwise}$ using an F-test. If this null hypothesis is not rejected, then the family variables provide no *additional* explanatory power over and above the variables included in the Work Model.

⁴⁷ See, for example, Gujarati (2003) or Kennedy (1998).

Third, test the null hypothesis $H_0 : \alpha_w = 0$ against the alternative hypothesis $H_1 : \textit{otherwise}$ using an F-test. If this null hypothesis is not rejected, then the work variables provide no *additional* explanatory power over and above the variables included in the Family Model.

Overall, there are four possible outcomes: (1) If the first null hypothesis ($H_0 : \alpha_F = 0$) is not rejected *and* the second null hypothesis ($H_0 : \alpha_w = 0$) is rejected, then the Work Model is best; (2) If the first null hypothesis ($H_0 : \alpha_F = 0$) is rejected *and* the second null hypothesis ($H_0 : \alpha_w = 0$) is not rejected, then the Family Model is best; (3) If both null hypotheses are rejected, then neither the Work Model nor the Family Model is entirely satisfactory (and this would suggest that a combined model would probably be better); and (4) If both null hypotheses are not rejected, then there is not enough information in the data to discriminate between the Work Model and the Family Model.

Notice that in the case of the third possible outcome (in which a combined model would probably be better); there is no obvious indication as to whether the work variables affect WIF more strongly than the family variables or *vice versa*. In this case, a reasonable way to proceed would be to use the following Work/Family Importance Ratio “tie-breaker” based on the relative importance analysis described above: If the importance of work variables (as measured by the sum of the corresponding standardized Pratt measures) is

greater than the importance of the family variables (as measured by the sum of the corresponding standardized Pratt measures), then conclude that the work variables affect WIF more strongly than the family variables. On the other hand, if the importance of the family variables is greater than the importance of the work variables, then conclude that the family variables affect WIF more strongly than the work variables.

Research Hypothesis E.2 Controlling for care group and gender, FIW will be more strongly associated with the family variables than with the work variables.

This research hypothesis was addressed an entirely analogous way to that described above for Research Hypothesis E.1.

Research Hypothesis E.3 Controlling for care group, there will be a gender difference as to whether WIF is more strongly associated with the work variables than with the family variables.

Research Hypothesis E.3 was addressed in the following way: First, exactly the same procedure as that described above for Research Hypothesis E.1 was applied, but using *only* the observations for males. Second, the first step was repeated, but using *only* the observations for females. Third, the results for the male sample were compared to the results for the female sample and it was noted whether or not there was a difference. Thus, for example, if WIF were found to be more strongly associated with the work

variables than with the family variables for both males and females, then it would be concluded that there was not a gender difference as to whether WIF was more strongly associated with the work variables than with the family variables.

Research Hypothesis E.4 Controlling for care group, there will be a gender difference as to whether FIW is more strongly associated with the family variables than with the work variables.

This research hypothesis was addressed in an entirely analogous way to that described above for Research Hypothesis E.3.

5. RESULTS AND DISCUSSION

This chapter reports and discusses the empirical results of the thesis.⁴⁸ Section 5.1 addresses the regression results for the WIF Regression Model and the FIW Regression Model. Section 5.2 addresses the corresponding relative importance results. Finally, Section 5.3 addresses the results of testing the 14 research hypotheses.

It should be noted that, given the relatively large sample sizes involved, it was decided to adopt the relatively conservative significance level of 0.01 or 1% throughout. In this connection, p-values are also provided for statistical tests. Thus, if the reader prefers to adopt a less conservative significance level, the necessary information is readily available.

5.1 REGRESSION

This section reports and discusses the regression results for the WIF Regression Model and the FIW Regression Model. It is important to examine these results, because the better the overall performance of the two regression models and the more plausible the parameter estimates, the more faith that can be placed in both the theoretical framework and the results of testing the 14 research hypotheses.

⁴⁸ Methodological details are provided in Section 4.3.

The value of regression analysis is illustrated by the way in which a parameter estimate is interpreted. A parameter estimate indicates the *unique* contribution of the associated independent variable to the regression. Specifically, a parameter estimate provides an estimate of how the predicted value of the dependent variable would change if there were a one unit change in the associated independent variable *holding all of the other variables included in the regression constant*.

The WIF and FIW regression results are presented next, followed by a discussion.

5.1.1 WIF REGRESSION RESULTS

The results for the WIF Regression Model are presented in Table 17.⁴⁹ The R-squared value was 0.376, indicating that the WIF Regression Model explained approximately 38% of the total variation in WIF.⁵⁰ Moreover, the fact that the maximum VIF (Variance

⁴⁹ The possibility of adding a variety of interaction terms between the four “hours variables” (hours of work, hours of supplemental work at home, hours of caregiving, and hours of home chores) and care group, on the one hand, and gender, on the other hand, was explored extensively, but these interaction terms did not add significantly to the explanatory power of the model.

⁵⁰ Interestingly, the set of work and family variables added very substantially to the explanatory power of the WIF Regression Model. The R-squared value for the WIF Regression Model excluding the set of work and family variables was 0.033.

Inflation Factor) value was 2.082 indicated that multicollinearity was not a significant problem.⁵¹

Both the parameter estimates for child care and sandwich were significant and positive (0.220 versus 0.237), indicating that, other things being equal, having child care or sandwich responsibilities was associated with higher WIF than having no care responsibilities.^{52, 53} The parameter estimate for elder care was not significant, indicating that, other things being equal, having elder care responsibilities was not associated with either higher or lower WIF than having no care responsibilities. Interestingly, the

⁵¹ VIF values are commonly used as a criterion for assessing the degree of multicollinearity in regression models. See, for example, Fox (1997). A standard rule of thumb is that if an independent variable's VIF value exceeds 10, then that variable is said to be highly collinear (Kleinbaum et al., 1988). The pairwise sample correlations between the independent variables were also fairly low, with a maximum value of 0.512. A pairwise sample correlation in excess of 0.8 is generally regarded as being an indication that multicollinearity is a serious problem (Gujarati, 2003). The complete sample correlation matrix is presented in Appendix H.

⁵² As noted above, the benchmark care group is the no-care group.

⁵³ All standard errors, t-statistics, and F-statistics reported in this Chapter are based on heteroscedasticity-consistent estimates of the OLS covariance matrix. See, for example, Long and Ervin (2000). This implies that all t-tests and F-tests are asymptotically valid, even in the presence of heteroscedasticity of unknown form.

parameter estimate for gender was not significant, indicating that, other things being equal, there was no difference in WIF across gender.

Table 17. WIF Regression Model results

Independent Variable	Coefficient (std. error)	t-statistic [p-value]	VIF
Constant	2.707* (0.211)	12.85 [0.000]	--
Child Care	0.220* (0.053)	4.148 [0.000]	2.082
Elder Care	-0.123 (0.076)	-1.626 [0.104]	1.224
Sandwich	0.237* (0.067)	3.538 [0.000]	1.599
Gender	0.013 (0.040)	0.331 [0.740]	1.174
Hours of Work	0.015* (0.003)	4.883 [0.000]	1.077
Hours of Supplemental Work at Home	0.017* (0.004)	4.872 [0.000]	1.053
Perceived Work Flexibility	-0.294* (0.027)	-11.00 [0.000]	1.429
Job Type	0.146* (0.038)	3.835 [0.000]	1.069
Good Management Practice	-0.151* (0.031)	-4.888 [0.000]	1.629
Culture of Hours	0.324* (0.028)	11.49 [0.000]	1.344
Perceived Supervisor Support	-0.085* (0.030)	-2.885 [0.004]	1.500
Hours of Caregiving	0.000 (0.002)	0.104 [0.917]	1.573
Hours of Home Chores	0.004 (0.002)	1.634 [0.102]	1.124
N = 1880	R-Squared = 0.376 Adjusted R-Squared = 0.372		

* $p < 0.01$.

The parameter estimates associated with the work variables were all significant. Moreover, they all had the anticipated signs. Thus, the parameter estimates associated with hours of work, hours of supplemental work at home, job type, and culture of hours were positive, while the parameter estimates associated with perceived work flexibility, good management practice, and perceived supervisor support were negative. This implies that, other things being equal, those working longer hours, in the workplace and/or supplemental hours at home, manprofs, and those working in an environment characterized by a culture of hours experienced higher WIF, while those working in an environment characterized by perceived work flexibility, good management practice, and perceived supervisor support experienced lower WIF.

Finally, neither of the parameter estimates associated with the family variables was significant. This implies that, other things being equal, hours of caregiving and hours of home chores were not significant predictors of WIF.

5.1.2 FIW REGRESSION RESULTS

The results for the FIW Regression Model are presented in Table 18.⁵⁴ The R-squared value was 0.201 indicating that the FIW Regression Model explained approximately

⁵⁴ The possibility of adding a variety of interaction terms between the four “hours variables” (hours of work, hours of supplemental work at home, hours of caregiving, and hours of home chores) and

20% of the total variation in FIW.⁵⁵ Given that the same set of independent variables was used for both the WIF Regression Model and the FIW Regression Model, the VIF values for the FIW Regression Model were identical to those for the WIF Regression Model above. Hence, multicollinearity was again not a significant problem.

Both the parameter estimates for child care and sandwich were significant and positive (0.353 versus 0.360) indicating that, other things being equal, having child care or sandwich responsibilities was associated with higher FIW than having no care responsibilities. The parameter estimate for elder care was not significant indicating that, other things being equal, having elder care responsibilities was not associated with either higher or lower FIW than having no care responsibilities. Interestingly, the parameter estimate for gender was not significant indicating that, other things being equal, there was no difference in FIW across gender.

care group, on the one hand, and gender, on the other hand, was explored extensively, but these interaction terms did not add significantly to the explanatory power of the model.

⁵⁵ Interestingly, the set of work and family variables added very substantially to the explanatory power of the FIW Regression Model. The R-squared value for the FIW Regression Model excluding the set of work and family variables was 0.101.

Table 18. FIW Regression Model results

Independent Variable	Coefficient (std. error)	t-statistic [p-value]	VIF
Constant	1.560* (0.202)	7.732 [0.000]	--
Child Care	0.353* (0.052)	6.757 [0.000]	2.082
Elder Care	0.048 (0.070)	0.682 [0.495]	1.224
Sandwich	0.360* (0.066)	5.441 [0.000]	1.599
Gender	-0.040 (0.038)	-1.032 [0.302]	1.174
Hours of Work	-0.003 (0.003)	-1.018 [0.309]	1.077
Hours of Supplemental Work at Home	0.005 (0.003)	1.629 [0.104]	1.053
Perceived Work Flexibility	-0.094* (0.026)	-3.629 [0.000]	1.429
Job Type	-0.047 (0.037)	-1.270 [0.204]	1.069
Good Management Practice	0.056 (0.029)	1.965 [0.050]	1.629
Culture of Hours	0.256* (0.027)	9.645 [0.000]	1.344
Perceived Supervisor Support	-0.079* (0.029)	-2.769 [0.006]	1.500
Hours of Caregiving	0.010* (0.002)	5.109 [0.000]	1.573
Hours of Home Chores	0.007* (0.002)	3.062 [0.002]	1.124
N = 1880	R-Squared = 0.201 Adjusted R-Squared = 0.196		

* p < 0.01.

Three of the seven parameter estimates associated with the work variables were significant, while four were not. All three of the significant parameter estimates, however, had the anticipated signs. Thus, the parameter estimate associated with culture

of hours was positive, while the parameter estimates associated with perceived work flexibility and perceived supervisor support were negative. This implies that, other things being equal, those working in an environment characterized by a culture of hours experienced higher FIW, while those working in an environment characterized by perceived work flexibility and perceived supervisor support experienced lower FIW. The four insignificant parameter estimates were associated with hours of work, hours of supplemental work at home, job type, and good management practice. This implies that, other things being equal, hours of work, hours of supplemental work at home, job type, and good management practice were not significant predictors of FIW.

Finally, both of the parameter estimates associated with the family variables were significant and positive. This implies that, other things being equal, those providing more hours of caregiving and those performing more hours of home chores experienced higher FIW.

5.1.3 DISCUSSION OF WIF AND FIW REGRESSION RESULTS

In terms of explanatory power, the WIF Regression Model is substantially more “successful” than the FIW Regression Model, because the proportion of the total variation in WIF explained by the WIF Regression Model is approximately twice the proportion of the total variation in FIW explained by the FIW Regression Model. This suggests that future researchers may have to dig deeper to identify additional predictors for FIW.

Explanatory power, however, is not the only criterion of model adequacy. Attention must also be paid to the plausibility of the various parameter estimates in the WIF Regression Model and the FIW Regression Model. For convenience, this task will be divided below into three subsections, namely, care group, gender, and work and family variables.

5.1.3.1 CARE GROUP

In both the WIF Regression Model and the FIW Regression Model, the parameter estimates for child care and sandwich were significant and positive, indicating that, controlling for gender and the set of work and family variables, the child care group and the sandwich group were associated with higher WIF and with higher FIW than the no-care group. These results are perfectly plausible and consistent with previous findings in the literature.

For example, a number of researchers have found that employed child caregivers tend to report both higher stress and greater time-pressure than employees without child care responsibilities (Barnett & Baruch, 1985; Frederick & Fast, 2001; Friedman & Greenhaus, 2000; Googins, 1991; Gore & Mangione, 1983; Statistics Canada, 1999b). In addition, employed child caregivers are more likely to feel overwhelmed by their work responsibilities and, perhaps as a consequence, to report higher stress, greater time-pressure, and higher rates of absenteeism than employees without child care responsibilities (Fredriksen & Scharlach, 1999; Friedman & Greenhaus, 2000; Galinsky

et al., 1996; MacBride-King, 1990; Statistics Canada, 1998c). Along similar lines, and as noted above in the literature review, employed sandwich caregivers have been found to experience greater difficulty balancing work and family (Buffardi et al., 1999; MacBride-King, 1990; Neal et al., 1990) than employed child caregivers and to suffer from greater stress and higher rates of absenteeism (Neal et al., 1993; Scharlach & Boyd, 1989) than employed child caregivers and employed elder caregivers.⁵⁶

Turning now to elder care, the parameter estimate for elder care was not significant in either the WIF Regression Model or the FIW Regression Model indicating that, controlling for gender and the set of work and family variables, the elder care group was not associated with either higher or lower WIF or with higher or lower FIW than the no-care group. These findings are very much in contrast with those of the gerontology literature, which has generally found that the combination of elder care and employment is at least as difficult as the combination of child care and employment (Brody, 1990; Horowitz, 1985a; Neysmith, 1998; Scharlach & Boyd, 1989). Nevertheless, it will be argued below that these findings are not at all implausible and that they can readily be rationalized.

⁵⁶ As previously noted, these earlier results must be treated with caution as all of these studies are methodologically flawed.

Firstly, many influential studies in the gerontology literature, and especially those comparing elder caregivers to other groups in terms of RI, have neglected to take important control variables, such as work and family variables, into account (Buffardi et al., 1999; Fredriksen & Scharlach, 1999; MacBride-King, 1990; Neal et al., 1990; Scharlach & Boyd, 1989). This neglect of control variables can seriously bias empirical results.

Secondly, the gerontology literature really focuses on a different population of elder caregivers to that analysed here and, therefore, it is not really surprising that the results here are markedly different.

For example, the gerontology literature tends to focus on elder caregivers who provide many hours of care and who, consequently, tend to be either part-time employees or unemployed (Horowitz, 1985a; Neal, 1990; Starrels et al., 1997; Stoller & Pugliesi, 1989). In contrast, the elder caregivers here were all full-time employees and, therefore, due to the time commitments of their work, much more likely to be supplementary, rather than primary, caregivers. In addition, the elder caregivers here were relatively young – the average age was 46.00 years for males and 43.83 for females – and therefore likely to be providing care for relatively young elders with concomitantly modest caregiving needs (Frederick & Fast, 1999; Keating et al., 1999).⁵⁷ Indeed, the average

⁵⁷ See Appendix D.

number of hours of caregiving provided by the elder caregivers in the sample was 4.17 hours. Moreover, the elder caregivers considered here all live with partners who are also full-time employees. Consequently, they may approach elder care in a different way from that of the typical elder caregiver described in the gerontology literature. Along these lines, a female elder caregiver here may be more likely to be sharing elder care duties with their partner or only to be providing care for their own elderly relatives, rather than to be providing care both for their own and for their partner's parents (Brody, 1990; Horowitz, 1985a). After all, there was no great gender difference in the average number of hours of elder care provided here (3.58 hours for males versus 4.47 hours for females), which is in stark contrast to the typical finding in the gerontology literature (Brody, 1990; Horowitz, 1985a; Keating et al., 1999; Walker et al., 1995). In short, it seems likely that the actual burden of elder care on the elder caregivers here was relatively slight and therefore it is not that surprising that the parameter estimate for elder care was not significant in either the WIF Regression Model or the FIW Regression Model.

5.1.3.2 GENDER

In both the WIF Regression Model and the FIW Regression Model, the parameter estimate for gender was not significant, indicating that, controlling for care group and the set of work and family variables, there was no gender difference with respect to either WIF or FIW. These results differ from previous results in the literature. More specifically, as discussed in Section 2.5, previous studies have tended to conclude that

women experience higher WIF than men and also, albeit less decisively, to conclude that women experience higher FIW than men (Duxbury & Higgins, 1994; Duxbury et al., 1994; Gottlieb et al., 1994; Gutek et al., 1991).

There are three main reasons why the results here may differ from those of previous studies:

- 1) As discussed in Section 2.5, previous studies have generally failed to control for a comprehensive set of potential confounds. Consequently, gender differences found in these earlier studies are likely to have reflected differences in the life circumstances of men and women rather than inherent gender differences. The life circumstances of men and women differ in a number of ways. For example, women tend to perform more hours of home chores and men tend to perform more hours of work. As discussed in the literature review, higher work and family demands tend to be associated with higher WIF and/or FIW. Moreover, women are less likely to be manprofs than men. As outlined in Section 2.8.1.4, gender differences in job type may result in apparent gender differences in WIF and FIW because manprofs tend to have higher perceived control, which in turn is associated with lower WIF and FIW.
- 2) Many of the previous studies that have compared men and women in terms of WIF and FIW are now somewhat dated. Societal attitudes towards appropriate male and female roles with respect to caregiving have changed dramatically in

recent years (Globe and Mail, 1999b). In particular, men are believed to be much more psychologically involved in the care of their children than previously (Aldous et al., 1998; Coltrane, 1996; Pleck, 1997; Snarey, 1993). The resulting increase in male attention to caregiving, even if relatively modest in scope, may have increased WIF and FIW for men to levels previously experienced only by women. After all, men may be less able to handle even relatively lower levels of responsibility in the family domain because: a) Men still tend to believe that being a breadwinner is their primary role and hence they may feel more guilt than women in diverting time from work to caregiving (Ehrensaft, 1995; Walzer, 1996); b) Men often feel that their parenting skills are inadequate and this perception may increase their stress associated with child care (Coltrane, 1996; Dienhart, 1998; Ehrensaft, 1995; Walzer, 1996); c) Men have less practice in balancing work and family responsibilities and fewer same gender role models upon which to model their behaviour; and d) Men may not have fully developed the coping strategies that women have traditionally relied upon to help them balance work and family. These coping strategies include multi-tasking and obtaining emotional and practical assistance from a supportive circle of friends (Fuhrer & Stansfeld, 2002; Ruderman et al., 2002; Vandervoort, 2003).

- 3) The sample here is restricted to full-time employees living with partners who are also full-time employees, whereas many previous studies have included a much broader range of employees. This may have increased the likelihood of finding gender equity with respect to both WIF and FIW because: a) Men who are full-

time employees living with partners who are also full-time employees may take more responsibility for caregiving than men living with partners who are either part-time employees or unemployed; and b) Women who have been experiencing particularly high WIF and/or FIW may drop down to part-time status or leave the work-force altogether and so would be excluded from this sample.

Taking these factors into account, it is not altogether implausible that the parameter estimate for gender was not significant in either the WIF Regression Model or the FIW Regression Model. Indeed, this finding is consistent with a recent survey of the literature, which also tends to dismiss the existence of gender differences in WIF and FIW (Geurts & Demerouti, 2003).

5.1.3.3 WORK AND FAMILY VARIABLES

The parameter estimates for the set of work and family variables in the WIF Regression Model were very clear-cut and very plausible. Thus, all seven parameter estimates associated with the work variables (hours of work, hours of supplemental work at home, perceived work flexibility, job type, good management practice, culture of hours, and perceived supervisor support) were significant and had the anticipated signs, while the two parameter estimates associated with the family variables (hours of caregiving and hours of home chores) were insignificant. These results are very much in line with Frone et al. (1992a)'s observation that work stressors affect WIF more than family stressors.

Interestingly, the parameter estimates for the set of work and family variables in the FIW Regression Model were less clear-cut, but arguably equally plausible. As expected, the two parameter estimates associated with the family variables (hours of caregiving and hours of home chores) were significant and had the anticipated signs, but, in addition, and at first blush somewhat unexpectedly, three of the parameter estimates associated with the work variables (perceived work flexibility, culture of hours, and perceived supervisor support) were also significant. Thus, FIW was not only associated with higher family demands, but was also associated with a negative work environment – lower perceived work flexibility, higher culture of hours, and lower perceived supervisor support. This suggests that FIW may be a more complex phenomenon than WIF in that FIW may be associated with both work and family demands, implying that Frone et al. (1992a)'s observation that family stressors affect FIW more than work stressors may be too simplistic.

As discussed in Section 2.8.1.4, job type might be expected to be associated with lower WIF and FIW because manprofs tend to have higher perceived control. In the event, the regression analyses have indicated that being a manprof was associated with higher WIF and had no impact on the level of FIW. Hence, the advantages of perceived control for manprofs may have been overwhelmed by the greater levels of responsibility associated with being a manprof (Duxbury et al., 1992; Friedman & Greenhaus, 2000).

5.2 RELATIVE IMPORTANCE

This section reports and discusses the relative importance of the individual independent variables included in the WIF Regression Model and the FIW Regression Model. As discussed above in Chapter 4, the principal criterion used in the thesis to assess relative importance was the standardized Pratt measure. For convenience in the discussion below, the individual independent variables are grouped into four categories of relative importance, as outlined in Table 19.

Table 19. Categories of relative importance

Relative Importance Category	Standardized Pratt Measure
Very Important	> 0.25
Important	$0.10 - 0.25$
Moderately Important	$0.05 - 0.10$
Relatively Unimportant	< 0.05

5.2.1 WIF RELATIVE IMPORTANCE RESULTS

The relative importance results for the WIF Regression Model are presented in Table 20. Firstly, looking at the standardized Pratt measures, it can be seen that there was a considerable range of values, from 0.330 for culture of hours to -0.000 for gender, indicating that some of the independent variables were very much more important than others. As for the possible presence of suppressor variables, this is more difficult to say,

especially given the relatively large number of independent variables in the regression. However, given the fact that the ranking of the standardized Pratt measures was very similar to both that of the absolute values of the beta coefficients⁵⁸ and that of the absolute values of the t-statistics, it would seem likely that suppressor variables were not a significant issue in this case. Consequently, it seems reasonable to rely on the standardized Pratt measures as they stand as at least an approximate reflection of the relative importance of the independent variables in the regression.⁵⁹

Along these lines, the results suggest that for the explanation of WIF: (i) culture of hours and perceived work flexibility were very important variables; (ii) good management practice was an important variable; (iii) perceived supervisor support and hours of supplemental work at home were moderately important variables; and (iv) hours of work, child care, job type, sandwich, elder care, hours of home chores, hours of caregiving, and gender were relatively unimportant variables.

⁵⁸ As noted in Chapter 4, a beta coefficient is a standardized regression coefficient.

⁵⁹ It should be noted that Thomas and Decady (1999) have devised a method of computing simultaneous confidence intervals for the relative importance estimates. These simultaneous confidence intervals are not reported here, however, because their computation would require the respecification of the model to eliminate the negative standardized Pratt measure.

Table 20. WIF relative importance results

	Independent Variable	Standardized Pratt Measure	Beta Coefficient	t-statistic
Very Important	Culture of Hours	0.330	0.263	11.49
	Perceived Work Flexibility	0.299	-0.245	-11.00
Important	Good Management Practice	0.135	-0.124	-4.888
Moderately Important	Perceived Supervisor Support	0.057	-0.066	-2.885
	Hours of Supplemental Work at Home	0.053	0.104	4.872
Relatively Unimportant	Hours of Work	0.042	0.099	4.883
	Child Care	0.030	0.110	4.148
	Job Type	0.024	0.073	3.835
	Sandwich	0.017	0.077	3.538
	Elder Care	0.007	-0.034	-1.626
	Hours of Home Chores	0.005	0.031	1.634
	Hours of Caregiving	0.001	0.002	0.104
	Gender	-0.000	0.006	0.331

5.2.2 FIW RELATIVE IMPORTANCE RESULTS

The relative importance results for the FIW Regression Model are presented in Table 21. Looking first at the standardized Pratt measures, it can be seen that again there was a considerable range of values, from 0.359 for culture of hours to -0.039 for good management practice, indicating that here, as above for WIF, some of the independent variables were very much more important than others. There were three negative values, but they were very small in absolute value and, consequently, it is probably reasonable to set them equal to zero for interpretative purposes. As for the possible presence of suppressor variables, this is again more difficult to say. However, here as above, given the fact that the ranking of the standardized Pratt measures was very similar to both that of the absolute values of the beta coefficients and that of the absolute values of the t-statistics, it would seem likely that suppressor variables were not a significant issue. The one variable that stood out as a possible anomaly was good management practice and it may well be the case that good management practice was in fact a suppressor variable.⁶⁰ Overall, however, it again seems reasonable to rely on the standardized Pratt measures as they stand as at least an approximate reflection of the relative importance of the independent variables in the regression.

⁶⁰ Even if good management practice were in fact a suppressor variable, it would only have a marginal impact on the present relative importance analysis: Assuming for argument's sake that good management practice were a suppressor variable, Thomas et al. (1998)'s natural measure of the relative importance of this suppressor variable would be equal to just 0.009.

Table 21. FIW relative importance results

	Independent Variable	Standardized Pratt Measure	Beta Coefficient	t-statistic
Very Important	Culture of Hours	0.359	0.241	9.645
Important	Child Care	0.228	0.204	6.757
	Hours of Caregiving	0.180	0.133	5.109
Moderately Important	Perceived Work Flexibility	0.093	-0.091	-3.629
	Sandwich	0.069	0.135	5.441
	Perceived Supervisor Support	0.062	-0.072	-2.769
Relatively Unimportant	Hours of Home Chores	0.041	0.066	3.062
	Hours of Supplemental Work at Home	0.012	0.037	1.629
	Hours of Work	0.002	-0.022	-1.018
	Job Type	0.002	-0.027	-1.270
	Gender	-0.002	-0.023	-1.032
	Elder Care	-0.007	0.015	0.682
	Good Management Practice	-0.039	0.054	1.965

Along these lines, the results suggest that for the explanation of FIW: (i) culture of hours was a very important variable; (ii) child care and hours of caregiving were important variables; (iii) perceived work flexibility, sandwich, and perceived supervisor support were moderately important variables; and (iv) hours of home chores, hours of supplemental work at home, hours of work, job type, gender, elder care, and good management practice were relatively unimportant variables.

5.2.3 DISCUSSION OF WIF AND FIW RELATIVE IMPORTANCE RESULTS

For convenience, the discussion of the WIF and FIW relative importance results is divided into two parts. The WIF relative importance results are discussed first, followed by the FIW relative importance results.

5.2.3.1 DISCUSSION OF WIF RELATIVE IMPORTANCE RESULTS

Strikingly, all five of the independent variables that fell into the very important, important, and moderately important categories for WIF were work variables (culture of hours, perceived work flexibility, good management practice, perceived supervisor support, and hours of supplemental work at home). In contrast, the care group variables, gender, and the family variables all fell into the relatively unimportant category. Thus, work variables clearly dominated in terms of variable importance for the prediction of WIF.

Very Important Variables

Two independent variables fell into the very important category for WIF, namely, culture of hours and perceived work flexibility. Interestingly, both of these variables represent areas in which a determined management could make a major positive impact on workers' ability to balance their work and family responsibilities by suitable interventions.

Culture of hours may play such an important role in the prediction of WIF because it increases the difficulty of satisfying family demands. For example, the need to be physically present in the workplace makes it harder to attend to family responsibilities, such as accompanying children or elderly parents to medical appointments. In addition, working for an organization with a strong emphasis on face-time can be an extremely frustrating and demotivating experience. Employees get frustrated when they think of the family tasks which they are leaving undone in order to perform hours of work which they perceive to be unnecessary. Moreover, motivational research has found that employee beliefs about (i) their self-efficacy (Bagozzi, 1980), (ii) their being perceived to be productive, and (iii) their being rewarded for being productive (Arnold, 1981; Van Eerde & Thierry, 1996) are crucial factors in employee motivation. Hence, an emphasis on face time, rather than on productivity, may signal to an employee that their actual contribution is not important to the firm. Thus, a culture of hours seems likely not only to increase the difficulty of juggling work and family responsibilities and therefore to increase WIF, but also to breed a deep cynicism about the value of performance. In

short, the level of frustration and the lack of respect shown for individuals in a culture in which "the warm body test" is more important than that of achieving productivity-based goals seems likely to lead to lower organizational commitment, less organizational citizenship behavior, and a lack of connection to corporate objectives.

Perceived work flexibility probably plays such a key role in the prediction of WIF because it is so crucial to the coordination of work and family tasks (Galinsky et al., 1996; Pleck et al., 1980; Thomas & Ganster, 1995). In addition, perceived work flexibility may indirectly help caregivers to deal with their heavier demands because it is associated with greater perceived control in both the work and the family domains (Galinsky et al., 1996; Golembiewski & Proehl, 1978). As discussed in the literature review, greater perceived control seems to help individuals cope with high demands (Barnett & Baruch, 1987a; Barnett & Shen, 1997; Karasek, 1989; Parks & Pilisuk, 1991; Thomas & Ganster, 1995) and may therefore help caregivers to deal with their heavier demands, thus leading to lower levels of WIF.

Important Variables

The only independent variable that fell into the important category for WIF was good management practice. The fact that good management practice was found to be an important variable in the prediction of WIF is not at all surprising. After all, as discussed above in Section 4.2.3, the variable good management practice measures the perception of employees that an organization permits a healthy balance between work and personal

life, rewards on the basis of performance, and allows sufficient flexibility to enable employees to balance work and family. An organization that is perceived to provide this type of support and respect is also likely to be more co-operative in allowing employees to meet family demands, thus reducing WIF. Such perceptions are also likely to be associated with lower levels of frustration, higher levels of motivation, and the perception that employees are seen as valued contributors to their organizations.

Moderately Important Variables

Two independent variables fell into the moderately important category for WIF, namely, perceived supervisor support and hours of supplemental work at home.

There has been some suggestion in the literature that perceived supervisor support is actually more important to work-family balance than perceived organizational support of work-family balance because the intervention of managers is seen as crucial in facilitating employee use of supportive programs such as parental leave and flexible work schedules (Galinsky et al., 1996; Thompson et al., 1999). Further, it has been argued that employees who perceive their manager to be supportive are more likely to believe that the company supports work-family balance (Duxbury & Higgins, 1997a; Thompson et al., 1999).

Here, however, perceived supervisor support was less important than culture of hours and good management practice, the two components of perceived organizational support

of work-family balance. Of course, it may be the case that once variables such as culture of hours, perceived work flexibility, and good management practice have been controlled for, the manager's role as a gateway to supportive programs becomes less crucial to the reduction of WIF. In any event, however, it should be noted that perceived supervisor support can still have a role to play in reducing WIF aside from the role of gatekeeper to organizational programs. For example, managers can significantly increase the efficiency of their employees by providing adequate resources and critical information (Robbins & Langton, 2001), which may indirectly reduce WIF by making work tasks easier to perform and by reducing employee stress and frustration.

Interestingly, hours of supplemental work at home was also found to be a moderately important variable and, moreover, more important in the prediction of WIF than hours of work, which fell in the relatively unimportant category. It may well be that the perceived obligation to donate additional (unpaid) hours of work at home leads to greater feelings of resentment towards the organization than hours of work. After all, this perceived obligation invades both an employee's personal space and an employee's personal time. In addition, as a number of researchers have argued, performing both work tasks and family tasks in the same location may blur the boundaries between work and family and thereby lead to increased stress and inadequate performance in both the work and family domains (Duxbury et al., 1998; Mirchandani, 1999; Riley & McClosky, 1996; Sullivan & Lewis, 2001).

Along these lines, it is interesting that hours of supplemental work at home and hours of work were found to be less important in the prediction of WIF than culture of hours and perceived work flexibility. This finding is consistent with a recent study by Ganster and Bates (2003) in which work hours were also found to be less important in explaining WIF than more qualitative aspects of the work environment. These authors found that work hours explained only 2% of the variation in WIF, while other factors such as work autonomy, learning opportunities, perceived supervisor support, and perceived work flexibility were much more important. That culture of hours and perceived work flexibility were found to be more important than either hours of supplemental work at home or hours of work suggests that an employee's perceptions about the context in which their work is performed may be more important than the actual number of work hours that they perform. Thus, employees may be more willing to work additional hours if they perceive that these additional hours are strictly necessary and/or if sufficient flexibility is provided to allow them to deal with their domestic responsibilities.

Relatively Unimportant Variables

Two of the seven work variables, together with all three of the care group variables, both of the family variables, and gender fell into the relatively unimportant category for WIF.

The finding that hours of work and, especially, job type fell into the relatively unimportant category is initially somewhat counterintuitive given that, in general, manprofs are believed to sacrifice more of their personal lives for their jobs (Friedman &

Greenhaus, 2000) and to be more psychologically involved in their jobs than other employees (Duxbury et al., 1992). It reflects the fact, however, that once most of the other aspects of the work environment have been accounted for, the impact of hours of work and/or job type is relatively unimportant. After all, fully 87.4% of the total relative importance for WIF was accounted for by the other five work variables.⁶¹

The fact that the three care group variables were found to be relatively unimportant in the prediction of WIF implies that work demands swamp the responsibility of caregiving in the determination of WIF, perhaps because it is often easier to cut corners at home than at work (Gutek et al., 1991). Indeed, as noted in Appendix D, although child and sandwich caregivers performed more hours of caregiving than other employees, they did not cope with these greater family demands by performing fewer hours of work than other employees.

Finally, gender was also found to be relatively unimportant in the prediction of WIF.

5.2.3.2 DISCUSSION OF FIW RELATIVE IMPORTANCE RESULTS

As with the regression results reported above, the relative importance picture for FIW was more complicated than that for WIF. In line with expectations, care group variables

⁶¹ The sum of the relative importance estimates for the other five work variables, reported in Table 20, was 0.874.

and family variables played a prominent role, but so did work variables. Thus, of the six independent variables that fell into the very important, important, and moderately important categories for FIW, two were care group variables (child care and sandwich), one was a family variable (hours of caregiving), and three were work variables (culture of hours, perceived work flexibility, and perceived supervisor support).

Very Important Variables

The only independent variable that fell into the very important category for FIW was culture of hours. Consequently, culture of hours was the most important variable in the prediction of both WIF and FIW. As noted above, working in an environment with a strong culture of hours is likely to be associated with WIF because it increases the difficulty of satisfying family demands. Such a culture is also likely to be associated with FIW because employees are aware that when they do put their family responsibilities first, this can have a negative impact on their job security and career advancement.

In passing, it is striking to note the stark contrast between the relative importance of culture of hours (the most important independent variable) and the relative importance of good management practice (the least important independent variable). After all, culture of hours and good management practice represent the two sub-variables derived from perceived organizational support of work-family balance. Indeed, this finding provides additional support for the decision to divide perceived organizational support of work-family balance into these two sub-variables. The fact that culture of hours was so much

more important to the prediction of FIW than good management practice suggests that employee frustration with respect to the need to contribute unnecessary work hours is far more relevant to FIW than the good intentions of management. Thus, it seems that the actual practices of the organization are more important than organizational policies.

Important Variables

Two independent variables fell into the important category for FIW, namely, child care and hours of caregiving.

Child care was the most important care group variable for FIW. This was somewhat surprising, given that the literature generally suggests that both sandwich care and elder care are at least as difficult to balance with work responsibilities as child care. It suggests that there is something about the role of child caregiver that is particularly onerous and/or, as mentioned above, that the elder care responsibilities of this particular population of full-time employees living with partners who are also full-time employees may be relatively modest.

The fact that the relative importance of child care is ranked above that of hours of caregiving (second and third correspondingly) underlines the importance of the role of child caregiver as distinct from the number of hours of caregiving and is consistent with previous research that has found that the role of child caregiver is an important

contributor to RI even when considered separately from hours devoted to care (Ehrensaft, 1995; MacBride-King, 1990; Walzer, 1996).

Moderately Important Variables

Three independent variables fell into the moderately important category for FIW, namely, perceived work flexibility, sandwich, and perceived supervisor support.

Perceived work flexibility, although less important in the prediction of FIW than in the prediction of WIF, may allow employees to reduce FIW by helping them to meet both expected and unexpected family demands. For example, expected family demands can be eased by the ability to take vacations when they are most convenient and unexpected family demands can be eased by the ability to take unscheduled paid days off work when a care recipient falls sick.

At least initially, the fact that sandwich care was less important in the prediction of FIW (and in the prediction of WIF) than child care seems to be at odds both with past theory and with the limited number of empirical studies relating to work-family balance that are available (Buffardi et al., 1999; MacBride-King, 1990; Neal et al., 1993; Scharlach & Boyd, 1989).⁶² It may be the case, however, that for this population of full-time

⁶² As previously noted, these earlier results must be treated with caution as all of these studies are methodologically flawed.

employees living with partners who are also full-time employees the demands of coordinating child care and elder care are not that great and/or that there may be offsetting advantages in combining the two types of caregiving which compensate for the additional requirement of coordination. For example, elderly grandparents may help to look after their grandchildren (Bowers & Myers, 1999; Jendrek, 1994; Kingsmill & Schlesinger, 1998; NICHD, 1996) and/or grandchildren may help to look after their elderly grandparents (Kingsmill & Schlesinger, 1998).

Perceived supervisor support fell into the moderately important category for FIW (as it did for WIF), but was less important than either culture of hours or perceived work flexibility. Thus, a supportive manager, although not crucial, is still of considerable importance in ameliorating FIW. For example, a supportive manager may be able to provide useful emotional support to employees seeking to balance work and family.⁶³

Relatively Unimportant Variables

A mixed bag of independent variables fell into the relatively unimportant category for FIW: one of the two family variables, four of the seven work variables, gender, and elder care. Interestingly, five of these independent variables also fell into the relatively

⁶³ Carlson and Perrewe (1999) provide a review of the literature linking emotional support with lower WFC.

unimportant category for WIF (hours of home chores, hours of work, job type, gender, and elder care).

Perhaps not surprisingly, hours of home chores was the most important of the relatively unimportant variables. Indeed, if the boundary of the relatively unimportant category had been drawn slightly lower, then hours of home chores would have been included in the moderately important category. After all, hours of home chores is a family variable and as such it would be expected to influence FIW. Nevertheless, it is noteworthy that hours of home chores was substantially less important in the prediction of FIW than hours of caregiving. This may reflect the fact that there is generally less guilt attached to the neglect of chores as opposed to the neglect of care.

Turning now to the work variables, here as with WIF, the context in which work is performed seems to be much more important than the sheer amount of work. Thus, both hours of work and hours of supplemental work at home were barely significant, especially when compared to culture of hours, but also, albeit to a lesser extent, when compared to perceived work flexibility and perceived supervisor support. In this connection, it seems somewhat anomalous that good management practice was ranked so low in terms of relative importance. Of course, it may just be that the other aspects of the work environment such as culture of hours, perceived work flexibility, and perceived supervisor support are more strongly associated with FIW than good management

practice because they are more directly pertinent to the juggling of family responsibilities.

Interestingly, job type was relatively unimportant in the prediction of FIW, as it was in the prediction of WIF. It may well be the case that all employees, regardless of job type, are careful to ensure that family does not interfere with work in order to protect the financial security of the family.

Gender was also found to be relatively unimportant in the prediction of FIW, as it was in the case of WIF.

Finally, elder care was the least important care group variable for FIW, as it was for WIF. This is totally consistent with the observation made above that the elder care responsibilities facing this particular population of full-time employees living with partners who are also full-time employees may be relatively modest.

5.3 RESEARCH HYPOTHESES

This section reports and discusses the results of testing the 14 research hypotheses.

5.3.1 RELATIONSHIPS BETWEEN CARE GROUP AND WIF AND BETWEEN CARE GROUP AND FIW

5.3.1.1 RELATIONSHIP BETWEEN CARE GROUP AND WIF: RESULTS

The results for the research hypotheses concerning the relationship between care group and WIF are presented in Table 22.⁶⁴

Controlling for gender and the set of work and family variables, employees with caregiving responsibilities were found to experience significantly higher WIF than employees without caregiving responsibilities. Employees with two caregiving responsibilities, however, were not found to experience significantly higher WIF than employees with only one caregiving responsibility. Child caregivers were not found to experience significantly lower WIF than elder caregivers. Indeed, post-hoc analysis indicated the reverse, namely, child caregivers experienced significantly higher WIF than elder caregivers.⁶⁵

⁶⁴ The statistical methodology associated with the test statistics reported in Table 22 and in subsequent tables throughout Section 5.3 is fully described in Section 4.3.4 above. The notation used is standard APA notation. Thus, for example, $t(1868) = 2.88, p = 0.002$ indicates that the calculated value of the t-statistic is equal to 2.88, the distribution of the t-statistic under the null hypothesis is a t-distribution with 1868 degrees of freedom, and the corresponding p-value is equal to 0.002.

⁶⁵ The fact that the p-value for Research Hypothesis A.3 was equal to 1.000 implies that if one were to test the reverse hypothesis, namely, that, controlling for gender and the set of work and family

Table 22. Relationship between care group and WIF: Results

Research Hypothesis	Supported/ Not Supported
Research Hypothesis A.1 Controlling for gender and the set of work and family variables, the mean level of WIF for employees with at least one caregiving responsibility will be higher than that for employees with no caregiving responsibilities. Test Statistic: $t(1868) = 2.88, p = 0.002$	Supported
Research Hypothesis A.2 Controlling for gender and the set of work and family variables, the mean level of WIF for employees with two caregiving responsibilities will be higher than that for employees with one caregiving responsibility. Test Statistic: $t(1867) = 1.05, p = 0.147$	Not Supported
Research Hypothesis A.3 Controlling for gender and the set of work and family variables, the mean level of WIF for the child care group will be lower than that for the elder care group. Test Statistic: $t(1866) = 4.53, p = 1.000$	Not Supported

5.3.1.2 RELATIONSHIP BETWEEN CARE GROUP AND FIW: RESULTS

The results for the research hypotheses concerning the relationship between care group and FIW are presented in Table 23.

variables, the mean level of WIF for the child care group will be *higher* than that for the elder care group, then the resulting p-value would be equal to 0.000.

Table 23. Relationship between care group and FIW: Results

Research Hypothesis	Supported/ Not Supported
Research Hypothesis B.1 Controlling for gender and the set of work and family variables, the mean level of FIW for employees with at least one caregiving responsibility will be higher than that for employees with no caregiving responsibilities. Test Statistic: $t(1868) = 5.90, p = 0.000$	Supported
Research Hypothesis B.2 Controlling for gender and the set of work and family variables, the mean level of FIW for employees with two caregiving responsibilities will be higher than that for employees with one caregiving responsibility. Test Statistic: $t(1867) = 0.75, p = 0.227$	Not Supported
Research Hypothesis B.3 Controlling for gender and the set of work and family variables, the mean level of FIW for the child care group will be lower than that for the elder care group. Test Statistic: $t(1866) = 4.37, p = 1.000$	Not Supported

Controlling for gender and the set of work and family variables, employees with caregiving responsibilities were found to experience significantly higher FIW than employees without caregiving responsibilities. Employees with two caregiving responsibilities, however, were not found to experience significantly higher FIW than employees with only one caregiving responsibility. Child caregivers were not found to experience significantly lower FIW than elder caregivers. Indeed, post-hoc analysis

indicated the reverse, namely, child caregivers experienced significantly higher FIW than elder caregivers.⁶⁶

5.3.1.3 DISCUSSION

The fact that employees with caregiving responsibilities experienced significantly higher WIF and FIW than employees without caregiving responsibilities makes a great deal of intuitive sense and also provides support for the scarcity approach from Multiple Role Theory. In contrast, the fact that employees with two caregiving responsibilities did not experience significantly higher WIF or FIW than employees with just one caregiving responsibility is somewhat less intuitive and seemingly inconsistent with the scarcity approach. Of course, in defence of the scarcity approach, it could be argued that Multiple Role Theory is really a “big picture theory” and that, consequently, while caregiving itself constitutes a legitimate “role”, subtle distinctions within the caregiving role may lie outside the scope of the theory. In any event, leaving this issue aside, and noting that child caregivers did not experience significantly lower WIF and FIW than elder caregivers, but rather the reverse, it seems very likely that the level of WIF and FIW experienced by caregivers may be more a function of the *nature* of the caregiving roles performed rather than the *number* of caregiving roles performed.

⁶⁶ The fact that the p-value for Research Hypothesis A.3 was equal to 1.000 implies that if one were to test the reverse hypothesis, namely, that, controlling for gender and the set of work and family variables, the mean level of FIW for the child care group will be *higher* than that for the elder care group, then the resulting p-value would be equal to 0.000.

Along these lines, child caregiving may simply be a greater burden than elder caregiving. As discussed in Section 2.3.1, there are a number of reasons why child care may be particularly onerous: 1) raising children involves a wide range of responsibilities (Gilbert & Hanson, 1983); 2) raising children is expensive (Manitoba Agriculture and Food, 2001); 3) raising children is time-consuming (Statistics Canada, 1999b); 4) parenting behaviour can have significant and enduring effects on child development (Maccoby, 2000); and 5) parents frequently have concerns about the potential negative effects of nonparental care (Galinsky et al., 1996). Moreover, although very few authors have theorized about the relative demands of child care and elder care, there has been some speculation. For example, child care may be more problematic because child caregivers have to cope with consistently high demands (Gilbert & Hanson, 1983), while the demands of elder care can be more intermittent and hence less wearing (Kingsmill & Schlesinger, 1998). Also, the very fact that society deems child care to be such an important responsibility (Kingsmill & Schlesinger, 1998) may in itself impose a heavier burden on child caregivers.

Perceived control may also play a role here. As mentioned above, caregivers with a high level of perceived control have been found to experience lower levels of WIF and FTW (Duxbury et al., 1994; Thomas & Ganster, 1995). Although, as discussed above, the gerontological literature provides a number of reasons for believing that elder care is an inherently low control activity, it may actually be the case that child caregivers have

lower perceived control than do elder caregivers. For example, Barnett and Baruch (1987a) believe that the feeling of being constantly “on call” may be associated with low perceived control. Along these lines, the consistently high demands of child caregivers, in contrast to the more intermittent demands of elder caregivers (Gilbert & Hanson, 1983; Kingsmill & Schlesinger, 1998), may predispose child caregivers to low perceived control. Thus, the unremitting demands of child care, together with the high degree of responsibility (Gilbert & Hanson, 1983; Maccoby, 2000), may result in child caregivers experiencing lower perceived control than elder caregivers and hence may in turn help to explain why child caregivers report higher WIF and FIW than do elder caregivers.

In addition, as discussed, the average level of responsibility for the typical Canadian elder caregiver is probably fairly modest because the elders for whom they care are likely to be relatively young and therefore require little care (Frederick & Fast, 1999; Keating et al., 1999). Furthermore, most elders are reluctant to live with family members if this can be avoided (McDaniel, 1994) which further reduces the level of care provided by family members (Keating et al., 1999).

5.3.2 RELATIONSHIPS BETWEEN GENDER AND WIF AND BETWEEN GENDER AND FIW

5.3.2.1 RELATIONSHIP BETWEEN GENDER AND WIF: RESULTS

The results for the research hypotheses concerning the relationship between gender and WIF are presented in Table 24.⁶⁷

Table 24. Relationship between gender and WIF: Results

Research Hypothesis	Supported/ Not Supported
Research Hypothesis C.1 Controlling for care group and the set of work and family variables, the mean level of WIF for women will be higher than that for men. Test Statistic: $t(1866) = 0.33, p = 0.370$	Not Supported
Research Hypothesis C.2 Controlling for the set of work and family variables, the mean level of WIF for women will be higher than that for men with respect to: (a) the child care group Test Statistic: $t(574) = 1.16, p = 0.122$ (b) the elder care group Test Statistic: $t(143) = 0.01, p = 0.497$ (c) the sandwich group Test Statistic: $t(110) = 0.76, p = 0.224$ (d) the no-care group Test Statistic: $t(495) = -1.01, p = 0.844$	Not Supported Not Supported Not Supported Not Supported

⁶⁷ As noted above, the statistical methodology associated with the test statistics reported in the tables is fully described in Section 4.3.4 above.

Controlling for care group and the set of work and family variables, women were not found to experience significantly higher FIW than men. Moreover, the same result was true for each of the four care groups taken individually.

5.3.2.3 DISCUSSION

Controlling for the set of work and family variables, women did not experience higher WIF or FIW than men. This null result was found both across care groups and for each care group taken individually.

This lack of gender difference with respect to WIF and FIW contrasts with a prediction made in the literature review based on Gender Role Theory and the Application of Gender Role Theory to Perceived Control to the effect that women would tend to experience higher WIF and FIW than men because women not only have to cope with heavier family demands, but also have to do so in the context of low control, a situation which is likely to lead to high strain (Barnett & Baruch, 1987a; Goff et al., 1990; Higgins et al., 1992a; Leslie et al., 1991).

It may be the case that society is moving toward greater gender equity in the sharing of family responsibilities, possibly as a result of men taking a greater interest in caregiving than they did in previous decades (Aldous et al., 1998; Coltrane, 1996; Pleck, 1997; Snarey, 1993). In support of this, it was noted in Appendix D that men and women

devoted an equal number of hours to caregiving (when controlling for care group and job type). Of course, women may continue to take more responsibility than men in the family domain by, for example, taking primary responsibility for child care, engaging in emotional work, and being less likely to turn off the role of parent when engaged in other tasks (Baker, 2001; Ehrensaft, 1995; Goff et al., 1990; Leslie et al., 1991; Seery & Crowley, 2000; Walzer, 1996). Men, however, may, as discussed above, be less adept at handling responsibility in the family domain with the consequence that although women still experience greater family demands there is no gender difference in WIF or FIW. Greater gender equity with respect to WIF and FIW, however, constitutes a somewhat pyrrhic victory for women, given that higher WIF and FIW are associated with negative employee outcomes for both men and women, such as greater alcohol consumption, negative health symptoms, depression, and increased time-stress (Frone et al., 1997a; Gutek et al., 1991; Judge et al., 1994; Klitzman et al., 1990; Statistics Canada, 1999b).

Overall, the individual characteristics of the employee, such as gender, may be less important in predicting WIF and FIW than the environment in which the employee works. In other words, "who you are may be less important than where you work".

5.3.3 TENDENCY FOR WITHIN-DOMAIN RELATIONSHIPS

Based on Frone et al. (1992a)'s observations that work stressors appear to affect WIF more than family stressors and that family stressors appear to affect FIW more than work stressors, it was predicted that WIF would be more strongly associated with work

variables and that FIW would be more strongly associated with family variables. These predictions are investigated below.

5.3.3.1 TENDENCY FOR WITHIN-DOMAIN RELATIONSHIPS: RESULTS

The results for the research hypotheses concerning within-domain relationships are presented in Tables 26, 27, and 28.⁶⁸

Controlling for care group and gender, WIF was found to be more strongly associated with work variables than with family variables, but FIW was not found to be more strongly associated with family variables than with work variables. Thus, Frone et al. (1992a)'s observations were supported in the case of WIF, but not in the case of FIW. Indeed, in the case of FIW, the actual finding was diametrically opposed to Frone et al.'s observations. Thus, both WIF and FIW were found to be more strongly associated with work variables than with family variables. Moreover, these same results were also consistent across gender.

⁶⁸ As noted above, the statistical methodology associated with the test statistics reported in the tables is fully described in Section 4.3.4 above.

Table 26. Tendency for within-domain relationships: Results I

Research Hypothesis	Supported/ Not Supported
<p>Research Hypothesis E.1 Controlling for care group and gender, WIF will be more strongly associated with the work variables than with the family variables.</p> <p>Non-nested F-test:</p> <p>Family variables add to explanatory power of the model: $F(2,1866) = 1.35, p = 0.259$</p> <p>Work variables add to explanatory power of the model: $F(7,1866) = 158.80, p = 0.000$</p> <p>Non-nested F-test Conclusion: The Work Model is best.</p> <p>Overall Conclusion: Work variables affect WIF more than family variables.</p>	Supported
<p>Research Hypothesis E.2 Controlling for care group and gender, FIW will be more strongly associated with the family variables than with the work variables.</p> <p>Non-nested F-test:</p> <p>Family variables add to explanatory power of the model: $F(2,1866) = 19.32, p = 0.000$</p> <p>Work variables add to explanatory power of the model: $F(7,1866) = 27.17, p = 0.000$</p> <p>Non-nested F-test Conclusion: Neither the Work Model nor the Family Model is entirely satisfactory. A combined model would probably be better.</p> <p>Work/Family Importance Ratio "tie-breaker" = $0.530/0.221 = 2.4$</p> <p>Overall Conclusion: Work variables affect FIW more than family variables.</p>	Not Supported

Table 27. Tendency for within-domain relationships: Results II

Research Hypothesis	Supported/ Not Supported
<p>Research Hypothesis E.3 Controlling for care group, there will be a gender difference as to whether WIF is more strongly associated with the work variables than with the family variables.</p> <p>Males</p> <p>Non-nested F-test:</p> <p>Family variables add to explanatory power of the model: $F(2,1095) = 2.35, p = 0.096$</p> <p>Work variables add to explanatory power of the model: $F(7,1095) = 81.69, p = 0.000$</p> <p>Non-nested F-test Conclusion: The Work Model is best.</p> <p>Conclusion for Males: Work variables affect WIF more than family variables.</p> <p>Females</p> <p>Non-nested F-test:</p> <p>Family variables add to explanatory power of the model: $F(2,759) = 0.12, p = 0.891$</p> <p>Work variables add to explanatory power of the model: $F(7,759) = 79.33, p = 0.000$</p> <p>Non-nested F-test Conclusion: The Work Model is best.</p> <p>Conclusion for Females: Work variables affect WIF more than family variables.</p> <p>Overall Conclusion: Work variables affect WIF more than family variables for both males and females.</p>	Not Supported

Table 28. Tendency for within-domain relationships: Results III

Research Hypothesis	Supported/ Not Supported
<p>Research Hypothesis E.4 Controlling for care group, there will be a gender difference as to whether FIW is more strongly associated with the family variables than with the work variables.</p> <p>Males</p> <p>Non-nested F-test:</p> <p>Family variables add to explanatory power of the model: $F(2,1095) = 13.25, p = 0.000$</p> <p>Work variables add to explanatory power of the model: $F(7,1095) = 14.33, p = 0.000$</p> <p>Non-nested F-test Conclusion: Neither the Work Model nor the Family Model is entirely satisfactory. A combined model would probably be better.</p> <p>Work/Family Importance Ratio "tie-breaker" = $0.602/0.153 = 3.9$</p> <p>Conclusion for Males: Work variables affect FIW more than family variables.</p> <p>Females</p> <p>Non-nested F-test:</p> <p>Family variables add to explanatory power of the model: $F(2,759) = 5.03, p = 0.007$</p> <p>Work variables add to explanatory power of the model: $F(7,759) = 13.46, p = 0.000$</p> <p>Non-nested F-test Conclusion: Neither the Work Model nor the Family Model is entirely satisfactory. A combined model would probably be better.</p> <p>Work/Family Importance Ratio "tie-breaker" = $0.480/0.240 = 2.0$</p> <p>Conclusion for Females: Work variables affect FIW more than family variables.</p> <p>Overall Conclusion: Work variables affect FIW more than family variables for both males and females.</p>	Not Supported

5.3.3.2 DISCUSSION

Controlling for care group and gender, WIF and FIW were both more influenced by work variables than by family variables. Moreover, these results also held true across gender.

The dominant role that work variables played in the prediction of WIF provides strong support for Frone et al. (1992a)'s assertion that WIF is more associated with work stressors than with family stressors. On this point, the regression analysis, the relative importance analysis, and the testing of the relevant research hypothesis were completely consistent and unambiguous. Thus, all seven of the work variables were found to be significant predictors of WIF in the regression analysis, while the six most important variables in the prediction of WIF were all work variables (culture of hours, perceived work flexibility, good management practice, perceived supervisor support, hours of supplemental work at home, and hours of work). It seems that efforts to reduce WIF should begin with changes to the work environment.

FIW, contrary to expectations, was also found to be more a function of work variables than of family variables. Again, the regression analysis, the relative importance analysis, and the testing of the relevant research hypothesis were completely consistent. FIW was found to be a function of both work and family variables, with work variables being predominant. This finding is inconsistent with Frone et al. (1992a)'s belief that FIW is more associated with family stressors than with work stressors. The crucial role of the

work environment in the prediction of FIW may indicate that non-supportive work environments, characterized by a culture of hours and a lack of flexibility, increase the difficulty of meeting family demands.

The fact that these results held true across gender is striking. After all, earlier discussions have focused on the different ways in which men and women strive to balance work and family. For example, women are more likely to take primary responsibility for child care and are more likely to perform emotional work than are men (Ehrensaft, 1995; Goff et al., 1990; Leslie et al., 1991; Walzer, 1996). The findings here, however, suggest that the experiences of men and women may be converging with respect to WIF and FIW, at least for this important population of full-time employees living with partners who are also full-time employees.

It may also be the case that the work environment encourages convergence in the experiences and attitudes of men and women. Sharing the work environment may encourage similar behaviors at home. As Friedman and Greenhaus (2000) describe, behaviors that are associated with effectiveness in the office such as "listening, coordinating, mentoring, and leading teams" can also be used successfully at home (p. 132). Consequently, men and women who have had success with these strategies in the office may apply these strategies in the family domain and as a result find that they are using similar strategies to manage household responsibilities. Over time, sharing the work environment and the tendency of the work environment to dominate the family

environment may encourage gender convergence with respect to strategies for juggling work and family.

6. CONCLUSION

This chapter concludes the thesis. Section 6.1 briefly reviews the key empirical findings and draws together the major conclusions of the thesis. Section 6.2 discusses the implications of the thesis for both theory and policy. Finally, Section 6.3 considers directions for future research.

6.1 REVIEW AND MAJOR CONCLUSIONS

This thesis has sought to improve the understanding of RI and, in particular, how it relates to caregiving responsibilities and gender. To this end, a comprehensive literature review was undertaken in order to synthesize the relevant findings from the somewhat disparate fields of organizational behaviour and gerontology. This literature review, together with insights from the four theoretical perspectives (Multiple Role Theory, Gender Role Theory, Perceived Control, and the Application of Gender Role Theory to Perceived Control), was then used to generate a theoretical framework describing how care group and gender relate to the two distinct components of RI, namely, WIF and FIW. A defining characteristic of this theoretical framework was the recognition that the key relationships between care group and gender and WIF and FIW are also influenced by a number of extraneous factors – the set of work and family variables - that should be explicitly taken into account. The implication being that analysis of the relationships between care group and gender and WIF and FIW should control for the confounding influence of the set of work and family variables.

Having set out the theoretical framework, 14 specific research hypotheses were developed in order to address a number of interesting research issues and also to throw light on the utility of the theoretical framework itself. To test the research hypotheses, within the context of the theoretical framework, required the specification of two separate dummy variable regression models, denoted the WIF Regression Model and the FIW Regression Model.

The empirical work proper consisted in the following three components: (i) estimation and evaluation of the WIF Regression Model and the FIW Regression Model, (ii) a relative importance analysis, and (iii) testing the 14 research hypotheses.

The key empirical findings were as follows:

- The WIF Regression Model and the FIW Regression Model were both successful in explaining a significant proportion of the variation in WIF (38%) and FIW (20%), respectively. Moreover, the parameter estimates for both models were very plausible.
- For both the WIF Regression Model and the FIW Regression Model, the *additional* explanatory power resulting from the inclusion of the set of work and family variables was substantial.

- Controlling for gender and the set of work and family variables, the child care group and the sandwich group experienced significantly higher WIF and FIW than the elder care group and the no-care group.
- Controlling for care group and the set of work and family variables, there was no significant gender difference in WIF or FIW.
- Controlling for care group and gender, work variables were by far the dominant factor determining WIF. Family variables played almost no role at all.
- Controlling for care group and gender, both work and family variables were important in determining FIW. Again, work variables were predominant, but not overwhelmingly so.

These key empirical findings suggest a number of major conclusions:

- The theoretical framework appears to have considerable utility. In particular, the inclusion of the set of work and family variables seems to make a very substantial contribution towards improving our ability to explain variations in WIF and FIW. Moreover, the fact that the work variables were by far the dominant factor determining WIF, whereas the explanation of FIW appears to be rather more complex, underlines the decision to treat RI as two distinct components, rather than as a single entity.
- The fact that the work variables played such an important role in both the WIF Regression Model and the FIW Regression Model implies that the work

environment is an extremely significant determinant of RI. Interestingly, the specific aspects of the work environment that seem to be related most strongly to both WIF and FIW are associated with an organization's culture of time-use, namely, culture of hours and perceived work flexibility. Thus, it is not so much the quantity of work *per se* that causes RI, but rather the more qualitative aspects of the work environment. On the plus side, there would seem to be considerable scope for enlightened management intervention with respect to these qualitative aspects.

- Controlling for gender and the set of work and family variables, the child care group and the sandwich group experienced significantly higher WIF and FIW than the elder care group and the no-care group. This suggests that child caregiving is a particularly onerous responsibility. The fact that the sandwich group does not appear to be significantly worse off than the child care group suggests that there may be actually be some advantages to combining child care and elder care – there may be “mutual caregiving” taking place. These findings also suggest that the burden of elder care for typical full-time employees may be relatively slight.
- Controlling for care group and the set of work and family variables, gender does not seem to play a significant role in the determination of either WIF or FIW. As noted above, this finding is consistent with a recent survey of the literature (Geurts & Demerouti, 2003). Previous studies which found gender differences in WIF and FIW generally failed to control for a comprehensive list of potential

confounds that reflect differences in the life circumstances of men and women. In addition, the lack of a relationship between gender and WIF and between gender and FIW may reflect an evolution in gender roles – men may be taking a greater interest in caregiving than hitherto.

- Finally, it should be noted that the empirical results suggest that the theoretical framework could be improved upon. Specifically, the fact that family variables were found to play almost no role at all in the determination of WIF suggests that a more parsimonious model, which excluded the family variables, could be established for WIF, whereas the existing model for FIW would seem to be adequate. This simplification would be consistent with Occam's razor.⁶⁹

6.2 IMPLICATIONS

This section discusses the implications of the thesis for both theory and policy.

6.2.1 IMPLICATIONS FOR THEORY

Insights from four theoretical perspectives (Multiple Role Theory, Gender Role Theory, Perceived Control, and the Application of Gender Role Theory to Perceived Control), together with a more general review of the literature, were used to generate the theoretical framework for this thesis. The empirical findings reported above suggest that,

⁶⁹ The principle that, other things being equal, the fewest possible assumptions should be made in explaining something.

of these four theoretical perspectives, Perceived Control is likely to prove the most useful guide to future theoretical development in relation to WIF and FIW. With this in mind, the balance of this subsection briefly reviews the performance of the three less successful theoretical perspectives and then concludes with a discussion of the evidence that supports the utility of Perceived Control.

The scarcity approach from Multiple Role Theory predicted that employees who performed more roles would experience higher WIF and FIW than employees who performed fewer roles, while the expansion approach predicted the reverse. Although the scarcity approach successfully predicted that caregivers would experience significantly higher WIF and FIW than employees without caregiving responsibilities, this approach was less successful in predicting differences in WIF and FIW across the three caregiving groups. This suggests that research effort should be devoted to the proper evaluation of the degree of burden associated with the various caregiving roles rather than focusing on the number of caregiving roles. In this connection, Barnett and her colleagues, for example, have found that individuals are better able to perform additional roles if they view the additional roles as making a positive contribution to their lives (Barnett et al., 1992a; Barnett et al., 1992b; Barnett & Hyde, 2001).

Gender Role Theory and the Application of Gender Role Theory to Perceived Control predicted that women would experience higher WIF and FIW than men, in part because women have to cope with greater family demands. No significant gender differences in

WIF or FIW were observed here, however, either for the sample as a whole or for any of the four care groups taken individually.

Perceived Control focuses on the role of perceived control in cushioning the negative impact of high job demands (Dwyer & Ganster, 1991; Fox et al., 1993; Karasek, 1989; Wall et al., 1996; Xie, 1996). Of particular interest here, researchers have also noted that perceived control seems to be associated with lower WIF and FIW (Duxbury et al., 1994; Thomas & Ganster, 1995). Although the variable perceived control was not explicitly included in the empirical analysis conducted in the thesis, a group of five variables that might reasonably be expected to be associated with perceived control - perceived work flexibility, perceived supervisor support, good management practice, and perceived control over caregiving services, positively, and culture of hours, negatively - were included.⁷⁰ Thus, an examination of the relationships between these other variables and WIF and FIW could be viewed as a way of gaining indirect evidence as to the effectiveness of perceived control in ameliorating WIF and FIW.

⁷⁰ Both perceived work flexibility and perceived supervisor support have been found to be positively associated with perceived control (Golembiewski & Proehl, 1978; Thomas & Ganster, 1995), while the variable perceived control over caregiving services was specifically designed to capture the perceived control that caregivers have over the availability, cost, and quality of services for children and dependent elders (Duxbury & Higgins, 1998).

In the event, this thesis has found that perceived work flexibility, perceived supervisor support, good management practice, and perceived control over caregiving services were negatively correlated with WIF and FIW, while culture of hours was positively correlated with WIF and FIW.⁷¹ Thus, it can be argued that this thesis does indeed provide indirect support for the conclusion that perceived control is associated with lower WIF and FIW, a finding which is in line with previous studies (Duxbury et al., 1994; Thomas & Ganster, 1995).

6.2.2 IMPLICATIONS FOR POLICY

The conclusions of this thesis suggest a number of implications for policy that could help in the struggle to reduce WIF and FIW. For example, the work environment was found to play a critical role in influencing WIF and FIW, especially qualitative aspects related to perceived control such as culture of hours and work flexibility. This suggests that future efforts to improve work-family balance should place more emphasis than hitherto on issues other than workload *per se*. Moreover, the fact that gender and job type, previously considered to be very important to the identification of groups at particular risk of WIF and FIW, were found to be less important predictors than others suggests that programs designed to reduce WIF and FIW in the workplace would not need to be targeted at specific, readily identifiable groups such as women, managers, and professionals in a way that could lead to resentment and charges of “special treatment”

⁷¹ See Appendix H.

by seemingly less-favoured groups. Interestingly, however, and in contrast to the findings of some previous studies, the child care group was found to be more at risk for FIW than either the elder care group or the sandwich care group. This suggests that policy-makers may have to pay particular attention to issues around child care.

The balance of this subsection focuses on specific policy implications for: 1) employees, 2) employers, and 3) government.

6.2.2.1 EMPLOYEES

As discussed, higher WIF and FIW can have serious consequences for employees because of a variety of negative health and psychological outcomes including increased rates of alcoholism, hypertension, and depression (Frone et al., 1997a; Judge et al., 1994; Klitzman et al., 1990). Although some aspects of workplace culture which are strongly associated with WIF and FIW, such as culture of hours and perceived work flexibility, are largely within the domain of the employer, employees may still have some limited power to influence their work environment and thereby reduce their levels of WIF and FIW. For example, employees may be able to take some control by refusing to work overtime if expectations are unreasonable and by taking advantage of flexible work arrangements where possible (Duxbury & Higgins, 2002a). In addition, there may be scope for employees to increase their chances of working in an environment which does not over-emphasize face time and which provides greater work flexibility. For example, employees can make working in such a positive environment a key objective in job

search. Indeed, there is already some evidence that employees are beginning to follow such a strategy (Rau & Hyland, 2002). Furthermore, some employees change positions to find a more supportive work environment (Anderson et al., 2000; Good et al., 1988). Given the frequently limited economic power of employees, however, many employees are in the position of having to cope with sub-optimal work environments that are not conducive to work-family balance.

Employees who must work in environments that are not conducive to work-family balance may be able to ameliorate the negative impact of WIF and FIW to at least some extent by adopting a number of coping strategies. Employees should strive to maintain and extend a social network of family and friends who can provide emotional and practical support (Kingsmill & Schlesinger, 1998; Woolley, 1998). This type of support can be particularly invaluable in the event that regular care arrangements break down - a case in point would be the provision of emergency child care (Hertz, 1981). Along similar lines, fellow employees may also prove to be a valuable source of emotional support (House, 1981). Exercise programs are also believed to be useful in reducing levels of depression, stress, and blood pressure for caregivers during times of burden (Castro et al., 2002).

More realistic expectations of the difficulties involved in combining caregiving and employment, especially for child caregivers and sandwich caregivers, may also help to reduce WIF and FIW. Prospective parents, in particular, often appear to have

unattainable expectations of their own and of their partner's ability to maintain simultaneously high standards at home and at work (Baker, 2001; Coltrane, 1996; Dienhart, 1998; Walzer, 1996). As hours of caregiving was found to be a moderately important variable in predicting FIW, this suggests that simplifying family routines somewhat may help to reduce FIW. For example, Hochschild (1989) describes the use of various time-saving strategies, such as the preparation of less elaborate meals.

6.2.2.2 EMPLOYERS

The reduction of WIF and FIW represents a significant unrealized profit opportunity for employers. As noted above, WIF and FIW are related to productivity, in part because caregiving responsibilities are associated both with fatigue and with interruptions during work hours (Barling et al., 1994; Frone et al., 1997a; Galinsky et al., 1996; Scharlach & Boyd, 1989), and because productivity is directly related to profits (Robbins & Langton, 2001). Moreover, absenteeism and turnover, both of which can inflict direct financial penalties equal to substantial amounts annually (Duxbury et al., 1999; Robbins & Langton, 2001), are also associated with WIF and FIW (Anderson et al., 2000; Frone et al., 1997a; Good et al., 1988; Scharlach & Boyd, 1989). Absenteeism and turnover can also disrupt the effectiveness and efficiency of an organization and thereby indirectly affect organizational productivity (Robbins & Langton, 2001).

As this thesis has demonstrated, the work environment, over which employers can exercise considerable control, has a significant impact on both WIF and FIW. Therefore,

measures to promote a more positive work environment may yield considerable dividends in improved corporate efficiency. In particular, employers need to look at the work environment through a “work-life lens” and consider the implications of work demands on the family responsibilities of their employees (Duxbury & Higgins, 2002a). Moreover, as discussed by these authors, employees should not have to choose between career advancement and family.

Two aspects of the work environment that seem to be particularly crucial to a positive work environment are perceived work flexibility and culture of hours. The scope for improvements to work flexibility in Canada is considerable. For example, a survey conducted by Statistics Canada found that in 60 percent of dual-earner couples with children neither husband nor wife had access to flexible schedules (Lero et al., 1993). Changing a culture of hours, however, may be more difficult. After all, as Hochschild (1997) has stressed, a culture of hours has become an integral part of present day corporate culture.

One rewarding strategy for employers might be to focus their efforts on employees who are likely to experience relatively high WIF and FIW, namely, those with child care responsibilities. For example, child caregivers could be allowed to “sequence” their career development by concentrating primarily on their career before their children are born, shifting their emphasis to include both career and family when their children are young, and then returning to concentrating primarily on their career when their children

are older (Sullivan, 1992). Of course, employees who take advantage of such sequencing may have to accept that there would be relatively few promotion and training opportunities for those in the career and family stage of the process. Organizations that permit their employees to sequence their career in this way may find that they are rewarded with lower turnover and increased organizational commitment. In any event, organizational programs that seek to modify the work environment should marshal the forces of both supervisors and senior management. The role of supervisors and senior management is discussed directly below.

Supervisors

Supervisors should play a key role in any program that seeks to modify the work environment. As this thesis has found, perceived supervisor support helps ameliorate both WIF and FIW. Supervisors also play a crucial role in determining whether or not individual employees actually have access to family-friendly programs such as work flexibility (Christensen & Staines, 1990; Duxbury & Higgins, 1997; Fierman, 1994; Galinsky et al., 1996; Powell & Mainiero, 1999; Thompson et al., 1999). There is considerable room for improvement with respect to supervisor support in the workplace. As Duxbury and Higgins (1997) discovered, over half of Canadian employees do not consider their managers to be supportive.

Corporate training programs could be used to educate supervisors on the importance of the work environment for the welfare of employees and corporate profits. Such programs

could help supervisors to meet two goals which Galinsky and Stein (1990) believe are vital to effective supervisor support of work-family issues: 1) an understanding that work and family issues are a legitimate part of the supervisory role and 2) an in-depth knowledge of applicable family-friendly company policies. Training programs could also be used to increase supervisors' awareness of what constitutes supportive behaviour and the effect of supportive and non-supportive behaviour on subordinates (Snow & Klein, 1995). Given the fact that managers are believed to follow their own short-term interest in rationing the use of family-friendly programs (Powell & Mainiero, 1999), however, such training programs would have to incorporate suitable reinforcements for supportive behaviour. More generally, employers wishing to develop programs to increase supervisor support could usefully follow Robbins and Langton (2001)'s suggestions for corporate change. These authors recommend a comprehensive approach that would include: 1) quantification of the desired behaviours; 2) a program of reinforcement for these behaviours; and 3) an ongoing system of evaluation and review.

Senior management

Senior management can also play a vital role in promoting positive changes in the work environment. Galinsky and Stein (1990) emphasize that corporate programs to increase work-family balance must meet the following requirements: 1) employees must know that the organization truly supports family-friendly programs and 2) family-friendly programs must be organized effectively. To meet these goals, these authors insist that

employees must know that family-friendly programs have the support of one or more powerful executives and become the official responsibility of a specific individual.

Importantly, senior management could make a dramatic statement about the acceptability of family-friendly programs by modeling the use of such programs themselves. After all, one very powerful way in which employees learn about acceptable behaviours is by observing the behaviours of other employees and whether these behaviours are punished or rewarded (Greenberg, 1999). If powerful members of the corporation make use of family-friendly programs and are publicly seen to prosper, then other employees will be encouraged to use such programs. Along these lines, it would be particularly effective if *male* members of senior management were to model the use of such programs as it is now well-recognised that: 1) employees are most likely to use same-sex referents as models for their own behaviour (Robbins & Langton, 2001) and 2) male employees are more concerned than female employees that taking advantage of family-friendly programs may negatively affect their careers (Conner et al., 1997; Fierman, 1994; Greenhaus & Parasuraman, 1997; Perlow, 1995; Powell, 1997).

6.2.2.3 GOVERNMENT

There is definitely a role for government to play in the reduction of WIF and FIW. This would promote the general welfare of society and also contribute to social cohesion. The harmful effects of WIF and FIW on the physical and psychological health of employees (Barling et al., 1994; Frone et al., 1997a; Galinsky et al., 1996; Scharlach & Boyd,

1989), together with the considerable costs to corporations from decreased productivity and increased absenteeism and turnover (Duxbury et al., 1999; Robbins & Langton, 2001) provide compelling arguments that society as a whole would be well served by effective interventions aimed at reducing the negative consequences of balancing work and family. Moreover, from a purely fiscal standpoint, potential government revenues would be increased as a result of greater corporate efficiency and potential government costs would be reduced by a decreased demand for healthcare.

Government interventions to help reduce WIF and FIW could take many different forms, but certainly a major focus should be on helping to reduce family demands for individual employees. One key intervention would be to help increase the supply of affordable and high-quality caregiving services. This would be particularly useful for working parents, as the cost and availability of high-quality nonparental child care continues to be a major problem (Johnson et al., 2001; Krashinsky, 2001; Peyton et al., 2001). In a similar vein, the Federal Government's recently introduced Compassionate Care Program that will allow employees providing care for seriously ill family members to access Unemployment Insurance Program benefits would seem to be another step in the right direction (Government of Canada, 2004).

The government could also take a more proactive role in helping employers improve their working environments. This could either take the form of becoming the "employer of choice" by modelling appropriately supportive strategies within the government sector

or by entering into partnerships with employers to promote family-friendly programs within their own organizations. In this latter connection, CAALL (2002) recommends that governments work with industry to develop case studies of organizational programs that have been found to be particularly successful in improving work-family balance. These successful programs could then be publicized by the government as effective models for other organizations to follow.

6.3 DIRECTIONS FOR FUTURE RESEARCH

The need for further research in this area remains high. After all, WIF and FIW will continue to be important concerns and are likely to become even more prevalent over time. Moreover, ongoing social change continues to impact the context in which employees have to balance work and family demands. Thus, conclusions drawn from this thesis will inevitably have to be updated and modified in the future as society continues to evolve. With this in mind, this section suggests a number of interesting avenues for future research and makes some recommendations with respect to methodology. Finally, this section puts forward a new theoretical perspective, grounded in the empirical findings of this thesis, which hopefully may provide some useful insights for researchers in the work and family area.

6.3.1 SOME IDEAS FOR FUTURE RESEARCH AND METHODOLOGY

This thesis has found that caregiving has a significant impact on WIF and FIW. In general, caregivers experienced more difficulty in balancing work and family than non-

caregivers and, more specifically, child caregivers and sandwich caregivers experienced significantly more difficulty in balancing work and family than other employees. Clearly, future research into WIF and FIW would be well advised to take caregiving into consideration. Moreover, it seems very likely that the *nature* of caregiving roles is more important than the *number* of caregiving roles. For example, some caregiving tasks such as providing help with personal hygiene and toileting may be less pleasant to perform and consequently increase the degree of burden. In addition, as discussed in the literature review, some caregiving tasks may be more difficult to integrate with paid employment than others. This suggests that further research into the degree of burden associated with different forms of caregiving would be very useful and that the degree of burden should probably be taken into account more explicitly in future studies of WIF and FIW.

In contrast to a number of previous studies, this thesis did not find gender differences with respect to WIF and FIW. Previous studies generally failed to control for a comprehensive list of potential confounds and, consequently, the gender differences that they found probably reflected differences in the life circumstances of men and women, rather than inherent gender differences. As an illustration of the power of controlling for potential confounds, researchers should note the considerable improvement in explanatory power that resulted from the inclusion of the set of work and family variables in the WIF and FIW regressions reported in the thesis.

The strategy of selecting a sample composed of full-time employees living with partners who are also full-time employees seems to have many advantages. In particular, this strategy avoids a number of potential confounds that might be expected to affect WIF and FIW, such as working part-time or having a partner who works part-time (Friedman & Greenhaus, 2000). Moreover, it means that the results are highly generalizable because, as discussed, a sizable percentage of the working population is now comprised of full-time employees living with partners who are also full-time employees.

On the subject of generalizability, researchers who wish to study the working population should be cautious about relying on theory which has been developed with respect to quite different populations. For example, the elder caregivers studied in this thesis seem to represent quite a different population from that commonly studied in the gerontological literature. In particular, the elder caregivers in this thesis, being full-time employees, provided a fairly modest number of hours of elder care (4.17 hours per week).⁷² In contrast, the gerontological literature, while being notoriously non-specific as to the number of hours of care provided, seems to focus on caregivers who provide far more hours of elder care than could be provided by full-time employees (Gorey et al., 1992). Consequently, gerontological theory may not be directly applicable to elder caregivers who work full-time.

⁷² See Appendix D.

Future researchers may wish to consider the use of longitudinal data. Longitudinal data would provide information on how the levels of WIF and FIW experienced by individual employees change over time and, for example, would allow insights into life-cycle changes and the success or otherwise of specific workplace interventions. Moreover, it would allow researchers to study the impact of very high care demands, which often result in employees dropping out of the workforce altogether and hence out of cross-sectional samples (Brody, 1985; Horowitz, 1985b; Keating et al., 1999; Kingsmill & Schlesinger, 1998).

Another issue that researchers may wish to look into is the question of how best to collect time-use data. It is well-known that different methods of collecting time-use data can yield substantially different results. For example, when estimating hours of home chores, self-reports can produce figures 50% higher than diary data (Brett & Stroh, 2003). In addition, a woman's estimate of the time that her partner devotes to child care can differ dramatically from her partner's self-report (Googins, 1991). This thesis has utilized self-report data because this method of collecting time-use data is the one most commonly used in the work and family area. Future researchers may wish to evaluate alternative methods of collecting time-use data to see which is the most accurate and the most appropriate for the study of work and family issues.

In designing models to predict RI, future researchers should consider the fact that work variables may be more useful than family variables in predicting both WIF and FIW.

Also, FIW appears to be a much more complex phenomenon than WIF as it incorporates elements from both the work and the family domains. Moreover, there seems to be considerable scope for further research into the identification of additional predictors for FIW.

In terms of individual variables, future researchers should probably consider dividing perceived organizational support of work-family balance into the two sub-variables used in this thesis, namely, culture of hours and good management practice. This bifurcation of perceived organizational support of work-family balance into culture of hours and good management practice was really quite revealing: Culture of hours was found to be “very important” in predicting both WIF and FIW, while good management practice was found to be only “important” in the prediction of WIF and “relatively unimportant” in the prediction of FIW.

In addition, future researchers may also wish to consider including the variable hours of supplemental work at home in their models, given its positive association with WIF in this thesis. Certainly, hours of supplemental work at home should be included in any assessment of total hours of work, especially in view of the fact that long hours of work have been found to result in significant negative consequences for productivity and the health of employees (Sonnentag, 2003; Statistics Canada, 1999c).

6.3.2 A NEW THEORETICAL PERSPECTIVE

This thesis has found that the work environment plays a dominant role in the prediction of both WIF and FIW. This finding suggests a new theoretical perspective that might be called “Dominance of the Work Environment”. The importance of the work environment in the prediction of WIF and FIW is consistent with the contextual approach, which emphasizes the importance of the environment in the prediction of individual behavior (Bowen & Pittman, 1995), and with the concept of negative spillover from work to home, in which stressful experiences in the work domain have negative repercussions for the family domain (Bolger, 1989; Williams & Alliger, 1994). Moreover, it is consistent with Frone et al. (1992a)’s belief that work stressors are more important than family stressors in the prediction of WIF. It should be noted, however, that it is inconsistent with Frone et al. (1992a)’s belief that family stressors are more important than work stressors in the prediction of FIW.

The theoretical perspective that work variables are more important than family variables in the prediction of both WIF and FIW is generalizable to both genders and could serve as a useful basis for the construction of parsimonious empirical models to explain variations in WIF and FIW. Of course, the assumption that work variables dominate family variables would have to be tested in each individual application. This new theoretical perspective also suggests a number of testable predictions that could be examined in future research. Moreover, there may be interesting individual differences with respect to the life-cycle, gender, and generation. In addition, there may be cross-

cultural differences with respect to the power of the work environment to predict WIF and FIW.

Life-cycle stage may have a bearing on the power of the work environment to affect WIF and FIW. For example, Barnett et al. (1992) found that stress in the work environment, in this case a decrease in job quality, was associated with greater psychological distress for women who occupied fewer family roles (single women and women without children) than for women who occupied more family roles (married women and women with children). Such a finding suggests that the work environment may have less power to influence WIF and FIW for individuals who hold more family roles. Holding additional family roles, especially high quality family roles, appears to buffer work-related stress (Barnett et al., 1992a; Barnett et al., 1992b; Barnett & Hyde, 2001).

There may be interesting gender and life-cycle stage differences which affect the tendency of work variables to dominate family variables in the prediction of WIF and FIW. For example, fathers have been found to increase their hours of work after the birth of a child while mothers have been found to decrease their hours of work after returning from maternity leave (Lundberg & Rose, 2000; Walzer, 1996). This gender difference with respect to hours of work after the birth of the child suggests that for fathers, due to their core role of breadwinner, the work environment may become a more potent influence in their lives after the birth of a child. In contrast, for mothers, due to their core role of motherhood, the work environment may become a less potent influence in their

lives after the birth of a child. Consequently, after the birth of a child, the work environment may have relatively more power to predict WIF and FIW for fathers and relatively less power to predict WIF and FIW for mothers.

Generational differences with respect to the relative importance of the work environment and the family environment may also exist. For example, members of Generation X, born between the mid-1960's and the early 1980's, are expected to be less likely to focus exclusively on work than members of earlier generations and, in particular, to reject any tendency towards workaholism (Robbins & Langton, 2001). If members of Generation X insist on a lifestyle which balances work and family, then the family environment may become a more powerful influence in their lives and on WIF and FIW than has been the case for members of earlier generations.

There may also be some interesting cross-cultural differences in the power of the work environment to influence WIF and FIW. Work by Fukuyama (1995) suggests that the work environment may be a more potent force in the lives of Americans than it is for other cultures. Fukuyama (1995) describes the United States as a country in which individual members of extended families have minimal obligations to each other and limited expectations that their extended family will provide assistance to them in times of financial crisis - in stark contrast to countries such as China and Italy. Similarly, based on a cross-cultural comparison of the importance placed on major life roles, Kulenovic and Super (1995) concluded that the role of worker was more salient for Americans than

for the other nationalities surveyed, which included Canadians (both anglophones and francophones), Australians, and Italians.

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APPENDIX A

A SUMMARY OF FIVE STUDIES THAT COMPARED RI OR WORK-FAMILY BALANCE ACROSS CARE GROUPS

Author(s)	Buffardi et al. (1999)
Sample	Surveys were mailed to 56,767 American Federal employees. Over 31 thousand responses returned for a response rate of 56%. Of these, 20,015 dual-income households were selected. 56% had no dependent care; 8% had only elder care responsibilities; 33% only child care; 3% were in the sandwich group.
Dependent Variables	<u>Work-family balance</u> : A single-item scale <u>Other measures</u> : Job satisfaction; Perceived organizational support
Independent Variables	<u>Care groups</u> : No-care; elder care; school-aged children; elders and preschool children; preschool children; elders and school age children. <u>Classification</u> : In response to the following questions: "For how many of the following elderly and other adult dependents are you presently responsible?"; "How many children under the age of thirteen (birth to five years, six to twelve years) live with you at least half the time?"
Results	Work-family balance rankings from highest level of satisfaction to lowest: No-care; elder care; school-aged children; elders and preschool children; preschool children; school-aged and preschool children; elders and school age children; elders; preschool; and school age children.
Limitations	No information given on whether difference in rankings was significant. Rankings did not control for confounds such as hours of care or gender. Single-item scale for work-family balance.

Author(s)	Fredriksen & Scharlach (1999)
Sample	<p>2,497 employees of the Lawrence Berkeley Laboratory, a technology research center funded by the U.S. Department of Energy were surveyed. 1,888 surveys were returned for an overall response rate of 76%. 35% cared for a child or teenager; 22% cared for an ill or disabled adult; and 8% provided both child care and adult care.</p> <p>The residual 35% were not currently providing care, but responded that they might do so in the next 5 years. Not clear if or how these employees were included in analysis.</p>
Dependent Variables	<p><u>Caregiving strain</u>: Three-item scale: Respondents indicated separately the extent to which they currently experienced physical, financial, or emotional strain as a result of their family care responsibilities.</p> <p><u>Occupational impacts</u>: 1) how many days of work missed in the previous two months because of family care responsibilities and 2) the total number of hours missed in the previous two months because of disruptions due to family care responsibilities.</p>
Independent Variables	<p><u>Care groups</u>: Child care; disabled adult; (presumably includes elderly adults); adult and child care.</p> <p><u>Classification</u>: Respondents were asked whether they currently had children for whom they had child care responsibilities and whether they were currently assisting an adult family member or friend with a health problem or disability. (It may be that only caregivers of the disabled elderly have been included.)</p> <p><u>Family demands</u>: Age and number of care recipients, problems with child care and adult care arrangements were assessed based on cost, location, quality, and dependability.</p> <p><u>Disability</u>: Respondents were asked whether they had children with special needs such as physical, mental or emotional disabilities and whether they were caring for adults who needed assistance with activities of daily living such as eating, bathing, toileting, dressing or grooming or who had a cognitive or behavioral impairment. Other measures: Workplace demand; Co-worker support; Workplace flexibility; Job control</p>
Results	Caregiving strain "controlling for a variety of background characteristics, demands and resources" p. 191. Caregiving strain and occupational impacts were greatest for parents and lowest for employees caring for a disabled adult. There was no significant difference between sandwich and parents.
Limitations	No measure of work-family conflict <i>per se</i> rather 3 measures of caregiving strain: physical, financial, and emotional. Results combined for caregivers of disabled adults and caregivers of the elderly. The definition of "elderly" may include only the disabled elderly. Although a "no-care group" was available, the authors did not compare this group to others reducing the usefulness of comparisons. Authors state that: "Employees combining child and adult care responsibilities reported consistently high levels of overall caregiving strain and occupational impacts. However, when controlling for a variety of background characteristics, demands, and resources, employees with dual care responsibilities do not seem to experience greater caregiving and occupational impacts than did working parents in general" but they did not list the control variables used or give statistical detail on the control variables.

Author(s)	MacBride-King (1990)
Sample	Survey of 11,000 employees of which 7,003 useable questionnaires returned for an overall response rate of 64%. 58% had children living at home, 16% provided care to elderly, infirm, or disabled relatives, approximately 10% (60% of this 16%) indicated that they had children at home.
Dependent Variables	<p>Work-family balance: Single-item scale: How easy or difficult is it for you to combine working with family responsibilities?</p> <p>Caregiving stress: Single-item scale: The extent to which child care and/or care for elderly or adult family members had been a source of stress during the preceding 4 weeks.</p> <p>Absenteeism: Full days missed; partial days missed; number of times late; number of times left early</p>
Independent Variables	<u>Care groups and Classification:</u> Respondents indicated that they provided: care for "children only", care for "other dependents" only, care for "other dependents" and children. A "no-care" category was used.
Results	<p>Degree of difficulty in balancing work and home rated as "very difficult": 6.1% of those caring for "other dependents" and children; 4.2% of those caring only for children; 1.6% of those caring for "other dependents"; 1.4% of those who have no dependents.</p> <p>Caregiving stress rated as "a lot": 14% of those caring for "other dependents" and children; 11.4% of those caring only for children; 9.4% of those who care for "other dependents"; 3.6% of those who have no dependents.</p> <p>Absenteeism (full days missed, partial days missed, number of times late, number of times left early): Those who care for both children and "others" had highest ranking in each group. Those with no-care responsibilities had lowest ranking in each group. Child caregivers had more full days missed but fewer number of times late and fewer number of times left early than elder caregivers.</p>
Limitations	No information about which differences were significant. No breakdown of those providing care to the elderly. Rankings did not control for confounds such as hours of care or gender. Single-item scale for work-family balance.

Author(s)	Neal et al. (1990), Neal et al. (1993), Chapman et al. (1994)
Sample	<p>27,832 employees from 33 businesses and agencies were surveyed. 9,573 surveys were returned for a return rate of 34%.</p> <p>39% had no dependent care; 13% had only elder care responsibility; 1.5% only adult; 35% only child care; 0.7% elder and adult; 9% elder and child; 1% child and adult; 0.5% elder, adult, and child.</p>
Dependent Variables	<p><u>Stress of balancing work and family:</u> Single-item scale: "How easy or difficult is it for you to combine working with family responsibilities?"</p> <p><u>Health stress:</u> Single-item scale: The extent to which the respondent's personal health had been a source of stress to him or her during the preceding 4 weeks.</p> <p><u>Three measures of absenteeism:</u> 1) losing an entire day at work; 2) arriving late or leaving early; 3) number of interruptions at work due to family-related matters.</p>
Independent Variables	<p><u>Care groups:</u> no-care; elder only; adult only; child only; elder and adult; elder and child; child and adult; elder, adult, and child.</p> <p><u>Classification:</u> Child caregivers: Are you eligible to claim children as a dependent or exemption on your federal or state income tax return? Does this person live with you?</p> <p>Adult or Elder caregivers - Do you have responsibilities for helping out adult relatives or friends who are elderly? This includes persons who live with you or live somewhere else. By "helping out" we mean help with shopping, home maintenance or transportation, checking on them by phone, making arrangements for care, etc.</p>
Results	<p>Those with caregiving responsibilities had significantly higher levels of all three types of absenteeism and higher levels of personal health stress and more difficulty combining family and work than non-caregivers. The following rankings were found from highest to lowest: 1) Stress of balancing work and family: sandwich, child care, elder care, no-care. No-care was significantly lower than elder care, child care, or adult care. Elder care was significantly lower than child care. There was no significant difference between elder care and adult care or between adult care and child care. 2) Health stress: sandwich; elder care; child care; no-care. No-care was significantly lower than elder care and adult care but there was no significant difference between no-care and child care or elder care and adult care. Elder care and adult care were both higher than child care. 3) Days missed: sandwich; elder care; child care; no-care. There were no significant differences between no-care, elder care, adult care, or child care combinations. 4) Late/early: sandwich; elder care; child care; no-care. No-care and elder care were both significantly lower than child care. Otherwise there were no significant differences between adult care, elder care or child care combinations. 5) Interruptions at work: sandwich; child care; elder care; no-care. No-care was lower than elder care, adult care, and child care. Elder care was lower than child care. Otherwise there were no significant differences between adult care, elder care or child care combinations.</p>
Limitations	<p>For previously given rankings, no information was given on the significance of comparisons between sandwich and the other 3 groups. Rankings do not control for confounds such as hours of care or gender. Single-item scale for work-family balance.</p>

Author(s)	Scharlach & Boyd (1989)
Sample	3,658 U.S. employees of a major Southern California employer were surveyed. A total of 1,898 useable surveys were returned for an overall response rate of 52%. 23% indicated that they were currently providing special assistance to a person age 60 or older. Of this group, 78% completed the caregiver portion of the survey instrument. No indication of proportion providing care to children, children and the elderly, or those with no-care responsibilities.
Dependent Variables	<p><u>RI</u>: Single-item scale: Respondents rated the extent to which their job and family responsibilities interfered with one another on scale from 1 to 4.</p> <p><u>Absenteeism</u>: Respondents indicated how many times family responsibilities had caused them to leave work during the day the past month or miss work entirely in the past two months.</p>
Independent Variables	<p><u>Care groups</u>: Elder care; child care; elder care and child care.</p> <p><u>Classification</u>: Classified as providing child care if they had at least one child at home. Elder caregivers responded that they were currently providing assistance to a person age 60 years or older.</p>
Results	RI was particularly high for employees with both elder care and child care responsibilities. Those providing care to elders reported approximately the same amount of RI as well as absences and time off during the workday as those providing care to children. Those who provided elder care were more likely than other employees to report having a "great deal" of job-family conflict (5.0% vs. 1.4%); had more days off during the last 2 months due to family (0.79 days vs. 0.51 days); had more "time off during the day" in the last month (0.80 times vs. 0.48 times).
Limitations	Lack of statistical backup given for results summarized above. No indication of significance for the previous comparisons. Part 2 of the survey was completed only by employees who were currently providing assistance to a person age 60 years old. This part of the survey included measures of the employees' caregiving activities, caregiving strain, work-role impact and program benefits that the employee considered helpful. It would have been useful to also have this information for those who were providing care to children. No comparison was made to a no-care group reducing the usefulness of comparisons. No control for confounds such as hours of care or gender. Single-item scale for RI.

APPENDIX B

A SUMMARY OF TEN STUDIES THAT COMPARED RI ACROSS GENDER

Author(s)	Sample	Measures of WIF and FIW	Results	
			WIF	FIW
Duxbury & Higgins (1994)	1,138 full-time employees with children who were 5 years of age or younger and who lived with parents 100% of the time. Subset of sample with a response rate of 56%. Parents belonged to one of two groups: Dual-career couples in which both partners were managers or professionals with high work involvement scores. Dual-earner couples in which both partners were in non-professional or managerial occupations with low work involvement scores.	Scale based on Bohen and Viveros-Long (1981).	Women more WIF than men regardless of job type. No difference in WIF between dual-earner fathers and dual-career mothers. Dual-earner mothers more WIF than dual-career mothers although dual-career mothers spend more time in paid work. Analysis: MANOVA controlled for, at a minimum, job type. "Detailed results of statistical tests are not shown." p. 68.	Women more FIW than men regardless of job type. No difference in FIW by job type within genders. Dual-earner mothers spend more time in home chores (2.7 hrs/day vs. 2.2 hrs/day). Dual-earner and dual-career mothers spend the same amount of time in child care. Analysis: MANOVA controlled for, at a minimum, job type. "Detailed results of statistical tests are not shown." p. 68.
Duxbury et al. (1994)	1,989 full-time employees (private and public sector) who were parents of children ages 6-12 who lived with parents 100% of the time. Subset of sample with a response rate of 56%.	Same as above.	Women more WIF than men although women performed fewer hours of paid work. Analysis: MANOVA controlled for family type and perceived control.	Women higher FIW than men. Women performed more hours of family work than men. Analysis: MANOVA controlled for family type and perceived control.
Eagle et al. (1997)	393 employees of a southeastern American University including faculty and staff. 92% were married or living as married. 70% had at least one child 18 years or younger. Response rate of 51%.	Scale based on Frone et al., (1992a).	No significant gender difference. Both men and women greater WIF than FIW. Analysis: ANCOVA controlled for race; age; occupational status; tenure; marital status; paid hours; number of children; and age of youngest child.	No significant gender difference. Analysis: ANCOVA controlled for race; age; occupational status; tenure; marital status; paid hours; number of children; and age of youngest child.

Author(s)	Sample	Measures of WIF and FIW	Results	
			WIF	FIW
Frone & Yardley (1996)	480 employees of a mid-sized financial services company. 80% response rate. All respondents had at least one child living at home. 91.7% of children were under the age of 18. 90.5% of respondents were married or living as married.	Used factor analysis to develop two 6-item scales from the Frone et al. (1992b) and the Gutek et al. (1991) measures.	Men had higher WIF than women. Analysis: Correlation-therefore did not control for other variables.	No significant gender difference. Analysis: Correlation-therefore did not control for other variables.
Frone et al. (1992b)	Respondents were part of a continuing longitudinal study interviewed in 1989. 83.6% of the initial sample were re-interviewed. 631 male and female employees working at least 20 hours per week. 73% married or living as married. 78% had at least one child living at home. 49% were blue-collar workers and 51% held white-collar jobs. Approximately 1/3 had less than a high-school education, 1/3 had graduated from high-school and approximately 1/3 had some college training or more.	Two items for each scale developed by the authors	Women had higher WIF than men. No information given on relative hours of paid work. Analysis: ANCOVA-controlled for race; age; education; job type; job tenure; hours of paid work; marital status; number of children living at home; and age of youngest child living at home.	Women had higher FIW than men. No information given on relative hours of family work. Analysis: ANCOVA-controlled for race; age; education; job type; job tenure; hours of paid work; marital status; number of children living at home; and age of youngest child living at home.

Author(s)	Sample	Measures of WIF and FIW	Results	
			WIF	FIW
Frone et al. (1997a)	267 respondents from the 1992a study (above) interviewed in 1993.	Two-item scale from Frone et al. (1992a).	No significant gender difference in WIF. No information given on relative hours of paid work. Analysis: Correlation-therefore did not control for other variables.	Women had higher FIW than men. No information given on relative hours of family work. Analysis: Correlation-therefore did not control for other variables.
Gignac et al. (1996) Elder-care and child-care	721 full-time employees who provided a minimum of one hour/week assisting an elderly relative, representing 14% of an earlier sample. 92% were married or living as married. All respondents had at least one child under the age of 18 living at home. Most held professional or managerial positions (women 71.8%, men 79.7%).	Based on Gutek et al. (1991).	No significant gender difference in WIF although men spent 8.1 more hours/week in paid work. Both men and women greater WIF than FIW. Analysis: Correlation-therefore did not control for other variables.	No significant gender difference in FIW although women spent 0.8 more hours/week in elder-care. No information given on other forms of caregiving. All respondents lived with at least one child under the age of 18. Analysis: Correlation-therefore did not control for other variables.
Gottlieb et al. (1994) Elder-care	1,302 employees, 53% response rate, who on a regular basis performed one of the following tasks (dressing, personal hygiene, toileting, eating, help with medication) or two of the following tasks (laundry, transportation, home maintenance, meal preparation, shopping, household chores, home mobility) for a senior.	Two 4 items scales based on Gutek et al. (1991)	Women had higher WIF than men. No information given on relative hours of paid work but women who worked more hours per week were at greatest risk for WIF. Analysis: Regression controlling for age; education; household income; hours of paid work; evening or weekend work; variable schedule of work; supervisory duties; marital status; children at home under the age of eighteen.	No significant gender difference in FIW. No information given on relative hours of family work but risk factors for FIW were in addition to being female; having children (in addition to performing care for a senior) and performing personal care for a senior. Analysis: Regression controlling for age; education; household income; hours of paid work; evening or weekend work; variable schedule of work; supervisory duties; marital status; children at home under the age of eighteen.

Author(s)	Sample	Measures of WIF and FIW	Results	
			WIF	FIW
Gutek et al. (1991) Study A	423 male and female psychologists who had a family member living with them (spouse; significant other of either sex; or a child). 65% had at least one child living with them.	WIF scale based on Kopelman et al. (1983). FIW scale based on Burley (1989).	Women more WIF than men although hours of paid work same.	No gender difference in FIW although women more hours in family work.
			Both men and women greater WIF than FIW. T-test no control variables.	Scores for FIW quite low. T-test no control variables
			Analysis: ANCOVA controlled for hours of paid work.	Analysis: ANCOVA controlled for hours of family work.
Study B	209 male and female senior managers; 90% had a family member living with them (spouse; significant other of either sex; or a child).	Same as above.	Women more WIF than men although hours of paid work same.	No gender difference in FIW although women more hours in family work.
			Both men and women greater WIF than FIW.	Scores for FIW quite low.
			Analysis: ANCOVA controlled for hours of paid work and hours of family work.	Analysis: ANCOVA controlled for hours of paid work and hours of family work.
Kinnunen & Mauno (1998)	Respondents were surveyed in three different areas of the Finnish economy: public sector (municipal; social; & health care); factory; and a supermarket. 636 questionnaires were returned for a response rate of 65%.	Based on Frone et al. (1992a).	No significant gender difference in WIF.	No significant gender difference in FIW.
			Both men and women greater WIF than FIW. Analysis: Correlation-therefore did not control for other variables.	Analysis: Correlation-therefore did not control for other variables.

APPENDIX C

STATISTICAL PROFILE OF THE SAMPLE

This appendix presents a brief statistical profile of the sample by care group and gender.¹

Categorical variables were analyzed using cross-tabulations and continuous variables were analyzed using simple factorial ANOVA. The focus throughout was on highlighting salient features of the data that might help in the interpretation of the results in the empirical analysis. To this end, the emphasis was on the identification of statistically significant differences between cells. Moreover, given the relatively large sample sizes involved, it was decided to adopt the relatively conservative significance level of 0.01 or 1% throughout. In this connection, p-values are also provided for statistical tests. Thus, if the reader prefers to adopt a less conservative significance level, the necessary information is readily available.

1. RESULTS

A cross-tabulation of the sample by care group and gender is given in Table C1. Approximately two-fifths were male (40.1%) and three-fifths were female (59.9%). A substantial majority (73.2%) reported at least some level of care responsibility (52.8%

¹ Care groups are defined in Section 4.2.1.

reported child care only, 8.1% reported elder care only, and 12.3% reported both child care and elder care). The cross-tabulation chi-squared test results, given in Table C2, indicate that there was no significant association between care group and gender.

Table C1. Care group by gender cross-tabulation

			Gender		Total
			Male	Female	
Care Group Child Care	Count		441	679	1120
	% within Care Group		39.4%	60.6%	100.0%
	% within Gender		51.8%	53.5%	52.8%
	% of Total		20.8%	32.0%	52.8%
Elder Care	Count		60	111	171
	% within Care Group		35.1%	64.9%	100.0%
	% within Gender		7.1%	8.7%	8.1%
	% of Total		2.8%	5.2%	8.1%
Sandwich	Count		110	150	260
	% within Care Group		42.3%	57.7%	100.0%
	% within Gender		12.9%	11.8%	12.3%
	% of Total		5.2%	7.1%	12.3%
No-Care	Count		240	329	569
	% within Care Group		42.2%	57.8%	100.0%
	% within Gender		28.2%	25.9%	26.8%
	% of Total		11.3%	15.5%	26.8%
Total	Count		851	1269	2120
	% within Care Group		40.1%	59.9%	100.0%
	% within Gender		100.0%	100.0%	100.0%
	% of Total		40.1%	59.9%	100.0%

Table C2. Care group by gender cross-tabulation: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	3.58	3	.310
N of Valid Cases	2120		

Age

A breakdown of age by care group and gender is given in Table C3. The average age of the sample was 40.25 years. Basic ANOVA statistics are given in Table C4. The care group x gender interaction effect was not significant.² Both the care group main effect and the gender main effect, however, were significant. These results indicate that the average age of males (42.44 years) was significantly higher than the average age of females (38.79 years). They also indicate that there was a significant difference in average age across care group. More specifically, a post-hoc multiple comparisons analysis, given in Table C5, suggests that the average age of the elder care group (44.59 years) and the sandwich group (42.55 years) was significantly higher than the average age of the child care group (39.45 years) and the no-care group (39.47 years).³

² An insignificant interaction effect indicates that the effect of one variable does not depend upon the level of the other variable.

³ Post-hoc multiple comparisons are reported in the case of significant main effects when the interaction effect is not significant. Significance levels for post-hoc multiple comparisons are Bonferroni-adjusted.

Table C3. Age: Breakdown by care group and gender

Care Group	Gender	Mean	Std. Deviation	N
Child Care	Male	41.37	7.01	441
	Female	38.21	6.31	679
	Total	39.45	6.77	1120
Elder Care	Male	46.00	8.91	60
	Female	43.83	9.09	111
	Total	44.59	9.06	171
Sandwich	Male	44.23	6.39	110
	Female	41.33	5.91	150
	Total	42.55	6.27	260
No-Care	Male	42.69	10.63	240
	Female	37.13	10.27	329
	Total	39.47	10.77	569
Total	Male	42.44	8.36	851
	Female	38.79	7.98	1269
	Total	40.25	8.33	2120

Table C4. Age: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	13335.59	7	1905.09	30.10	.000
Intercept	2139671.60	1	2139671.60	33808.83	.000
CARE GROUP	5072.81	3	1690.94	26.72	.000
GENDER	3631.55	1	3631.55	57.38	.000
CARE GROUP × GENDER	686.97	3	228.99	3.62	.013
Error	133662.89	2112	63.29		
Total	3582014.00	2120			
Corrected Total	146998.48	2119			

R-Squared = .091 (Adjusted R-Squared = .088)

Table C5. Age: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	-5.14*	.65	.000
	Sandwich	-3.10*	.55	.000
	No-Care	-.02	.41	1.000
Elder Care	Child Care	5.14*	.65	.000
	Sandwich	2.04	.78	.056
	No-Care	5.12*	.69	.000
Sandwich	Child Care	3.10*	.55	.000
	Elder Care	-2.04	.78	.056
	No-Care	3.08*	.60	.000
No-Care	Child Care	.02	.41	1.000
	Elder Care	-5.12*	.69	.000
	Sandwich	-3.08*	.60	.000

* The mean difference is significant at the .01 level (Bonferroni-adjusted).

Marital status

Consistent with the selection criteria for the sample, 100% of the sample was living with a partner.⁴

Education

A cross-tabulation of the sample by gender and education is given in Table C6. Approximately one-half reported having less than a college degree (52.4%), one-fifth reported having just a college degree (18.6%), and three-tenths reported having at least one university degree (29.0%). The cross-tabulation chi-squared test results, given in

⁴ As a breakdown of marital status by care group and gender would be redundant, marital status is not tabulated.

Table C7, indicate that there was a significant association between gender and education. The way in which the distribution of educational attainment differed across gender can be inferred from the pattern of adjusted residuals reported in Table C6.⁵ More specifically, a significantly positive adjusted residual for a cell (gender/educational attainment combination) indicates a significantly higher cell count than would be expected if gender and education attainment were independent. Contrariwise, a significantly negative adjusted residual for a particular cell (gender/educational attainment combination) indicates a significantly lower cell count than would be expected if gender and education attainment were independent.⁶ Along these lines, the pattern of adjusted residuals reported in Table C6 suggests that: (i) the percentage of males and females with less than a college degree was very similar (53.3% versus 51.8%), (ii) the percentage of males with just a college degree was significantly lower than the percentage of females with just a college degree (12.8% versus 22.5%), and (iii) the percentage of males with at least one university degree was significantly higher than the percentage of females with at least one university degree (33.9% versus 25.8%).

⁵ See, for example, Agresti (1996).

⁶ Under the null hypothesis that the two categorical variables are statistically independent, the adjusted residuals have an asymptotically normal distribution (Agresti, 1996). Thus, an adjusted residual that exceeds approximately 2.5 in absolute value indicates a lack of fit in the corresponding cell of the table at the 0.01 or 1% significance level. NOTE: To save space in cross-tabulation tables, the adjusted residuals will only be reported in the case of a significant chi-squared test statistic.

Table C6. Gender by education cross-tabulation

			Education			Total
			< College Degree	College Degree	University Degree/ Post-Grad	
Gender	Male	Count	450	108	286	844
		% within Gender	53.3%	12.8%	33.9%	100.0%
		% within Education	40.7%	27.6%	46.7%	40.0%
		% of Total	21.3%	5.1%	13.6%	40.0%
		Adjusted Residual	.7	-5.6	4.0	
	Female	Count	655	284	326	1265
		% within Gender	51.8%	22.5%	25.8%	100.0%
		% within Education	59.3%	72.4%	53.3%	60.0%
		% of Total	31.1%	13.5%	15.5%	60.0%
		Adjusted Residual	-.7	5.6	-4.0	
	Total	Count	1105	392	612	2109
		% within Gender	52.4%	18.6%	29.0%	100.0%
		% within Education	100.0%	100.0%	100.0%	100.0%
		% of Total	52.4%	18.6%	29.0%	100.0%

Table C7. Gender by education cross-tabulation: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	37.11	2	.000
N of Valid Cases	2109		

Given the finding of a significant association between gender and education, it seems sensible to explore the cross-tabulation of care group and education separately for the male and female samples. Along these lines, a care group by education cross-tabulation for males is given in Table C8. Approximately one-half of males reported having less than a college degree (53.3%), one-eighth reported having just a college degree (12.8%),

and one-third reported having at least one university degree (33.9%). The cross-tabulation chi-squared test results, given in Table C9, indicate that there was no significant association between care group and education for males

Table C8. Care group by educational attainment cross-tabulation: Males

			Education			Total
			< College Degree	College Degree	University Degree/ Post-Grad	
Care Group	Child Care	Count	230	54	155	439
		% within Care Group	52.4%	12.3%	35.3%	100.0%
		% within Education	51.1%	50.0%	54.2%	52.0%
		% of Total	27.3%	6.4%	18.4%	52.0%
	Elder Care	Count	34	6	20	60
		% within Care Group	56.7%	10.0%	33.3%	100.0%
		% within Education	7.6%	5.6%	7.0%	7.1%
		% of Total	4.0%	.7%	2.4%	7.1%
	Sandwich	Count	60	12	37	109
		% within Care Group	55.0%	11.0%	33.9%	100.0%
		% within Education	13.3%	11.1%	12.9%	12.9%
		% of Total	7.1%	1.4%	4.4%	12.9%
	No-Care	Count	126	36	74	236
		% within Care Group	53.4%	15.3%	31.4%	100.0%
		% within Education	28.0%	33.3%	25.9%	28.0%
		% of Total	14.9%	4.3%	8.8%	28.0%
Total	Count		450	108	286	844
	% within Care Group		53.3%	12.8%	33.9%	100.0%
	% within Education		100.0%	100.0%	100.0%	100.0%
	% of Total		53.3%	12.8%	33.9%	100.0%

Table C9. Care group by education cross-tabulation: Males: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	2.81	6	.832
N of Valid Cases	844		

For females, however, the picture is slightly more complex. A cross-tabulation of care group by education for the female sample is given in Table C10. Approximately one-half of females reported having less than a college degree (51.8%), one-quarter reported having just a college degree (22.5%), and one-quarter reported having at least one university degree (25.8%). The cross-tabulation chi-squared test results, given in Table C11, indicate that there was a significant association between care group and education for females. The pattern of adjusted residuals in Table C10 suggests, however, that this finding was largely due to the fact that the percentage of females in the no-care group having less than a college degree (44.8%) was significantly lower, while the percentage of females in the no-care group having at least one university degree (34.8%) was significantly higher, than would be expected if care group and education were statistically independent.

Table C10. Care group by education cross-tabulation: Females

			Education			Total
			< College Degree	College Degree	University Degree/ Post-Grad	
Care Group	Child Care	Count	368	152	157	677
		% within Care Group	54.4%	22.5%	23.2%	100.0%
		% within Education	56.2%	53.5%	48.2%	53.5%
		% of Total	29.1%	12.0%	12.4%	53.5%
		Adjusted Residual	2.0	.0	-2.3	
	Elder Care	Count	59	31	20	110
		% within Care Group	53.6%	28.2%	18.2%	100.0%
		% within Education	9.0%	10.9%	6.1%	8.7%
		% of Total	4.7%	2.5%	1.6%	8.7%
		Adjusted Residual	.4	1.5	-1.9	
	Sandwich	Count	81	34	35	150
		% within Care Group	54.0%	22.7%	23.3%	100.0%
		% within Education	12.4%	12.0%	10.7%	11.9%
		% of Total	6.4%	2.7%	2.8%	11.9%
		Adjusted Residual	.6	.1	-.7	
	No-Care	Count	147	67	114	328
		% within Care Group	44.8%	20.4%	34.8%	100.0%
		% within Education	22.4%	23.6%	35.0%	25.9%
		% of Total	11.6%	5.3%	9.0%	25.9%
		Adjusted Residual	-2.9	-1.0	4.3	
	Total	Count	655	284	326	1265
		% within Care Group	51.8%	22.5%	25.8%	100.0%
		% within Education	100.0%	100.0%	100.0%	100.0%
		% of Total	51.8%	22.5%	25.8%	100.0%

Table C11. Care group by education cross-tabulation: Females: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	21.20	6	.002
N of Valid Cases	1265		

Family Income

A cross-tabulation of the sample by gender and family income is given in Table C12. Approximately 4% reported a lower family income (less than \$40,000 per year), 62% reported a middle family income (\$40,000-\$79,999 per year), and 34% reported a higher family income (more than \$80,000 per year).⁷ The cross-tabulation chi-squared test results, given in Table C13, indicate that there was a significant association between gender and family income. More specifically, the pattern of adjusted residuals in Table C12 suggests that: (i) the percentage of males and females with a lower family income was very similar (3.7% versus 4.2%), (ii) the percentage of males with a middle family income was significantly lower than the percentage of females with a middle family income (56.6% versus 65.6%), and (iii) the percentage of males with a higher family income was significantly higher than the percentage of females with a higher family income (39.7% versus 30.1%).

⁷ As a benchmark, the average family income in 1996 was \$54,583 (Statistics Canada, 1998a).

Table C12. Gender by family income cross-tabulation

			Family Income			Total
			Less than \$40,000	\$40,000- \$80,000	More than \$80,000	
Gender	Male	Count	28	431	302	761
		% within Gender	3.7%	56.6%	39.7%	100.0%
		% within Family Inc	37.8%	37.6%	47.9%	41.2%
		% of Total	1.5%	23.3%	16.3%	41.2%
		Adjusted Residual	-.6	-3.9	4.3	
	Female	Count	46	714	328	1088
		% within Gender	4.2%	65.6%	30.1%	100.0%
		% within Family Inc	62.2%	62.4%	52.1%	58.8%
		% of Total	2.5%	38.6%	17.7%	58.8%
		Adjusted Residual	.6	3.9	-4.3	
Total	Count		74	1145	630	1849
	% within Gender		4.0%	61.9%	34.1%	100.0%
	% within Family Inc		100.0%	100.0%	100.0%	100.0%
	% of Total		4.0%	61.9%	34.1%	100.0%

Table C13. Gender by family income cross-tabulation: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	18.14	2	.000
N of Valid Cases	1849		

Given the finding of a significant association between gender and family income, it seems sensible to explore the cross-tabulation of care group and family income separately for the male and female samples. Along these lines, a care group by family income cross-tabulation for males is given in Table C14. Approximately 4% reported a lower family income, 57% reported a middle family income, and 40% reported a higher family income. The cross-tabulation chi-squared test results, given in Table C15,

indicate that there was no significant association between care group and family income for males.

Table C14. Care group by family income cross-tabulation: Males

			Family Income			Total
			Less than \$40,000	\$40,000-\$80,000	More than \$80,000	
Care Group	Child Care	Count	19	214	162	395
		% within Care Group	4.8%	54.2%	41.0%	100.0%
		% within Family Inc	67.9%	49.7%	53.6%	51.9%
		% of Total	2.5%	28.1%	21.3%	51.9%
	Elder Care	Count	1	25	27	53
		% within Care Group	1.9%	47.2%	50.9%	100.0%
		% within Family Inc	3.6%	5.8%	8.9%	7.0%
		% of Total	.1%	3.3%	3.5%	7.0%
	Sandwich	Count	4	62	35	101
		% within Care Group	4.0%	61.4%	34.7%	100.0%
		% within Family Inc	14.3%	14.4%	11.6%	13.3%
		% of Total	.5%	8.1%	4.6%	13.3%
	No-Care	Count	4	130	78	212
		% within Care Group	1.9%	61.3%	36.8%	100.0%
		% within Family Inc	14.3%	30.2%	25.8%	27.9%
		% of Total	.5%	17.1%	10.2%	27.9%
	Total	Count	28	431	302	761
		% within Care Group	3.7%	56.6%	39.7%	100.0%
		% within Family Inc	100.0%	100.0%	100.0%	100.0%
		% of Total	3.7%	56.6%	39.7%	100.0%

Table C15. Care group by family income cross-tabulation: Males: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	9.15	6	.165
N of Valid Cases	761		

A care group by family income cross-tabulation for the female sample is given in Table C16. Approximately 4% reported a lower family income, 66% reported a middle family income, and 30% reported a higher family income. The cross-tabulation chi-squared test results, given in Table C17, indicate that there was no significant association between care group and family income for females.

Table C16. Care group by family income cross-tabulation: Females

			Family Income			Total
			Less than \$40,000	\$40,000- \$80,000	More than \$80,000	
Care Group	Child Care	Count	22	378	182	582
		% within Care Group	3.8%	64.9%	31.3%	100.0%
		% within Family Inc	47.8%	52.9%	55.5%	53.5%
		% of Total	2.0%	34.7%	16.7%	53.5%
	Elder Care	Count	5	65	23	93
		% within Care Group	5.4%	69.9%	24.7%	100.0%
		% within Family Inc	10.9%	9.1%	7.0%	8.5%
		% of Total	.5%	6.0%	2.1%	8.5%
	Sandwich	Count	4	82	45	131
		% within Care Group	3.1%	62.6%	34.4%	100.0%
		% within Family Inc	8.7%	11.5%	13.7%	12.0%
		% of Total	.4%	7.5%	4.1%	12.0%
	No-Care	Count	15	189	78	282
		% within Care Group	5.3%	67.0%	27.7%	100.0%
		% within Family Inc	32.6%	26.5%	23.8%	25.9%
		% of Total	1.4%	17.4%	7.2%	25.9%
Total	Count		46	714	328	1088
	% within Care Group		4.2%	65.6%	30.1%	100.0%
	% within Family Inc		100.0%	100.0%	100.0%	100.0%
	% of Total		4.2%	65.6%	30.1%	100.0%

Table C17. Care group by family income cross-tabulation: Females: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	4.85	6	.563
N of Valid Cases	1088		

Job Type

A cross-tabulation of the sample by gender and job type is given in Table C18.⁸ Approximately 48% reported being manprofs and 52% reported being non-manprofs. The cross-tabulation chi-squared test results, given in Table C19, indicate that there was a significant association between gender and job type. More specifically, the pattern of adjusted residuals in Table C18 suggests that: (i) the percentage of males who were manprofs was significantly higher than the percentage of females who were manprofs (58.0% versus 40.9%) and (ii) the percentage of males who were non-manprofs was significantly lower than the percentage of females who were non-manprofs (42.0% versus 59.1%).

⁸ Job type is defined in Section 4.2.3.

Table C18. Gender by job type cross-tabulation

			Job Type		Total
			ManProf	Non-ManProf	
Gender	Male	Count	460	333	793
		% within Gender	58.0%	42.0%	100.0%
		% within Job Type	49.0%	32.5%	40.4%
		% of Total	23.4%	17.0%	40.4%
		Adjusted Residual	7.4	-7.4	
	Female	Count	479	691	1170
		% within Gender	40.9%	59.1%	100.0%
		% within Job Type	51.0%	67.5%	59.6%
		% of Total	24.4%	35.2%	59.6%
		Adjusted Residual	-7.4	7.4	
Total	Count		939	1024	1963
	% within Gender		47.8%	52.2%	100.0%
	% within Job Type		100.0%	100.0%	100.0%
	% of Total		47.8%	52.2%	100.0%

Table C19. Gender by job type cross-tabulation: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	55.18	1	.000
Continuity Correction	54.49	1	.000
N of Valid Cases	1963		

Given the finding of a significant association between gender and job type, it seems sensible to explore the cross-tabulation of care group and job type separately for the male and female samples. Along these lines, a care group by job type cross-tabulation for the male sample is given in Table C20. The cross-tabulation chi-squared test results, given in Table C21, indicate that there was no significant association between care group and job type for males.

Table C20. Care group by job type cross-tabulation: Males

			Job Type		Total
			ManProf	Non-ManProf	
Care Group	Child Care	Count	248	167	415
		% within Care Group	59.8%	40.2%	100.0%
		% within Job Type	53.9%	50.2%	52.3%
		% of Total	31.3%	21.1%	52.3%
	Elder Care	Count	34	21	55
		% within Care Group	61.8%	38.2%	100.0%
		% within Job Type	7.4%	6.3%	6.9%
		% of Total	4.3%	2.6%	6.9%
	Sandwich	Count	53	48	101
		% within Care Group	52.5%	47.5%	100.0%
		% within Job Type	11.5%	14.4%	12.7%
		% of Total	6.7%	6.1%	12.7%
	No-Care	Count	125	97	222
		% within Care Group	56.3%	43.7%	100.0%
		% within Job Type	27.2%	29.1%	28.0%
		% of Total	15.8%	12.2%	28.0%
Total		Count	460	333	793
		% within Care Group	58.0%	42.0%	100.0%
		% within Job Type	100.0%	100.0%	100.0%
		% of Total	58.0%	42.0%	100.0%

Table C21. Care group by job type cross-tabulation: Males: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	2.38	3	.497
N of Valid Cases	793		

A care group by job type cross-tabulation for the female sample is given in Table C22.

The cross-tabulation chi-squared test results, given in Table C23, indicate that there was no significant association between care group and job type for females.

Table C22. Care group by job type cross-tabulation: Females

			Job Type		Total
			ManProf	Non-ManProf	
Care Group Child Care	Count		240	389	629
	% within Care Group		38.2%	61.8%	100.0%
	% within Job Type		50.1%	56.3%	53.8%
	% of Total		20.5%	33.2%	53.8%
Elder Care	Count		43	63	106
	% within Care Group		40.6%	59.4%	100.0%
	% within Job Type		9.0%	9.1%	9.1%
	% of Total		3.7%	5.4%	9.1%
Sandwich	Count		62	74	136
	% within Care Group		45.6%	54.4%	100.0%
	% within Job Type		12.9%	10.7%	11.6%
	% of Total		5.3%	6.3%	11.6%
No-Care	Count		134	165	299
	% within Care Group		44.8%	55.2%	100.0%
	% within Job Type		28.0%	23.9%	25.6%
	% of Total		11.5%	14.1%	25.6%
Total	Count		479	691	1170
	% within Care Group		40.9%	59.1%	100.0%
	% within Job Type		100.0%	100.0%	100.0%
	% of Total		40.9%	59.1%	100.0%

Table C23. Care group by job type cross-tabulation: Females: Chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	5.10	3	.165
N of Valid Cases	1170		

In short, while the distribution of job type differed significantly across gender, it did not differ significantly across care group for either the male or the female samples.

2. SUMMARY

The overall socio-economic picture of the sample that emerges can be briefly summarized as follows:

- 1) Two-fifths of the sample was male and three-fifths was female. These gender proportions did not vary significantly across care group.
- 2) Almost three-quarters of the sample reported having child care and/or elder care responsibilities.
- 3) The average age of the sample was approximately 40 years. Males were typically three and a half years older than females. Age also differed significantly across care group. The average age of the elder care group and the sandwich group was significantly higher than that of the child care group and the no-care group.
- 4) 100% of the sample was living with a partner.
- 5) Approximately one-half of the sample reported having less than a college degree, one-fifth reported having just a college degree, and three-tenths reported having at least one university degree. Moreover, the distribution of educational attainment differed significantly across gender. While the percentage of males and females having less than a college degree was very similar, educational attainment for those having either just a college degree or at least one university degree was skewed significantly in favour of males. Specifically, the percentage of males having just a college degree was significantly lower than the percentage of females having just a college degree and the percentage of males having at

least one university degree was significantly higher than the percentage of females having at least one university degree.

- 6) The distribution of educational attainment did not differ significantly across care group for males, but did do so for females – due largely to the fact that females in the no-care group were significantly better educated than females in the three caregiving groups.
- 7) Approximately 4% of the sample reported a lower family income, 62% reported a middle family income, and 34% reported a higher family income. Moreover, the distribution of family income differed significantly across gender with a similar pattern to that noted above for education. While the percentage of males and females having a lower family income was very similar, family income for those having either a middle family income or a higher family income was skewed significantly in favour of males. Specifically, the percentage of males having a middle family income was significantly lower than the percentage of females having a middle family income and the percentage of males having a higher family income was significantly higher than the percentage of females having a higher family income.
- 8) The distribution of family income did not differ significantly across care group for either males or females.
- 9) The distribution of job type differed significantly across gender, but it did not differ significantly across care group for either the male or the female samples.

3. DISCUSSION

Interestingly, the socio-economic picture of the sample indicates that care group does not appear to be strongly associated with educational attainment, family income, or job type for either males or females. The one clear exception being that caregiving was associated with less education for women, which is consistent with the general trend in Canada that women with more education tend to delay having children and to be less likely to have children (Dupuis, 1998).

Strikingly, the fact that there was no association between care group and job type for men or for women implies that caregivers do not appear to be taking lower-ranked (and less responsible) positions at work to help them cope with their greater demands at home.

There do appear to be socio-economic differences across gender for the sample, but these seem to be more or less in line with socio-economic differences across gender for Canadians as a whole. For example, the fact that women in the sample were less likely than men to attain either the highest levels of educational attainment or the highest levels of family income and were also less likely than men to be manprofs is consistent with more general findings in the literature (Statistics Canada, 2000).

APPENDIX D

DESCRIPTIVE STATISTICS

This appendix presents basic descriptive statistics for the variables used in the empirical analysis by care group and gender.

Categorical variables were analyzed using cross-tabulations and continuous variables were analyzed using simple factorial ANOVA. The focus throughout was on highlighting salient features of the data that might help in the interpretation of the results in the empirical analysis. To this end, the emphasis was on the identification of statistically significant differences between cells. Moreover, given the relatively large sample sizes involved, it was decided to adopt the relatively conservative significance level of 0.01 or 1% throughout. In this connection, p-values are also provided for statistical tests. Thus, if the reader prefers to adopt a less conservative significance level, the necessary information is readily available. Finally, for ease of reference, scores on multi-item scales are referred to as “relatively low” if they fall below 2.5, “moderate” if they fall between 2.5 and 3.5, and “relatively high” if they exceed 3.5.

For convenience, the descriptive statistics are divided into three sections, namely, dependent variables (WIF and FIW), support variables (perceived work flexibility, good management practice, culture of hours, perceived supervisor support, and perceived control over caregiving services), and hours variables (hours of work, hours of

supplemental work at home, hours of caregiving, and hours of home chores). This division facilitates the analysis of the hours variables by job type as well as by care group and gender.

1. DEPENDENT VARIABLES

1.1 WIF RESULTS

A breakdown of WIF scores by care group and gender is given in Table D1. The average WIF score was 2.87 indicating that the typical sample member experienced a moderate level of WIF. Basic ANOVA statistics are given in Table D2. The care group x gender interaction effect and the gender main effect were not significant.¹ The care group main effect, however, was significant. These results indicate that, while there was no significant difference in average WIF across gender, there was a significant difference in average WIF across care group. More specifically, a post-hoc multiple comparisons analysis, given in Table D3, suggests that the average WIF experienced by the child care group (2.97) and the sandwich group (3.10) was significantly higher than the average WIF experienced by the elder care group (2.60) and the no-care group (2.64).²

¹ An insignificant interaction effect indicates that the effect of one variable does not depend upon the level of the other variable.

² Post-hoc multiple comparisons are reported in the case of significant main effects when the interaction effect is not significant. Significance levels for post-hoc multiple comparisons are Bonferroni-adjusted.

Table D1. WIF: Breakdown by care group and gender

Care Group	Gender	Mean	Std. Deviation	N
Child Care	Male	2.96	1.01	441
	Female	2.98	1.00	679
	Total	2.97	1.00	1120
Elder Care	Male	2.56	.99	60
	Female	2.62	1.05	111
	Total	2.60	1.03	171
Sandwich	Male	3.05	.84	110
	Female	3.13	.92	149
	Total	3.10	.89	259
No-Care	Male	2.73	.97	240
	Female	2.56	.97	329
	Total	2.64	.98	569
Total	Male	2.88	.98	851
	Female	2.86	1.01	1268
	Total	2.87	1.00	2119

Table D2. WIF: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	73.61	7	10.52	10.86	.000
Intercept	9740.40	1	9740.40	10060.05	.000
CARE GROUP	62.24	3	20.75	21.43	.000
GENDER	.00	1	.00	.00	.976
CARE GROUP × GENDER	4.56	3	1.52	1.57	.195
Error	2043.93	2111	.97		
Total	19533.01	2119			
Corrected Total	2117.54	2118			

R-Squared = .035 (Adjusted R-Squared = .032).

Table D3. WIF: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	.37*	.08	.000
	Sandwich	-.12	.07	.404
	No-Care	.34*	.05	.000
Elder Care	Child Care	-.37*	.08	.000
	Sandwich	-.50*	.10	.000
	No-Care	-.04	.09	1.000
Sandwich	Child Care	.12	.07	.404
	Elder Care	.50*	.10	.000
	No-Care	.46*	.07	.000
No-Care	Child Care	-.34*	.05	.000
	Elder Care	.04	.09	1.000
	Sandwich	-.46*	.07	.000

* The mean difference is significant at the .01 level (Bonferroni-adjusted).

1.2 FIW RESULTS

A breakdown of FIW scores by care group and gender is given in Table D4. The average FIW score was 2.19 indicating that the typical sample member experienced a relatively low level of FIW. Basic ANOVA statistics are given in Table D5. The care group x gender interaction effect and the gender main effect were not significant. The care group main effect, however, was significant. These results indicate that, while there was no significant difference in average FIW across gender, there was a significant difference in average FIW across care group. More specifically, a post-hoc multiple comparisons analysis, given in Table D6, suggests that the average FIW experienced by the child care group (2.38) and the sandwich group (2.43) was significantly higher than the average FIW experienced by the elder care group (1.97) and the no-care group (1.78).

Table D4. FIW: Breakdown by care group and gender

Care Group	Gender	Mean	Std. Deviation	N
Child Care	Male	2.30	.83	441
	Female	2.43	.88	679
	Total	2.38	.86	1120
Elder Care	Male	1.93	.78	60
	Female	1.98	.79	111
	Total	1.97	.79	171
Sandwich	Male	2.43	.70	110
	Female	2.44	.80	149
	Total	2.43	.76	259
No-Care	Male	1.82	.81	240
	Female	1.74	.78	329
	Total	1.78	.79	569
Total	Male	2.16	.84	851
	Female	2.21	.89	1268
	Total	2.19	.87	2119

Table D5. FIW: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	166.95	7	23.85	34.95	.000
Intercept	5564.80	1	5564.80	8155.48	.000
CARE GROUP	148.95	3	49.65	72.77	.000
GENDER	.20	1	.20	.29	.589
CARE GROUP × GENDER	3.89	3	1.30	1.90	.128
Error	1440.42	2111	.68		
Total	11773.47	2119			
Corrected Total	1607.37	2118			

R-Squared = .104 (Adjusted R-Squared = .101)

Table D6. FIW: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	.41*	.07	.000
	Sandwich	-.06	.06	1.000
	No-Care	.60*	.04	.000
Elder Care	Child Care	-.41*	.07	.000
	Sandwich	-.47*	.08	.000
	No-Care	.19	.07	.048
Sandwich	Child Care	.06	.06	1.000
	Elder Care	.47*	.08	.000
	No-Care	.66*	.06	.000
No-Care	Child Care	-.60*	.04	.000
	Elder Care	-.19	.07	.048
	Sandwich	-.66*	.06	.000

* The mean difference is significant at the .01 level (Bonferroni-adjusted).

1.3 SUMMARY

- 1) The average WIF score was 2.87 indicating that the typical sample member experienced a moderate level of WIF. There was no significant difference in average WIF across gender, but there was a significant difference in average WIF across care group. More specifically, the average WIF experienced by the child care group and the sandwich group was significantly higher than the average WIF experienced by the elder care group and the no-care group.
- 2) The average FIW score was 2.19 indicating that the typical sample member experienced a relatively low level of FIW. There was no significant difference in average FIW across gender, but there was a significant difference in average FIW across care group. More specifically, the average FIW experienced by the child

care group and the sandwich group was significantly higher than the average FIW experienced by the elder care group and the no-care group.

1.4 DISCUSSION

The breakdown of WIF and FIW by care group and gender produced some interesting results.

Firstly, the fact that the average WIF and FIW experienced by the child care group was significantly higher than that experienced by the elder care group is inconsistent with the gerontological literature which suggests that elder care is at least as difficult to combine with employment as is child care (Brody, 1990; Horowitz, 1985a; Neysmith, 1998; Scharlach & Boyd, 1989).

Secondly, no gender difference was observed with respect to either WIF or FIW whereas some previous studies have found that women tend to experience higher levels of WIF and FIW than men (Duxbury & Higgins, 1994; Duxbury et al., 1994; Gottlieb et al., 1994; Gutek et al., 1991).

It should be stressed, however, that drawing firm conclusions on these points at this stage would be inappropriate because the analyses reported here do not control for a range of extraneous factors such as the work variables and the family variables that

might reasonably be expected to affect how care group and gender relate to WIF and FIW.

2. SUPPORT VARIABLES

2.1 WORK VARIABLES RESULTS

Perceived Work Flexibility

A breakdown of perceived work flexibility scores by care group and gender is given in Table D7. The average perceived work flexibility score was 3.17 indicating that the typical sample member perceived there to be a moderate level of work flexibility. Basic ANOVA statistics are given in Table D8. The care group x gender interaction effect and the gender main effect were not significant. The care group main effect, however, was significant. These results indicate that, while there was no significant difference in average perceived work flexibility across gender, there was a significant difference in average perceived work flexibility across care group. More specifically, a post-hoc multiple comparisons analysis, given in Table D9, suggests that the average perceived work flexibility experienced by the no-care group (3.25) was significantly higher than the average perceived work flexibility experienced by the sandwich group (3.04).

Table D7. Perceived work flexibility: Breakdown by care group and gender

Care Group	Gender	Mean	Std. Deviation	N
Child Care	Male	3.21	.80	441
	Female	3.13	.85	677
	Total	3.16	.83	1118
Elder Care	Male	3.33	.93	60
	Female	3.12	.82	111
	Total	3.20	.86	171
Sandwich	Male	3.08	.84	110
	Female	3.01	.84	150
	Total	3.04	.84	260
No-Care	Male	3.25	.85	240
	Female	3.25	.81	329
	Total	3.25	.83	569
Total	Male	3.21	.83	851
	Female	3.15	.84	1267
	Total	3.17	.83	2118

Table D8. Perceived work flexibility: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	12.42	7	1.77	2.56	.013
Intercept	12292.64	1	12292.64	17722.56	.000
CARE GROUP	8.32	3	2.78	4.00	.007
GENDER	2.36	1	2.36	3.40	.065
CARE GROUP × GENDER	1.40	3	.47	.67	.568
Error	1463.53	2110	.69		
Total	22787.77	2118			
Corrected Total	1475.95	2117			

R-Squared = .008 (Adjusted R-Squared = .005)

Table D9. Perceived work flexibility: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	-.04	.07	1.000
	Sandwich	.12	.06	.202
	No-Care	-.09	.04	.165
Elder Care	Child Care	.04	.07	1.000
	Sandwich	.16	.08	.324
	No-Care	-.06	.07	1.000
Sandwich	Child Care	-.12	.06	.202
	Elder Care	-.16	.08	.324
	No-Care	-.22*	.06	.003
No-Care	Child Care	.09	.04	.165
	Elder Care	.06	.07	1.000
	Sandwich	.22*	.06	.003

* The mean difference is significant at the .01 level (Bonferroni-adjusted).

Good Management Practice

A breakdown of good management practice scores by care group and gender is given in Table D10. The average good management practice score was 3.20 indicating that the typical sample member experienced a moderate level of good management practice. Basic ANOVA statistics are given in Table D11. The care group x gender interaction effect and the gender main effect were not significant. The care group main effect, however, was marginally significant. These results indicate that, while there was no significant difference in average good management practice across gender, there was a marginally significant difference in average good management practice across care group. This difference in average good management practice across care group was so

marginal, however, that none of the pairwise care group differences, given in Table D12, were individually significant.

Table D10. Good management practice: Breakdown by care group and gender

Care Group	Gender	Mean	Std. Deviation	N
Child Care	Male	3.15	.84	440
	Female	3.22	.80	679
	Total	3.19	.81	1119
Elder Care	Male	3.10	.80	60
	Female	3.14	.94	111
	Total	3.13	.90	171
Sandwich	Male	3.04	.81	110
	Female	3.14	.86	149
	Total	3.10	.84	259
No-Care	Male	3.32	.86	240
	Female	3.25	.81	329
	Total	3.28	.83	569
Total	Male	3.18	.84	850
	Female	3.21	.82	1268
	Total	3.20	.83	2118

Table D11. Good management practice: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.37	7	1.34	1.95	.058
Intercept	12266.27	1	12266.27	17880.99	.000
CARE GROUP	7.99	3	2.66	3.88	.009
GENDER	.31	1	.31	.45	.502
CARE GROUP × GENDER	1.83	3	.61	.89	.447
Error	1447.45	2110	.69		
Total	23120.77	2118			
Corrected Total	1456.82	2117			

R-Squared = .006 (Adjusted R-Squared = .003)

Table D12. Good management practice: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	.07	.07	1.000
	Sandwich	.09	.06	.628
	No-Care	-.09	.04	.262
Elder Care	Child Care	-.07	.07	1.000
	Sandwich	.03	.08	1.000
	No-Care	-.15	.07	.206
Sandwich	Child Care	-.09	.06	.628
	Elder Care	-.03	.08	1.000
	No-Care	-.18	.06	.024
No-Care	Child Care	.09	.04	.262
	Elder Care	.15	.07	.206
	Sandwich	.18	.06	.024

Culture of Hours

A breakdown of culture of hours scores by care group and gender is given in Table D13. The average culture of hours score was 2.93 indicating that the typical sample member experienced a moderate level of culture of hours. Basic ANOVA statistics are given in Table D14. The care group x gender interaction effect and the gender main effect were not significant. The care group main effect, however, was significant. These results indicate that, while there was no significant difference in average culture of hours across gender, there was a significant difference in average culture of hours across care group. More specifically, a post-hoc multiple comparisons analysis, given in Table D15, suggests that the average culture of hours experienced by the child care group (2.97) and the sandwich group (3.06) was significantly higher than the average culture of hours experienced by the no-care group (2.81).

Table D13. Culture of hours: Breakdown by care group and gender

Care Group	Gender	Mean	Std. Deviation	N
Child Care	Male	2.98	.83	440
	Female	2.96	.84	679
	Total	2.97	.84	1119
Elder Care	Male	2.77	.81	60
	Female	2.96	.78	111
	Total	2.89	.79	171
Sandwich	Male	3.03	.71	110
	Female	3.08	.84	149
	Total	3.06	.79	259
No-Care	Male	2.81	.78	240
	Female	2.80	.77	328
	Total	2.81	.77	568
Total	Male	2.92	.80	850
	Female	2.93	.82	1267
	Total	2.93	.82	2117

Table D14. Culture of hours: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	16.23	7	2.32	3.52	.001
Intercept	10427.63	1	10427.63	15815.43	.000
CARE GROUP	14.45	3	4.82	7.30	.000
GENDER	.84	1	.84	1.28	.258
CARE GROUP × GENDER	1.56	3	.52	.79	.499
Error	1390.53	2109	.66		
Total	19555.75	2117			
Corrected Total	1406.77	2116			

R-Squared = .012 (Adjusted R-Squared = .008)

Table D15. Culture of hours: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	.07	.07	1.000
	Sandwich	-.09	.06	.617
	No-Care	.16*	.04	.001
Elder Care	Child Care	-.07	.07	1.000
	Sandwich	-.16	.08	.245
	No-Care	.09	.07	1.000
Sandwich	Child Care	.09	.06	.617
	Elder Care	.16	.08	.245
	No-Care	.25*	.06	.000
No-Care	Child Care	-.16*	.04	.001
	Elder Care	-.09	.07	1.000
	Sandwich	-.25*	.06	.000

Perceived Supervisor Support

A breakdown of perceived supervisor support scores by care group and gender is given in Table D16. The average perceived supervisor support score was 3.64 indicating that the typical sample member perceived there to be a relatively high level of supervisor support. Basic ANOVA statistics are given in Table D17. The care group x gender interaction effect and the gender main effect were not significant. The care group main effect, however, was significant. These results indicate that, while there was no significant difference in average perceived supervisor support across gender, there was a significant difference in average perceived supervisor support across care group. More specifically, a post-hoc multiple comparisons analysis, given in Table D18, suggests that the average perceived supervisor support experienced by the no-care group (3.73) was

significantly higher than the average perceived supervisor support experienced by the elder care group (3.45).

Table D16. Perceived supervisor support: Breakdown by care group and gender

Care Group	Gender	Mean	Std. Deviation	N
Child Care	Male	3.62	.76	440
	Female	3.62	.79	677
	Total	3.62	.78	1117
Elder Care	Male	3.40	.77	60
	Female	3.47	.84	111
	Total	3.45	.81	171
Sandwich	Male	3.53	.77	110
	Female	3.69	.79	149
	Total	3.62	.78	259
No-Care	Male	3.68	.79	240
	Female	3.77	.81	329
	Total	3.73	.81	569
Total	Male	3.61	.77	850
	Female	3.66	.80	1266
	Total	3.64	.79	2116

Table D17. Perceived supervisor support: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	14.84	7	2.12	3.42	.001
Intercept	15812.31	1	15812.31	25515.44	.000
CARE GROUP	11.20	3	3.73	6.03	.000
GENDER	1.97	1	1.97	3.18	.075
CARE GROUP × GENDER	1.74	3	.58	.93	.424
Error	1306.36	2108	.62		
Total	29321.52	2116			
Corrected Total	1321.20	2115			

R-Squared = .011 (Adjusted R-Squared = .008)

Table D18. Perceived supervisor support: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	.17	.06	.046
	Sandwich	-.00	.05	1.000
	No-Care	-.11	.04	.030
Elder Care	Child Care	-.17	.06	.046
	Sandwich	-.18	.08	.142
	No-Care	-.29*	.07	.000
Sandwich	Child Care	.00	.05	1.000
	Elder Care	.18	.08	.142
	No-Care	-.11	.06	.362
No-Care	Child Care	.11	.04	.030
	Elder Care	.29*	.07	.000
	Sandwich	.11	.06	.362

* The mean difference is significant at the .01 level (Bonferroni-adjusted).

2.2 FAMILY VARIABLES RESULTS

Perceived Control Over Caregiving Services

A breakdown of perceived control over caregiving services scores by care group and gender is given in Table D19.³ The average perceived control over caregiving services score was 2.69 indicating that the typical sample member perceived a moderate degree of control over caregiving services. Basic ANOVA statistics are given in Table D20. Neither the care group x gender interaction effect nor the two main effects were

³ It should be noted that this measure is not really valid for the no-care group. Moreover, the number of observations available for the elder care group was very limited. Consequently, the no-care group and the elder care group are excluded from this table.

significant. These results indicate that there was no significant difference in average perceived control over caregiving services across either care group or gender.

Table D19. Perceived control over caregiving services: Breakdown by care group and gender

Care Group	Gender	Mean	Std. Deviation	N
Child Care	Male	2.86	1.06	259
	Female	2.61	1.07	404
	Total	2.71	1.07	663
Sandwich	Male	2.63	1.02	60
	Female	2.54	1.08	81
	Total	2.58	1.05	141
Total	Male	2.82	1.06	319
	Female	2.60	1.07	485
	Total	2.69	1.07	804

Table D20. Perceived control over caregiving services: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.90	3	3.97	3.49	.015
Intercept	3206.19	1	3206.19	2817.96	.000
CARE GROUP	2.64	1	2.64	2.32	.128
GENDER	3.12	1	3.12	2.74	.098
CARE GROUP × GENDER	.74	1	.74	.65	.421
Error	910.22	800	1.14		
Total	6729.94	804			
Corrected Total	922.11	803			

R-Squared = .013 (Adjusted R-Squared = .009)

2.3 SUMMARY

- 1) The average perceived work flexibility score was 3.17 indicating that the typical sample member perceived there to be a moderate level of work flexibility. There was no significant difference in average perceived work flexibility across gender, but there was a significant difference in average perceived work flexibility across care group. More specifically, the average perceived work flexibility experienced by the no-care group was significantly higher than the average perceived work flexibility experienced by the sandwich group.
- 2) The average good management practice score was 3.20 indicating that the typical sample member experienced a moderate level of good management practice. There was no significant difference in average good management practice across gender, but there was a marginally significant difference in average good management practice across care group. This difference in average good management practice across care group was so marginal, however, that none of the pairwise care group differences were individually significant.
- 3) The average culture of hours score was 2.93 indicating that the typical sample member experienced a moderate level of culture of hours. There was no significant difference in average culture of hours across gender, but there was a significant difference in average culture of hours across care group. More specifically, the average culture of hours experienced by the child care group and the sandwich group was significantly higher than the average culture of hours experienced by the no-care group.

- 4) The average perceived supervisor support score was 3.64 indicating that the typical sample member perceived there to be a relatively high level of supervisor support. There was no significant difference in average perceived supervisor support across gender, but there was a significant difference in average perceived supervisor support across care group. More specifically, the average perceived supervisor support experienced by the no-care group was significantly higher than the average perceived supervisor support experienced by the elder care group.
- 5) The average perceived control over caregiving services score was 2.69 indicating that the typical sample member perceived a moderate degree of control over caregiving services. These results indicate that there was no significant difference in average perceived control over caregiving services across either the two child caregiving groups (child care and sandwich) or gender.

2.4 DISCUSSION

On the whole, the respondents appeared to be reasonably content with their level of support. More specifically, they reported moderate levels of perceived work flexibility, good management practice, and perceived control over caregiving services, together with

a relatively high level of perceived supervisor support.⁴ In addition, they only reported there being a moderate culture of hours.

Somewhat counter-intuitively, the no-care group, which would normally be expected to need less support, tended to perceive the environment as being more supportive, while the three caregiving groups, which would normally be expected to need more support, tended to perceive the environment as being less supportive. Of course, it may simply be the case that the relatively high level of support reported by the no-care group reflects the fact that the no-care group has not actually needed to look for support and therefore has not had its possibly over-optimistic expectations of the availability of support put to the test.

Interestingly, the elder care group reported the lowest levels of perceived supervisor support. This may reflect the fact that elder caregivers often need to respond to sudden health emergencies which can lead to frequent interruptions during work (Hepburn & Barling, 1996; Neysmith, 1998). Managers may be relatively unaccustomed to providing support to employees with this type of caregiving responsibility and so may be less supportive to elder caregivers than to employees with child care responsibilities.

⁴ As noted above, results involving the variable perceived control over caregiving services should be interpreted with caution.

3. HOURS VARIABLES

A key constraint on the ability of workers to juggle work and family responsibilities effectively is time. After all, there are only so many hours in the day. For this reason, it seems useful to highlight some of the salient features in the sample data as they relate to the four time demands of work, supplemental work at home, caregiving, and home chores. To this end, this section presents a breakdown of the four “hours variables” (hours of work, hours of supplemental work at home, hours of caregiving, and hours of home chores) not only by care group and gender, as above, but also by job type, because, as noted in the literature review above, job type, and, in particular, the division between manprofs and non-manprofs, appears to be a significant determinant of time-allocation.

First, however, to give a quick overview of the four hours variables, overall frequency distributions are given in Tables D21 through D24, which appear immediately below.

Table D21. Hours of work

Hours	Frequency	Percent	Cumulative Percent
35	108	5.1	5.1
36-40	1571	74.1	79.2
41-45	182	8.6	87.8
46-50	152	7.2	95.0
51-55	27	1.2	96.2
56-60	35	1.7	97.9
61-70	12	0.5	98.4
71-80	33	1.6	100.0
Total	2120	100.0	

Table D22. Hours of supplemental work at home

Hours	Frequency	Percent	Cumulative Percent
0	1097	52.4	52.4
1-5	611	29.1	81.5
6-10	215	10.3	91.8
11-15	56	2.7	94.5
16-20	58	2.7	97.2
21-25	29	1.4	98.6
26-30	22	1.1	99.7
31-40	7	0.3	100.0
Total	2095	100.0	

Table D23. Hours of caregiving

Hours	Frequency	Percent	Cumulative Percent
0	569	26.8	26.8
1-5	419	19.8	46.6
6-10	382	18.0	64.6
11-15	206	9.7	74.3
16-20	203	9.6	83.9
21-25	84	4.0	87.9
26-30	84	3.9	91.8
31-40	104	4.9	96.7
41-50	54	2.6	99.3
51-60	14	0.7	100.0
61-70	1	0.0	100.0
Total	2120	100.0	

Table D24. Hours of home chores

Hours	Frequency	Percent	Cumulative Percent
0	58	2.8	2.8
1-5	307	15.0	17.8
6-10	644	31.5	49.3
11-15	358	17.4	66.7
16-20	376	18.4	85.1
21-25	140	6.8	91.9
26-30	114	5.6	97.5
31-40	51	2.5	100.0
Total	2048	100.0	

Beginning with hours of work (per week) in Table D21, it can be seen that a very substantial majority of the sample (95%) performed more than the nominal 35 hours of full-time work, with approximately one-fifth (20.8%) performing more than 5 hours of over-time, and fully 1 in 20 (5.0%) performing more than 15 hours of over-time. In addition, turning to hours of supplemental work at home (per week) reported in Table D22, almost one-half of the sample (47.6%) performed some hours of supplemental work at home, with almost one-fifth (18.5%) performing more than 5 hours of supplemental work at home, and slightly over 1 in 20 (5.5%) performing more than 15 hours of supplemental work at home.

Moving on to hours of caregiving (per week), it can be seen from Table D23 that slightly over one-quarter of the sample (26.8%) did not provide care, while slightly over one-third (35.4%) provided more than ten hours of care and almost one-eighth (12.1%) provided more than twenty-five hours of care. Finally, with respect to hours of home

chores, reported in Table D24, almost all members of the sample engaged in home chores (97.2%), with slightly over four-fifths (82.2%) performing more than 5 hours, slightly over one-half (50.7%) performing more than 10 hours, and one-third (33.3%) performing more than 15 hours.

3.1 WORK VARIABLES RESULTS

Hours of Work

A breakdown of hours of work (per week) by care group, gender, and job type is given in Table D25. The average hours of work was 41.24 hours. Basic ANOVA statistics are given in Table D26. The interaction effects were all insignificant as was the care group main effect. The gender and job type main effects were, however, both significant. These results indicate that average hours of work for males was significantly higher than for females (42.88 hours versus 40.12 hours). They also indicate that average hours of work for manprofs was significantly higher than for non-manprofs (42.13 hours versus 40.41 hours).

Table D25. Hours of work: Breakdown by care group, gender, and job type

Care Group	Gender	Job Type	Mean	Std. Deviation	N
Child Care	Male	ManProf	42.61	6.04	248
		Non-ManProf	41.87	8.35	167
		Total	42.31	7.06	415
	Female	ManProf	40.65	5.34	240
		Non-ManProf	39.29	4.84	389
		Total	39.81	5.08	629
	Total	ManProf	41.65	5.78	488
		Non-ManProf	40.06	6.21	556
		Total	40.81	6.07	1044
Elder Care	Male	ManProf	44.26	7.61	34
		Non-ManProf	42.29	8.83	21
		Total	43.51	8.08	55
	Female	ManProf	40.14	3.56	43
		Non-ManProf	39.97	7.64	63
		Total	40.04	6.29	106
	Total	ManProf	41.96	6.03	77
		Non-ManProf	40.55	7.96	84
		Total	41.22	7.12	161
Sandwich	Male	ManProf	43.19	8.18	53
		Non-ManProf	42.92	10.43	48
		Total	43.06	9.27	101
	Female	ManProf	41.84	6.41	62
		Non-ManProf	38.70	2.44	74
		Total	40.13	4.92	136
	Total	ManProf	42.46	7.27	115
		Non-ManProf	40.36	7.08	122
		Total	41.38	7.24	237
No-Care	Male	ManProf	44.33	8.88	125
		Non-ManProf	42.87	10.23	97
		Total	43.69	9.50	222
	Female	ManProf	41.67	5.90	134
		Non-ManProf	40.10	5.89	165
		Total	40.81	5.94	299
	Total	ManProf	42.95	7.59	259
		Non-ManProf	41.13	7.88	262
		Total	42.03	7.78	521
Total	Male	ManProf	43.27	7.30	460
		Non-ManProf	42.34	9.24	333
		Total	42.88	8.18	793
	Female	ManProf	41.05	5.54	479
		Non-ManProf	39.48	5.24	691
		Total	40.12	5.42	1170
	Total	ManProf	42.13	6.55	939
		Non-ManProf	40.41	6.93	1024
		Total	41.24	6.81	1963

Table D26. Hours of work: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5103.62	15	340.24	7.72	.000
Intercept	1898762.00	1	1898762.00	43101.53	.000
CARE GROUP	432.69	3	144.23	3.27	.020
GENDER	2060.48	1	2060.48	46.77	.000
JOBTYPER	488.83	1	488.83	11.10	.001
CARE GROUP × GENDER	40.52	3	13.51	.31	.821
CARE GROUP × JOBTYPER	30.84	3	10.28	.23	.873
GENDER × JOBTYPER	13.56	1	13.56	.31	.579
CARE GROUP × GENDER × JOBTYPER	131.44	3	43.81	1.00	.394
Error	85771.65	1947	44.05		
Total	3428671.00	1963			
Corrected Total	90875.27	1962			

R-Squared = .056 (Adjusted R-Squared = .049)

Hours of Supplemental Work at Home

A breakdown of hours of supplemental work at home (per week) by care group, gender, and job type is given in Table D27. The average hours of supplemental work at home was 3.37 hours. Basic ANOVA statistics are given in Table D28. The interaction effects were all insignificant except for that between gender and job type. This suggests that the interpretation of differences in average hours of supplemental work at home should focus on combinations of gender and job type. In other words, the difference in average hours of supplemental work at home across gender was not constant across job type and the difference in average hours of supplemental work at home across job type was not

constant across gender. More specifically, average hours of supplemental work at home was substantially higher for male manprofs (4.48 hours) than for female non-manprofs (2.13 hours), while the difference in average hours of supplemental work at home between male non-manprofs (3.94 hours) and female manprofs (3.69 hours) was far less marked.⁵

⁵ Following Fox (1997), the main effects of variables that interact are not interpreted.

Table D27. Hours of supplemental work at home: Breakdown by care group, gender, and job type

Care Group	Gender	Job Type	Mean	Std. Deviation	N
Child Care	Male	ManProf	4.55	6.15	246
		Non-ManProf	3.65	6.72	166
		Total	4.19	6.39	412
	Female	ManProf	3.21	5.28	239
		Non-ManProf	2.33	5.62	383
		Total	2.67	5.51	622
	Total	ManProf	3.89	5.77	485
		Non-ManProf	2.73	6.00	549
		Total	3.27	5.92	1034
Elder Care	Male	ManProf	2.41	3.23	34
		Non-ManProf	4.95	6.59	21
		Total	3.38	4.90	55
	Female	ManProf	3.81	6.66	42
		Non-ManProf	2.21	5.59	63
		Total	2.85	6.06	105
	Total	ManProf	3.18	5.42	76
		Non-ManProf	2.89	5.93	84
		Total	3.03	5.68	160
Sandwich	Male	ManProf	4.87	6.85	52
		Non-ManProf	4.64	6.20	45
		Total	4.76	6.53	97
	Female	ManProf	5.35	7.37	62
		Non-ManProf	2.14	4.69	74
		Total	3.60	6.25	136
	Total	ManProf	5.13	7.11	114
		Non-ManProf	3.08	5.43	119
		Total	4.09	6.38	233
No-Care	Male	ManProf	4.73	6.51	124
		Non-ManProf	3.87	7.57	95
		Total	4.36	6.98	219
	Female	ManProf	3.76	5.93	132
		Non-ManProf	1.64	4.93	162
		Total	2.59	5.50	294
	Total	ManProf	4.23	6.23	256
		Non-ManProf	2.47	6.12	257
		Total	3.35	6.23	513
Total	Male	ManProf	4.48	6.18	456
		Non-ManProf	3.94	6.88	327
		Total	4.25	6.49	783
	Female	ManProf	3.69	5.92	475
		Non-ManProf	2.13	5.36	682
		Total	2.77	5.65	1157
	Total	ManProf	4.08	6.06	931
		Non-ManProf	2.72	5.96	1009
		Total	3.37	6.04	1940

Table D28. Hours of supplemental work at home: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2260.52	15	150.70	4.23	.000
Intercept	14255.13	1	14255.13	400.36	.000
CARE GROUP	129.61	3	43.20	1.21	.303
GENDER	360.30	1	360.30	10.12	.001
JOBTYPE	222.45	1	222.45	6.25	.013
CARE GROUP × GENDER	29.72	3	9.91	.28	.841
CARE GROUP × JOBTYPE	134.01	3	44.67	1.26	.288
GENDER × JOBTYPE	295.98	1	295.98	8.31	.004
CARE GROUP × GENDER × JOBTYPE	204.70	3	68.23	1.92	.125
Error	68506.01	1924	35.61		
Total	92807.00	1940			
Corrected Total	70766.53	1939			

R-Squared = .032 (Adjusted R-Squared = .024)

3.2 FAMILY VARIABLES RESULTS

Hours of Caregiving

A breakdown of hours of caregiving (per week) across the three caregiving care groups (child care, elder care, and sandwich) by care group, gender, and job type is given in Table D29.⁶ The average hours of caregiving across the three caregiving groups was 14.54 hours. Basic ANOVA statistics are given in Table D30. The interaction effects

⁶ The no-care group, by definition, is not providing caregiving services to either children or elders. Consequently, it is excluded from this part of the analysis.

were all insignificant as were the main effects for gender and job type. The main effect for care group was, however, significant. These results indicate that there was a significant difference in average hours of caregiving across the three caregiving care groups. More specifically, a post-hoc multiple comparisons analysis, given in Table D31, suggests that both the average hours of caregiving for the child care group (15.72 hours) and for the sandwich group (16.41 hours) were significantly higher than the average hours of caregiving for the elder care group (4.17 hours).

Table D29. Hours of caregiving: Breakdown by care group, gender, and job type

Care Group	Gender	Job Type	Mean	Std. Deviation	N
Child Care	Male	ManProf	12.51	10.03	248
		Non-ManProf	14.47	10.73	167
		Total	13.30	10.35	415
	Female	ManProf	18.52	14.18	240
		Non-ManProf	16.57	12.79	389
		Total	17.31	13.36	629
	Total	ManProf	15.47	12.60	488
		Non-ManProf	15.94	12.24	556
		Total	15.72	12.41	1044
Elder Care	Male	ManProf	3.44	3.18	34
		Non-ManProf	3.81	2.62	21
		Total	3.58	2.96	55
	Female	ManProf	3.28	2.20	43
		Non-ManProf	5.29	4.95	63
		Total	4.47	4.17	106
	Total	ManProf	3.35	2.66	77
		Non-ManProf	4.92	4.51	84
		Total	4.17	3.81	161
Sandwich	Male	ManProf	14.58	10.33	53
		Non-ManProf	17.23	13.60	48
		Total	15.84	12.01	101
	Female	ManProf	15.68	9.85	62
		Non-ManProf	17.77	10.28	74
		Total	16.82	10.10	136
	Total	ManProf	15.17	10.04	115
		Non-ManProf	17.56	11.65	122
		Total	16.40	10.94	237
Total	Male	ManProf	11.92	10.03	335
		Non-ManProf	14.08	11.42	236
		Total	12.81	10.67	571
	Female	ManProf	16.11	13.50	345
		Non-ManProf	15.39	12.35	526
		Total	15.67	12.82	871
	Total	ManProf	14.05	12.09	680
		Non-ManProf	14.98	12.08	762
		Total	14.54	12.09	1442

Table D30. Hours of caregiving: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	25078.03	11	2279.82	17.57	.000
Intercept	101316.13	1	101316.13	780.60	.000
CARE GROUP	17067.84	2	8533.92	65.75	.000
GENDER	603.85	1	603.85	4.65	.031
JOBTYPER	250.66	1	250.66	1.93	.165
CARE GROUP × GENDER	722.11	2	361.06	2.78	.062
CARE GROUP × JOBTYPER	275.85	2	137.93	1.06	.346
GENDER × JOBTYPER	39.51	1	39.51	.30	.581
CARE GROUP × GENDER × JOBTYPER	316.30	2	158.15	1.22	.296
Error	185604.05	1430	129.79		
Total	515576.00	1442			
Corrected Total	210682.09	1441			

R-Squared = .119 (Adjusted R-Squared = .112)

Table D31. Hours of caregiving: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	11.55*	.96	.000
	Sandwich	-.68	.82	1.000
Elder Care	Child Care	-11.55*	.96	.000
	Sandwich	-12.23*	1.16	.000
Sandwich	Child Care	.68	.82	1.000
	Elder Care	12.23*	1.16	.000

* The mean difference is significant at the .01 level (Bonferroni-adjusted).

Hours of Home Chores

A breakdown of hours of home chores (per week) by care group, gender, and job type is given in Table D32. The average hours of home chores was 13.39 hours. Basic ANOVA

statistics are given in Table D33. The interaction effects were all insignificant. The three main effects, however, were all significant. These results indicate that average hours of home chores for females was significantly higher than for males (15.30 hours versus 10.66 hours). They also indicate that average hours of home chores for manprofs was significantly lower than for non-manprofs (12.53 hours versus 14.19 hours). Moreover, they indicate that there was a significant difference in average hours of home chores across care group. More specifically, a post-hoc multiple comparisons analysis, given in Table D34, suggests that both the average hours of home chores for the child care group (14.12 hours) and for the sandwich group (14.80 hours) were significantly higher than the average hours of home chores for the no-care group (11.50 hours).

Table D32. Hours of home chores: Breakdown by care group, gender, and job type

Care Group	Gender	Job Type	Mean	Std. Deviation	N
Child Care	Male	ManProf	10.28	6.28	247
		Non-ManProf	11.87	7.75	164
		Total	10.91	6.94	411
	Female	ManProf	16.36	8.34	227
		Non-ManProf	16.31	8.00	368
		Total	16.33	8.12	595
	Total	ManProf	13.19	7.94	474
		Non-ManProf	14.94	8.18	532
		Total	14.12	8.11	1006
Elder Care	Male	ManProf	8.84	5.32	32
		Non-ManProf	13.33	8.28	21
		Total	10.62	6.94	53
	Female	ManProf	12.30	8.95	40
		Non-ManProf	15.21	9.08	61
		Total	14.06	9.09	101
	Total	ManProf	10.76	7.70	72
		Non-ManProf	14.73	8.87	82
		Total	12.88	8.55	154
Sandwich	Male	ManProf	12.31	7.63	52
		Non-ManProf	11.04	7.78	46
		Total	11.71	7.69	98
	Female	ManProf	16.95	8.26	60
		Non-ManProf	17.22	7.05	72
		Total	17.10	7.60	132
	Total	ManProf	14.79	8.27	112
		Non-ManProf	14.81	7.91	118
		Total	14.80	8.07	230
No-Care	Male	ManProf	9.48	6.39	122
		Non-ManProf	10.02	6.97	96
		Total	9.72	6.64	218
	Female	ManProf	11.98	7.34	130
		Non-ManProf	13.48	8.46	163
		Total	12.82	8.00	293
	Total	ManProf	10.77	7.00	252
		Non-ManProf	12.20	8.10	259
		Total	11.50	7.60	511
Total	Male	ManProf	10.19	6.46	453
		Non-ManProf	11.31	7.59	327
		Total	10.66	6.97	780
	Female	ManProf	14.84	8.37	457
		Non-ManProf	15.61	8.21	664
		Total	15.30	8.28	1121
	Total	ManProf	12.53	7.83	910
		Non-ManProf	14.19	8.26	991
		Total	13.39	8.10	1901

Table D33. Hours of home chores: ANOVA statistics

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	14162.75	15	944.18	16.13	.000
Intercept	177424.85	1	177424.85	3030.91	.000
CARE GROUP	2454.26	3	818.09	13.98	.000
GENDER	4410.66	1	4410.66	75.35	.000
JOBTYPE	412.79	1	412.79	7.05	.008
CARE GROUP × GENDER	576.06	3	192.02	3.28	.020
CARE GROUP × JOBTYPE	375.49	3	125.16	2.14	.093
GENDER × JOBTYPE	2.23	1	2.23	.04	.845
CARE GROUP × GENDER × JOBTYPE	209.67	3	69.89	1.19	.311
Error	110345.14	1885	58.54		
Total	465546.00	1901			
Corrected Total	124507.89	1900			

R-Squared = .114 (Adjusted R-Squared = .107)

Table D34. Hours of home chores: Post-hoc multiple comparisons

(I) Care Group	(J) Care Group	Mean Difference (I-J)	Std. Error	Sig.
Child Care	Elder Care	1.24	.66	.369
	Sandwich	-.69	.56	1.000
	No-Care	2.62*	.42	.000
Elder Care	Child Care	-1.24	.66	.369
	Sandwich	-1.93	.80	.094
	No-Care	1.38	.70	.298
Sandwich	Child Care	.69	.56	1.000
	Elder Care	1.93	.80	.094
	No-Care	3.31*	.61	.000
No-Care	Child Care	-2.62*	.42	.000
	Elder Care	-1.38	.70	.298
	Sandwich	-3.31*	.61	.000

* The mean difference is significant at the .01 level (Bonferroni-adjusted).

3.3 SUMMARY

The overall time demands picture of the sample that emerges can be briefly summarized as follows:

- 1) The average hours of work of the sample was 41.24 hours. Controlling for care group and job type, males typically worked significantly longer hours than females. In addition, controlling for care group and gender, manprofs typically worked significantly longer hours than non-manprofs.
- 2) The average hours of supplemental work at home of the sample was 3.37 hours. Controlling for care group, there was a significant interaction effect for hours of supplemental work at home between gender and job type. Specifically, male manprofs reported significantly higher hours of supplemental work at home than female non-manprofs.
- 3) The average hours of caregiving for the three caregiving groups in the sample (child care, elder care, and sandwich) was 14.54 hours. Controlling for gender and job type, the average hours of caregiving for the child care group and the sandwich group was significantly higher than for the elder care group.
- 4) The average hours of home chores of the sample was 13.39 hours. Controlling for care group and job type, the average hours of home chores for females was significantly higher than for males. Controlling for care group and gender, the average hours of home chores for manprofs was significantly lower than for

non-manprofs. Moreover, controlling for gender and job type, the average hours of home chores for the child care group and the sandwich group was significantly higher than for the no-care group.

3.4 DISCUSSION

Overall, the sample devoted a considerable amount of time to work and family responsibilities: The time demands of work averaged over forty-four and one-half hours per week (41.24 hours of regular work and 3.37 hours of supplemental work at home). Home chores added an extra time burden that averaged almost thirteen and one-half hours per week (13.39 hours). In addition, those with caregiving responsibilities (73.2% of the sample) spent a further fourteen and one-half hours per week (14.54 hours) on average providing care.

These overall figures, however, mask some significant differences in time demands across care group, gender, and job type. Some of the more salient of these differences are highlighted immediately below.

Child caregivers and sandwich caregivers in the sample appeared to face significantly higher family demands than either elder caregivers or members of the no-care group. Specifically, child caregivers and sandwich caregivers performed significantly more hours of caregiving per week than did elder caregivers, while they also performed significantly more hours of home chores per week than did members of the no-care

group. Interestingly, child caregivers and sandwich caregivers in the sample did not appear to respond to these heavy family demands by reducing either their regular hours of work or their hours of supplemental work at home. Indeed, controlling for gender and job type, there was no significant difference across care group in either regular hours of work or in hours of supplemental work at home. This suggests that child caregivers and sandwich caregivers are coping with their heavier load in the family domain by reducing their hours of leisure and/or their hours of sleep, neither of which is conducive to their long-term health or to their productivity in the workplace (Sonnetag, 2003).

Along similar lines, it is noteworthy that the heavy family demands faced by child caregivers and sandwich caregivers do not appear to have led them to avoid managerial or professional positions as a coping mechanism, as indicated by the lack of significant difference in job type across care group for either the male or the female samples. This further underpins the idea that child caregivers and sandwich caregivers are trying "to do it all". Consequently, child caregivers and sandwich caregivers may be at greater risk for high levels of WIF and FIW than either elder caregivers or members of the no-care group.

The pattern of time demands observed for the sample is not entirely consistent with the pattern suggested by Gender Role Theory, which asserts that men allocate more time to the work domain while women devote more time to the family domain. It is true that, controlling for care group and job type: 1) men performed significantly more hours of

work per week than did women and 2) women performed significantly more hours of home chores per week than did men. But, controlling for care group and job type, there was no significant gender difference in the number of hours of caregiving per week. This lack of a gender difference in the number of hours of caregiving is inconsistent with the findings of a number of earlier studies of full-time employees (Darling-Fisher & Tiedje, 1990; Higgins et al., 1992a). This inconsistency may be explained, to at least some extent, by the fact that men seem to be taking a greater interest in caregiving than they have done previously (Aldous et al., 1998; Coltrane, 1996; Pleck, 1997; Snarey, 1993). It may also be explained, to at least some extent, by the fact that the sample here was restricted to full-time employees living with partners who were also full-time employees, which may have made a finding of gender equity with respect to hours of caregiving more likely for the following two reasons:

- 1) Men who are full-time employees living with partners who are also full-time employees may share hours of caregiving with their partners more equally than full-time male employees living with partners who work either part-time or not at all. This would be consistent with Friedman and Greenhaus (2000)'s finding that partners of single-earner men provided more hours of child care than partners of dual-earner men. These authors hypothesized that, as part of a prearranged agreement, the wives who were not employed provided more hours of child care than did their husbands. In the same way, wives who work part-time may also perform a greater share of child care than their husbands.

- 2) Women employees who perform many hours of caregiving may have reduced their hours of work to the degree that they now work either part-time or have left the labour force altogether and so are not represented in the sample.

Controlling for care group and gender, job type does indeed appear to be a significant determinant of time allocation for this sample. For example, manprofs typically worked significantly more hours per week than did non-manprofs. Manprofs also devoted significantly fewer hours per week to home chores than did non-manprofs, which presumably may reflect the partial substitution of paid services using some portion of their generally higher incomes. Interestingly, although manprofs in the three caregiving groups reported spending less time per week in caregiving than non-manprofs, this difference was not significant. Thus, manprofs seem to be striving to excel both in the work and family domains and, consequently, may be at higher risk of WIF and/or FIW.

APPENDIX E

FREQUENCY DISTRIBUTIONS FOR HOURS OF CHILD CARE AND HOURS OF ELDER CARE

Frequency distributions for hours of child care and hours of elder care for the three caregiving groups are given in Tables E1 through E4.

Table E1. Child care group: Hours of child care

Hours	Frequency	Percent	Cumulative Percent
1	20	1.8	1.8
2	50	4.5	6.3
3	33	2.9	9.2
4	70	6.3	15.4
5	81	7.2	22.7
6	34	3.0	25.7
7	39	3.5	29.2
8	42	3.8	32.9
9	3	0.3	33.2
10	182	16.3	49.5
11-15	141	12.6	62.1
16-20	160	14.2	76.3
21-25	59	5.3	81.6
26-30	68	6.1	87.7
31-40	82	7.3	95.0
41-50	46	4.1	99.1
51-60	10	0.9	100.0
Total	1120	100.0	

Table E2. Elder care group: Hours of elder care

Hours	Frequency	Percent	Cumulative Percent
1	31	18.1	18.1
2	52	30.4	48.5
3	16	9.4	57.9
4	18	10.5	68.4
5	18	10.5	78.9
6	5	2.9	81.9
7	5	2.9	84.8
8	5	2.9	87.7
9	0	0.0	87.7
10	13	7.6	95.3
11-15	4	2.4	97.7
16-20	4	2.3	100.0
Total	171	100.0	

Table E3. Sandwich group: Hours of child care

Hours	Frequency	Percent	Cumulative Percent
1	5	1.9	1.9
2	17	6.5	8.5
3	8	3.1	11.5
4	21	8.1	19.6
5	18	6.9	26.5
6	11	4.2	30.8
7	5	1.9	32.7
8	13	5.0	37.7
9	0	0.0	37.7
10	51	19.6	57.3
11-15	34	13.1	70.4
16-20	28	10.8	81.2
21-25	17	6.5	87.7
26-30	15	5.8	93.5
31-40	11	4.2	97.7
41-50	6	2.3	100.0
Total	260	100.0	

Table E4. Sandwich group: Hours of elder care

Hours	Frequency	Percent	Cumulative Percent
1	75	28.8	28.8
2	81	31.2	60.0
3	26	10.0	70.0
4	28	10.8	80.8
5	17	6.5	87.3
6	11	4.2	91.5
7	2	0.8	92.3
8	2	0.8	93.1
9	1	0.4	93.5
10	9	3.5	96.9
11-15	3	1.2	98.1
16-20	3	1.2	99.2
21-25	2	0.8	100.0
Total	171	100.0	

APPENDIX F

CROSS-TABULATIONS BETWEEN JOB TYPE AND EDUCATIONAL ATTAINMENT AND BETWEEN JOB TYPE AND FAMILY INCOME

The strong association between job type and educational attainment and between job type and family income for the present data set can readily be seen from the following cross-tabulations. It should be noted that, given the relatively large sample sizes involved, it was decided to adopt the relatively conservative significance level of 0.01 or 1% throughout. In this connection, p-values are also provided for statistical tests. Thus, if the reader prefers to adopt a less conservative significance level, the necessary information is readily available.

1. EDUCATIONAL ATTAINMENT

A cross-tabulation of the sample by job type and educational attainment is given in Table F1.¹

¹ For convenience, managerial/professional employees are referred to as manprofs, while non-managerial/professional employees are referred to as non-manprofs.

Table F1. Job type by education cross-tabulation

			Education			Total
			< College Degree	College Degree	University Degree/ Post-Grad	
Job Type	ManProf	Count	332	147	456	935
		% within Job Type	35.5%	15.7%	48.8%	100.0%
		% within Education	33.2%	39.4%	78.1%	47.8%
		% of Total	17.0%	7.5%	23.3%	47.8%
		Adjusted Residual	-13.2	-3.6	17.5	
	Non-ManProf	Count	668	226	128	1022
		% within Job Type	65.4%	22.1%	12.5%	100.0%
		% within Education	66.8%	60.6%	21.9%	52.2%
		% of Total	34.1%	11.5%	6.5%	52.2%
		Adjusted Residual	13.2	3.6	-17.5	
Total	Count		1000	373	584	1957
	% within Job Type		51.1%	19.1%	29.8%	100.0%
	% within Education		100.0%	100.0%	100.0%	100.0%
	% of Total		51.1%	19.1%	29.8%	100.0%

Table F2. Job type by education cross-tabulation chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	310.59	2	.000
N of Valid Cases	1957		

Overall, approximately one-half reported having less than a college degree (51.1%), one-fifth reported having just a college degree (19.1%), and three-tenths reported having at least one university degree (29.8%). The cross-tabulation chi-squared test results, given in Table F2, indicate that there was a significant association between job type and educational attainment. More specifically, the pattern of adjusted residuals in the cross-tabulation table suggests that: (i) the percentage of manprofs having less than a college

degree was significantly lower than the percentage of non-manprofs having less than a college degree (35.5% versus 65.4%), (ii) the percentage of manprofs having just a college degree was significantly lower than the percentage of non-manprofs having just a college degree (15.7% versus 22.1%), and (iii) the percentage of manprofs having at least one university degree was significantly higher than the percentage of non-manprofs having at least one university degree (48.8% versus 12.5%).² In short, there was a strikingly positive association between the level of educational attainment and the likelihood of being a manprof rather than a non-manprof.

2. FAMILY INCOME

A cross-tabulation of the sample by job type and family income is given in Table F3. Overall, approximately 4% reported having a lower family income (less than \$40,000 per year), 61% reported having a middle family income (\$40,000-\$80,000 per year), and 35% reported having a higher family income (more than \$80,000 per year). The cross-tabulation chi-squared test results, given in Table F4, indicate that there was a significant association between job type and family income. More specifically, the pattern of adjusted residuals in the cross-tabulation table suggests that: (i) the percentage of manprofs having a lower family income was significantly lower than the percentage of non-manprofs having a lower family income (1.4% versus 5.9%), (ii) the percentage of manprofs having a middle family income was significantly lower than the percentage of non-manprofs a middle family income (49.6% versus 71.6%), and (iii) the percentage of

² The interpretation of adjusted residuals is discussed in Appendix C.

manprofs having a higher family income was significantly higher than the percentage of non-manprofs having a higher family income (48.9% versus 22.5%). In short, there was a strikingly positive association between the level of family income and the likelihood of being a manprof rather than a non-manprof.

Table F3. Job type by family income cross-tabulation

			Family Income			Total
			Less than \$40,000	\$40,000-\$80,000	More than \$80,000	
Job Type	ManProf	Count	12	417	411	840
		% within Job Type	1.4%	49.6%	48.9%	100.0%
		% within Family Inc	18.8%	39.8%	67.5%	48.8%
		% of Total	.7%	24.2%	23.9%	48.8%
		Adjusted Residual	-4.9	-9.3	11.5	
	Non-ManProf	Count	52	631	198	881
		% within Job Type	5.9%	71.6%	22.5%	100.0%
		% within Family Inc	81.3%	60.2%	32.5%	51.2%
		% of Total	3.0%	36.7%	11.5%	51.2%
		Adjusted Residual	4.9	9.3	-11.5	
Total	Count		64	1048	609	1721
	% within Job Type		3.7%	60.9%	35.4%	100.0%
	% within Family Inc		100.0%	100.0%	100.0%	100.0%
	% of Total		3.7%	60.9%	35.4%	100.0%

Table F4. Job type by family income cross-tabulation chi-squared test results

	Value	df	Asymp. Sig.
Pearson Chi-Square	142.30	2	.000
N of Valid Cases	1721		

APPENDIX G

EXPLORATORY FACTOR ANALYSIS

This appendix presents a complete description of the exploratory factor analysis using the 10 items comprising the Duxbury and Higgins (1998) perceived organizational support of work-family balance scale.

Before performing the actual factor analysis, the appropriateness of the factor model was considered using Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. Bartlett's test of sphericity is used to test the null hypothesis that the correlation matrix of the variables to be used in the factor analysis is an identity matrix. If this null hypothesis cannot be rejected at conventional significance levels, then it is reasonable to conclude that the factor model should not be used. The KMO measure of sampling adequacy ranges in value between 0.0 and 1.0 and "is an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients" (Norusis, 1994, p.52). According to Kaiser (1974), a value in the 0.90's is "marvelous", in the 80's is "meritorious", in the 0.70's is "middling", in the 0.60's is "mediocre", in the 0.50's is "miserable", and below 0.50 is "unacceptable."

For the data set at hand, the value of the Bartlett test statistic, which under the null hypothesis is approximately distributed as a chi-square random variable with 45 degrees

of freedom, was 7212.71 with an associated p-value of 0.000, while the value of the KMO measure of sampling adequacy was 0.857. Thus, the factor model appeared to be appropriate.

The next step in the factor analysis was to decide how many factors were needed to represent adequately the data. Using principal components analysis, it turned out that there were two factors with corresponding eigenvalues exceeding the standard criterion of 1.¹ These two factors together explained an acceptable 54.7% of the overall variance in the data.

Finally, to improve the interpretability of the two factors, a varimax rotation of the original factor structure was performed in order to achieve a simpler structure. This yielded the rotated component matrix given in Table G1.² As can readily be seen from inspection of the table, the first six items loaded highly on the first component (0.535 to 0.810), while the last four items loaded highly on the second component (0.517 to 0.788).

These findings suggested that it would be useful to divide the perceived organizational support of work-family balance variable into two sub-variables for the empirical

¹ A scree plot was consistent with the choice of two factors.

² An oblique rotation yielded qualitatively similar results.

modelling in the thesis. Based on an examination of how the individual items clustered together, it seemed reasonable to refer to these two sub-variables as good management practice and culture of hours.

Table G1. Rotated component matrix: Perceived organizational support of work-family balance

Item	Component	
	1	2
To what extent do you agree or disagree with the following statements:		
Conditions in my organization allow me to be about as productive as I can be.	0.535	0.216
This organization promotes an environment that supports a balance between work and personal life.	0.802	0.273
This organization's policies are supportive of my family needs.	0.810	0.253
This organization has a sincere interest in the well-being of its employees.	0.802	0.217
This organization has a sincere interest in the well-being of the community.	0.671	0.029
There are open and respectful discussions of work/family issues in this organization.	0.696	0.097
If I were to take a leave of absence for family reasons, it would limit my career advancement. (R)	0.133	0.788
Family responsibilities make it difficult for people to advance in this organization. (R)	0.276	0.635
It is not acceptable in this organization to say "no" to more work. (R)	0.261	0.517
If I were unable to work long hours, it would limit my career opportunities. (R)	0.019	0.781

The designation (R) indicates that the scores for this item are recoded for directional consistency.

APPENDIX H

SAMPLE CORRELATION MATRIX

The sample correlation matrix for the variables included in the empirical analysis is given in Table H1.

In assessing the significance or otherwise of the (pairwise) sample correlation coefficients in a sample correlation matrix, a Bonferroni adjustment is usually recommended. Given that a significance level of 0.01 or 1% is being used throughout the thesis, this would imply that the appropriate (adjusted) significance level to use here would be $0.01/66 = 0.00015$.¹ This presents a practical problem, however, as the smallest p-value reported by SPSS is 0.000, which should be interpreted as $p < 0.0005$. Thus, strictly speaking, it is impossible to infer significance from the standard SPSS output in this case. Given this impasse and the fact that the 0.01 significance level being used in the thesis is relatively conservative, it seems reasonable to adopt the *ad hoc* strategy of deeming a sample correlation coefficient to be significant if the p-value reported by SPSS is equal to 0.000.

¹ There are 12 variables in the sample correlation matrix, which implies that there are $(12 \times 11)/2 = 66$ sample correlation coefficients. The Bonferroni adjustment is to divide the original significance level by the number of sample correlation coefficients.

Table H1. Sample correlation matrix

Variables	WIF	FIW	Hours of Work	Hours of Supplemental Work at Home	Perceived Work Flexibility	Job Type
FIW	0.424* [0.000] N=2119					
Hours of Work	0.153* [0.000] N=2119	-0.024 [0.278] N=2119				
Hours of Supplemental Work at Home	0.190* [0.000] N=2094	0.062 [0.005] N=2094	0.106* [0.000] N=2095			
Perceived Work Flexibility	-0.456* [0.000] N=2117	-0.207* [0.000] N=2117	-0.073 [0.001] N=2118	-0.107* [0.000] N=2093		
Job Type	0.123* [0.000] N=1962	-0.017 [0.451] N=1962	0.127* [0.000] N=1963	0.113* [0.000] N=1940	-0.008 [0.711] N=1961	
Good Management Practice	-0.409* [0.000] N=2118	-0.155* [0.000] N=2118	-0.034 [0.116] N=2118	-0.086* [0.000] N=2093	0.453* [0.000] N=2116	-0.038 [0.096] N=1961
Culture of Hours	0.465* [0.000] N=2118	0.302* [0.000] N=2117	0.083* [0.000] N=2117	0.112* [0.000] N=2092	-0.365* [0.000] N=2115	0.098* [0.000] N=1961
Perceived Supervisor Support	-0.321* [0.000] N=2115	-0.180* [0.000] N=2115	0.000 [0.993] N=2116	-0.022 [0.315] N=2091	0.421* [0.000] N=2114	0.035 [0.117] N=1959
Perceived Control Over Caregiving Services	-0.288* [0.000] N=854	-0.264* [0.000] N=854	0.036 [0.299] N=854	-0.068 [0.047] N=845	0.299* [0.000] N=853	0.030 [0.395] N=787
Hours of Caregiving	0.111* [0.000] N=2119	0.278* [0.000] N=2119	-0.039 [0.073] N=2120	-0.023 [0.300] N=2095	-0.039 [0.073] N=2118	-0.040 [0.076] N=1963
Hours of Home Chores	0.046 [0.036] N=2047	0.112* [0.000] N=2047	-0.085* [0.000] N=2048	-0.060 [0.007] N=2034	-0.044 [0.048] N=2046	-0.103* [0.000] N=1901

* $p < 0.0005$ (Bonferroni-adjusted), where p-values are in square parentheses.

Table H1. Sample correlation matrix (cont.)

Variables	Good Management Practice	Culture of Hours	Perceived Supervisor Support	Perceived Control Over Caregiving Services	Hours of Caregiving
FIW					
Hours of Work					
Hours of Supplemental Work at Home					
Perceived Work Flexibility					
Job Type					
Good Management Practice					
Culture of Hours	-0.439* [0.000] N=2117				
Perceived Supervisor Support	0.512* [0.000] N=2114	-0.312* [0.000] N=2113			
Perceived Control Over Caregiving Services	0.255* [0.000] N=854	-0.286* [0.000] N=854	0.230* [0.000] N=851		
Hours of Caregiving	-0.043 [0.048] N=2118	0.061 [0.005] N=2117	-0.041 [0.063] N=2116	0.027 [0.430] N=854	
Hours of Home Chores	-0.042 [0.058] N=2046	0.028 [0.203] N=2045	-0.035 [0.116] N=2044	-0.075 [0.032] N=815	0.171* [0.000] N=2048

* $p < 0.01$.