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A MULTIDIMENSIONAL ASSESSMENT OF WORK FAMILY SPILLOVER

by

Richard Brisbois

(Bachelor of Commerce, Carleton University)

**A Thesis Submitted to the Faculty of Graduate Studies
and Research in partial fulfilment of the requirements
for the degree of**

MASTER OF BUSINESS ADMINISTRATION

**Sprott School of Business
Carleton University
Ottawa, Ontario**

April 8, 2002

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**A MULTIDIMENSIONAL ASSESSMENT
OF WORK FAMILY SPILLOVER**

Submitted by Richard Brisbois, B. Comm.

In partial fulfillment of the requirements
for the degree of Master of Business Administration

Thesis Supervisor

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April 8, 2002

ABSTRACT

This study seeks to enhance our understanding of the theory of work family spillover by examining both the direction of spillover (work-to-family and family-to-work) and the type of spillover (positive and negative) simultaneously. The population of this study included 121 male and female medical faculty members at a university teaching hospital. All respondents were married with children.

Respondents in the sample indicated that they experienced greater work-to-family spillover than family-to-work spillover. As well, they indicated that spillover (both work-to-family and family-to-work spillover) was mostly negative with few respondents indicating positive spillover.

Findings suggest that family type (traditional family or dual career family) was found to have no impact on the levels of spillover reported for men. Gender was found to have a significant impact on the levels of family-to-work spillover reported, with dual career women reporting more negative spillover than their dual career male counterparts. Men (both traditional family and dual career family) and women reported similar levels of work-to-family spillover, which was overwhelmingly negative.

Evidence was found supporting a newly explored topic in this research: work-role spillover. Results suggest that a majority of respondents experienced no spillover between their respective work roles. However, those who did report work-role spillover reported that it was largely negative in nature and that there was little evidence of positive work-role spillover.

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1. INTRODUCTION

1.1 Introduction

Work and family life have been slated as the two most central institutions in a person's life, forming the 'backbone of human existence' (Howard, 1992). Although there has been substantial research conducted within the two contexts of work and family, there has been far less examination of the social-psychological processes that link these two systems (Burley, 1991). Although separate studies of the work and family realms have contributed to our understanding of the structures and functions of these two systems, they do little to advance knowledge concerning the potential each has to affect the other (Kanter, 1977). This segregation of work and family systems has contributed to what Kanter (Ibid.) termed the 'myth of separate worlds' (p. 8). Recent empirical and conceptual work has highlighted the need to reconsider how we define and measure the influence of the workplace on family and personal life. The need today is not just for measures in each setting but measures for the processes that link them (Small & Riley, 1990). As Moen (1982) suggests, we need to study 'work-family linkages.'

In recent years, there has been increased interest in the relationship between experiences in the work and nonwork spheres of life (e.g., Gutek et al., 1991; Grzywacz, 2000; Grzywacz & Marks, 2000; Hart, 1999; Kinnunen & Mauno, 1998; Swanson et al. 1998). There are several reasons for the increased interest in this area. First, today's demographic and labour-force trends have forced recognition of the interplay between

work and family (Gottlieb et al., 1996). These trends include the dramatic increase in the number of women, both married and single in the workplace and the increased number of dual-career and single parent families. Such trends are redefining the connection between work and family responsibilities (Burke, 1982; Duxbury and Higgins, 1991). In a study at one large organization, inability to balance work and personal/family life was tied with compensation as the leading reason employees gave for why they would potentially leave the company (Galinsky & Johnson, 1998). At the same time men are finding their share of household duties increasing (Crispell, 1992) and fathers are participating more in childrearing and child support activities (Cohen, 1997; Kinnunen & Mauno, 1998). These and other social trends have increased the need to better understand the relationship between work and family.

Recently, empirical studies testing theories of the work-family interface have proliferated. The primary goals of this area of research has been to develop a better understanding of the 'interconnectedness' of work and family life (Frone et al., 1994). Empirical evidence suggests that spillover theory most accurately describes the way in which family and work may be linked (see section 3.2 Theories of the Work-Family Interface). Simply stated, spillover theory suggest that an employee's experience in one domain affects their experience in another domain (Hart, 1999). Spillover theory suggests that experiences characterizing work (family) will be closely related to family (work) experiences (Rousseau, 1978). Spillover can occur from work-to-family or from family-to-work, and can be either positive or negative.

Spillover theory is often used to explain work and family conflict (Staines, 1980; Evans and Bartolome, 1984; Burke, 1986; for a review of the literature on work-family conflict see Kossek & Ozeki, 1998). Work family conflict occurs when an individual has to perform multiple roles: worker, spouse, and sometimes parent. Each of these roles demands time, energy, and commitment. Participation in the work (family) role is often made more difficult by virtue of participation in the family (work) role (Kinnunen & Mauno, 1998). Although the work-family conflict literature has contributed to a better understanding of the work-family interface, it does not provide a complete picture. One problem with work-family conflict research is the assumption of a negative association between work and home (i.e. negative spillover from family to work and from work to family). Within the spillover literature there has been some, albeit limited, research suggesting that there may also, in some cases, be a positive association between work and family. Several studies of work-to-family spillover for example have examined how skills and opportunities gained through work may make for a better family member (e.g. Grzywacz, 2000; Grzywacz & Marks, 2000; Kirchmeyer, 1992, 1993)¹. Similarly, studies on family-to-work spillover have examined how family experiences and support can make for a better worker (e.g. Kirchmeyer, 1992, 1993). While the relationship between work and family is recognized to be a 'reciprocal process in which work and family influence each other in a circular, or feedback fashion' (Voydanoff, 1980, pg. 1), studies on family-to-work spillover have been rather limited in number. This has

¹ Note: The Grzywacz (2000) and Grzywacz & Marks (2000) studies refer to the same study dataset from which several articles were published.

occurred despite the fact that Kanter, in 1977, noted that the family domain has failed to receive recognition for its positive impact on work.

There has also been recognition that spillover can be positive or negative (Crouter, 1984; Grzywacz, 2000; Grzywacz & Marks, 2000; Kirchmeyer, 1992, 1993). Studies on positive spillover focused on the supportive nature of family relationships and the useful skills and attitudes that are acquired at home and put to use in other settings, including the job. Research into the area of negative spillover on the other hand has examined how family created difficulties at work: that is, how family was an inhibiting influence on work. Most studies have focused on negative spillover rather than positive spillover, and work-to-family interference rather than family-to-work interference.

The literature has also examined a number of work and non-work outcomes that might be affected by spillover, such as job/life satisfaction (Frone et al., 1994), turnover (Cohen, 1997), stress (Swanson et al., 1996), and physical & mental health (Grzywacz, 2000). Similarly, a number of demographic factors that might influence spillover have also been studied in the literature (e.g. gender, parental status, age of children, and job level). The results of this research have sometimes been conflicting and have spawned more questions than answers.

Many authors have recognized multiple dimensions of work-family spillover, but with few exceptions (see Duxbury and Higgins, 1998; Grzywacz, 2000; Grzywacz and Marks,

2000), none have examined all dimensions in one study. Grzywacz (2000) suggests a multidimensional model of work-family spillover (negative spillover from work to family, positive spillover from work to family, negative spillover from family to work, and positive spillover from family to work) that might best describe the work-family interface of today's working adults. The purpose of this study is to empirically assess both family-to-work and work-to-family spillover to gain a better understanding of the work-family relationship. At the same time the study will assess how frequently work and family can have positive (positive spillover) or negative impacts (negative spillover) on each other. This direction of research is particularly deserving given the preponderance of studies focusing only on work-to-family spillover and on negative spillover.

This study will also examine the work role from a multiple-role perspective rather than a single role. Examining work as a series of roles should also increase our understanding of the work-family interface (i.e. are some work roles easier to combine with non-work roles). Increasing our understanding of the work-family interface should help employers introduce policies and programs to assist employees in achieving a better work-family balance. Employees should also benefit, as they will be able to appreciate factors that influence spillover, which may help them to better balance their lives.

1.2 Research Overview

This thesis is divided into eight sections. The section following this introduction (section two) discusses a theoretical framework for examining multiple-dimensions of spillover. The third section will review the literature to gain a better understanding of the published research on spillover. Shortcomings of the current research in the area will be identified and directions for future research suggested. The fourth section will discuss the research objectives and research questions. The fifth section outlines the methodology and data analyses utilized for this study. Section six, presents the data results of survey, while section seven discusses the results and places them in the context using the empirical literature and evidence that currently exists with respect to work-family spillover. Relevant conclusions are drawn in section eight. The thesis concludes with an outline of the limitations and benefits of this research as well as suggestions for future research (section nine).

2. A FRAMEWORK FOR EXAMINING SPILLOVER

2.1 Theoretical Framework

Much of the conceptual framework that has guided work-family research has evolved from role theory: specifically the role conflict hypothesis and the role enhancement hypothesis.

The role conflict hypothesis or 'scarcity hypothesis' (Marshall & Barnett, 1993), posits that individuals have limited resources, such as time and energy, and that the addition of extra roles creates tensions between competing demands and leads to interrole conflict (Coser, 1974; Goode, 1960; Greenhaus & Beutell, 1985; Slater, 1963; Small & Riley, 1990). This model assumes that role conflict is inevitable, normal, and an expected consequence of multiple role occupancy (Tiedje et al., 1990). This perspective has been used in the literature in discussions of work-family conflict and equates to negative spillover. Prior research has found that employed adults with family responsibilities report that their work and family roles often interfere with one another (e.g. Frone, Russell, & Cooper (1992b); Staines, 1980).

The role enhancement hypothesis or 'expansion hypothesis' (Marshall & Barnett, 1993), in contrast, posits there are potential benefits of occupying multiple roles. Proponents of this perspective suggest that occupancy of multiple roles provide benefits such as

multiple sources of social support, skills that can be transferred from one role to another, and increased sense of self-worth and purpose (Sieber, 1974; Marks, 1977; Thoits, 1983). In other words, skills and opportunities gained through work may make for a better family member and family experiences and support may make for a better worker (Grzywacz, 2000). Empirical studies have reported benefits from multiple role participation for men and women (Barnett, 1994; Gray, 1983; Kirchmeyer, 1992, 1993; Piotrkowski, 1979; Thoits, 1983; Yogeve, 1981). Barnett (1996), for example found that marital quality or spousal support was an important buffer against work related stress, especially for men, and Thoits (1983) found that employed married mothers have better physical and psychological well being in contrast to unemployed, married mothers.

Role theorists also suggest that the benefits of role accumulation (positive spillover) can outweigh the burdens (negative spillover) (Marks, 1977, Sieber, 1974; Thoits, 1983). This notion is supported in research by Crouter (1984), who found that a supportive family helped to overcome difficulties or disappointments in the workplace. Other researchers (Gerson, 1985) suggest that role strain (negative spillover) is not an inevitable outcome of multiple role occupancy. This view was further supported in a study by Barnett and Marshall (1992) who found that over twenty five percent of dual career couples did not report any work-family strains (negative spillover).

Tiedje et al. (1990) suggests that theory and research to date has emphasized either the positive or negative side of combining roles and therefore theories have not been well

developed. Grzywacz & Marks (2000) contend that most conceptualizations of work-family spillover are unidimensional, where high levels of positive and negative spillover between work and family or family and work cannot coexist. They suggest that a multi-dimensional model of work-family spillover most accurately describes the work-family experiences of employees today.

2.2 A Multi-Dimensional Model of Work-Family Spillover

The model presented in Figure 1 provides a basis for conceptualizing the multiple dimensions of work-family spillover. This model pulls together the theories presented in this section and presents a more comprehensive model of spillover by examining both the direction of spillover (work-to-family and family-to-work) and the type of spillover (positive and negative) simultaneously. This research drew upon all these dimensions of spillover (direction of spillover and sign of spillover) noted in the literature and has incorporated them all in one study to gain a better understanding of the relationship between work and family.

Figure 1: Research Model

		TYPE OF SPILLOVER	
		POSITIVE	NEGATIVE
DIRECTION OF SPILLOVER	WORK-TO- FAMILY	Positive Work-to-Family Spillover	Negative Work-to-Family Spillover
	FAMILY-TO- WORK	Positive Family-to-Work Spillover	Negative Family-to-Work Spillover

3. LITERATURE REVIEW

3.1 Overview

The literature on work and family is vast. The intent of this review is not to consider the entire literature on work and family, but rather to focus on what is currently known on the topic of work-family spillover. The literature in this review is presented in seven sections. Section 3.2 provides background information on three theories of work-family linkages. Section 3.3 provides definitions of spillover. Section 3.4 reviews literature on the dimensions of spillover (direction of spillover and type of spillover). Section 3.5 outlines influences on spillover (e.g. gender, parental status, family-type). Section 3.6 highlights spillover measures found in the literature. Lastly, Section 3.7 concludes the review with a critique of the spillover literature.

3.2 Theories of Work Family Interface

Wilensky (1960) first identified three general hypotheses to explain the interface between work and family: segmentation, compensation, and spillover. Many researchers have debated which theory best explains the work-family interface (e.g. Lambert, 1990; Judge and Watanabe, 1994; Rain et al., 1991; Staines, 1980). While there is no consensus as of yet, the preponderance of research supports the spillover hypothesis.

While the debate on which theory best describes the work family relationship is not within the scope of this study any discussion of spillover would be incomplete without a brief examination of all three theories of work-family linkages.

Segmentation

One of the earliest views of the relationship between work and home is that they are segmented and independent (Hart, 1999). That is to say that work and home life do not affect each other. Blood and Wolfe (1960) first applied this concept to workers in blue-collar occupations. They suggested that workers in unsatisfying or uninvolved jobs would naturally segment work and home. Segmentation treats work and home life as separate spheres of life, either because they are intrinsically independent or because workers actively keep them that way (Lambert, 1990). Piotrkowski (1979) suggested that this segmentation would be a deliberate rather than natural act and Lambert (1990) contends that one can compartmentalize competing role demands.

Compensation

The idea that workers actively respond to occurrences in both their work and family lives, led to the theory that they may try to compensate for a lack of satisfaction in work or home by trying to find more satisfaction in the other (Lambert, 1990). Compensation theory suggests that there is a negative relationship between work and nonwork (Rousseau, 1978, Staines, 1980). That is to say that work and non-work roles are thought

to be interrelated in a counterbalancing manner, where an individual attempts to compensate in one environment for what is lacking in the other (Glowinkowsky & Cooper, 1987; Greenglass & Burke, 1988). For example, Piotrkowski (1979, p. 98) concludes that men “look to their homes as havens, look to their families as sources of satisfaction lacking in the occupational sphere.” Although compensation theory is often used to explain how workers react to unsatisfying jobs, it could also explain why workers may become more involved in their work when experiencing family problems. In general, the theory of compensation views workers as seeking out greater satisfaction from their work or family life as a result of being dissatisfied with the other (Lambert, Ibid.).

Spillover

The most popular view of the relationship between work and nonwork is that their effects spill over from one to another. Several researchers suggest that workers carry the emotions, attitudes, skills, and behaviours from their work role into their family life and vice versa (Cooke & Rousseau, 1984; Hart, 1999; Leiter & Durup, 1996; Greenhaus & Beutell, 1985; Near, Rice & Hunt, 1980; Staines, 1980; Swanson, 1998). Theoretically spillover is perceived to be of two types: positive or negative (Crouter, 1984, Lambert, 1990).

In general, evidence of the spillover theory appears to be more strongly supported than the other two theories (Judge and Watanabe, 1994; Rousseau, 1978; Staines, 1980).

However, Fletcher et al. (1993) found more evidence supporting segmentation and Kabanoff (1980) found no unequivocal support for any of the three hypotheses. For reviews debating the merits of these three theories see Lambert (1990) or Rain et al. (1991).

3.3 Defining Spillover

Definitions of spillover vary in the literature depending on the approach the researchers have taken to examine the concept. Some authors offer very simple definitions of spillover. For example, Hart (1999) suggests that spillover is a process by which “an employee’s experience in one domain affects their experience in another domain.” This is consistent with a definition by Glowinkowski & Cooper (1986) who simply state that spillover occurs “where the events of one environment affect the other.”

Some authors have expanded their definitions of spillover to include both positive and negative dimensions of spillover. For example, Higgins and Duxbury (1992) offer definitions for both positive and negative spillover from work-to-family. They suggest that positive spillover involves the spread of satisfaction and stimulation at work to high levels of energy and satisfaction at home. Negative spillover on the other hand, refers to how the strains produced by stressful work situations drain and preoccupy the individual making it difficult to participate adequately in family life. Likewise, positive family-to-work spillover involved nonwork supporting, facilitating, or enhancing work, while

negative family-to-work spillover involved nonwork making work difficult, problematic or unsatisfactory (Kirchmeyer, 1993).

Still other authors have further expanded their definitions of spillover to reflect both the direction of spillover (family-to-work and work-to-family) and the sign of spillover (positive spillover and negative spillover). For example, Staines (1980) suggests that workers' experiences on the job carry over into the nonwork arena, and possibly vice versa, such that there develops a similarity in patterning between work and nonwork life. Similarly, Judge and Watanabe (1994) state that the spillover hypothesis indicates that one domain 'spills over' into the other such that workers who have (dis)satisfying jobs will also have (dis)satisfying lives, and vice versa.

Lambert (1990) cites several researchers and defines spillover as follows: "Workers carry the emotions, attitudes, skills, and behaviours that they establish at work into their family life, and vice versa. Spillover can be positive or negative." This definition best reflects the multi-dimensional aspects of spillover to be examined in this thesis. As such it is the one we have chosen to employ in this thesis.

Historically much of the research on the work family interface has focused on work-family conflict, where researchers argued that conflict between work and family domains can be a source of stress that influence important physiological and physical outcomes (Adams et al., 1996). Kossek and Ozeki (1998) argued that earlier studies of the work-

family interface treated work-family conflict as a global construct, but more recent work has suggested that work-to-family conflict and family-to-work conflict are related but distinct forms of interrole conflict. This resulted in scales that were developed to assess the conflict created by work interfering with family life and family life interfering with work life (Hart, 1999). For example, Gutek (1991) made a convincing argument that work-family conflict consisted of three components: role overload; interference from work to family; and interference from family to work. A number of the studies in the area of work-family conflict favoured the negative spillover hypothesis, where the effect of work roles on family roles (and vice versa) was generally thought to be negative. Work family conflict measures (i.e. interference measures) were often used to conceptualize negative spillover. Much of the work family research has focused on negative spillover, specifically negative work-to-family spillover. However, some researchers have also examined the positive outcomes associated with multiple-role participation describing it as positive spillover. However, there has been little integration of these two streams of research (Adams et al., 1996). In the later part of the 1990's, researchers recognized that spillover was better conceptualized by including concepts of both interference between work and family (negative spillover) and role expansion/enhancement between work and family (positive spillover). This research has also chosen to explore both positive and negative spillover from work to family and family to work.

3.4 Dimensions of Spillover

Relevant literature on the direction (work-to-family and family-to-work) and type (positive and negative) of spillover is reviewed below.

3.4.1 Direction of Spillover (Work-to-Family and Family-to-Work)

There are varied opinions in the literature on the predominant direction in which spillover occurs: from work to family or from family to work. When family researchers examine the interplay between work and family, they usually focus on the impact of people's work situations on their family lives (Crouter, 1984). Several studies have provided evidence of the influence of work on family. These studies show relationships between work and housework (Crouter, Huston & Robbins, 1983; Kanter, 1977; Piotrkowski, 1979), hours employed and the percentage of household tasks performed (Kalleberg & Rosenfeld, 1990), psychological involvement in work and family (Kalleberg & Rosenfeld, 1990), and work and family conflict (Duxbury & Higgins, 1991).

Relatively little empirical research has been done examining family spillover to work although some researchers do acknowledge that family can have an impact on work (e.g. Crouter, 1984; Kanter, 1977; Kirchmeyer, 1992, 1993). Kirchmeyer (1992) for example, while agreeing that the structural, instrumental, emotional, and social aspects of work all appear to affect nonwork domains, argues that the concentration on work to family spillover is based on the questionable notion that work, rather than family is the

paramount force in people's lives. She contends that the effect of the family life upon the work setting is an important often overlooked issue, with implications for morale, stability, and productivity in the workforce (Voydanoff, 1980). Similarly, Crouter (1984) argues that "men and women do not shed their family roles, relationships and experiences the moment they don work shirts, hard hats, or business suits" (p. 426).

Other researchers, while arguing that family-to-work spillover may exist, contend that it occurs less frequently than work-to-family spillover (e.g. Bartolome & Evans, 1980; Bolger et al., 1989; Delong & Delong, 1992; Frone et al., 1992). Bartolome and Evans (1980), for example, while acknowledging that family experiences can impact work, contend that work experiences are more likely to influence family. Bolger et al. (1989) found that daily influences of work on family were more pronounced than the reverse. Similarly, Delong and Delong (1992) argue that although personal concerns can spillover into work life, it appears to be easier to block out family problems at work than vice versa because of the explicit reward system at the workplace. Frone, Russell, and Cooper (1992) found evidence that family boundaries were more permeable than work boundaries for both men and women. This suggests that in general spillover is more pronounced from work to family than from family to work. This assumption is examined empirically in this thesis.

Despite the conceptual distinction of the two directions of spillover, previous research has mostly focused on work-to-family spillover. This focus will limit our understanding

of the work-family interface if, as Crouter (1984) contends, the work-family interface is 'a dynamic reciprocal system' (p. 439).

3.4.2 Sign of Spillover (Positive and Negative)

There is also much debate in the literature whether or not spillover is positive or negative (i.e. the sign of spillover). Negative spillover assumes that one domain has a negative or deleterious affect on the other (i.e. family life makes work life difficult, problematic or unsatisfactory and vice versa). Kirchmeyer (1993) cites research on a number of domain qualities such as unsatisfying experiences at work (Barling, 1986; Barnett & Baruch, 1985; Yogev, 1986), high involvement with work (Frone & Rice, 1987; Frone, Russell, & Copper, 1992; Wiley, 1987; Yogev, 1986), lack of control over one's work (Barling, 1986), and extensive time commitment to work (Gutek, Searle, & Klepa, 1991; Pietromonaco et al., 1986, Yogev, 1986) which have all been found to be associated with high levels of interdomain conflict and stress. For example, Frone et al. (1997) found that high levels of negative spillover was related to elevated levels of depression, poor physical health, and increased hypertension. Similarly, Repetti (1989) found that negative affect experienced at work during the day by male air traffic controllers affected the nature and quality of their interactions with family members at night. Finally, Williams and Alliger (1994) found that negative moods spilled over from family to work and work to family, but that positive spillover did not occur often. They suggested that negative mood may be more persistent within a day and less easily disrupted than

positive mood. They also suggested that role transitions (i.e. going from role of employee to role of parent) tended to weaken pleasant mood states but leave unpleasant states intact.

A large number of studies have focused on negative spillover despite the fact that some studies have found that spillover can sometimes be positive (e.g. Barling, 1990; Grzywacz, 2000; Grzywacz & Marks, 2000). Positive spillover assumes that one domain can have a beneficial or positive effect on the other domain. Research has shown that considerable positive spillover between domains does occur (Gray, 1983; Kirchmeyer, 1992, 1993). Gray (1983) for example, found that professional women considered the rewards of combining work and family worth the efforts required to deal with any conflict that arose and that their jobs had improved their marriages (Yogev, 1981). Similarly, Grzywacz (2000) examined the association between spillover and physical and mental health in mid-life adults. He found that increased positive spillover in both directions (work-to-family and family-to-work) was associated with better physical and mental health.

In her studies on spillover from family to work, Kirchmeyer (1992, 1993), found that respondents agreed more strongly with statements about positive family-to-work spillover than with those of negative family-to-work spillover. The fact that researchers found evidence of positive spillover even when the individual was also experiencing negative spillover suggests that positive and negative spillover may represent separate

dimensions of experience rather than opposite ends of the same continuum (Crouter, 1984; Kirchmeyer, 1992). That is to say, the opposite of positive spillover is no positive spillover and the opposite of negative spillover is no negative spillover. This conclusion is consistent with research by Grzywacz (2000) and Grzywacz & Marks (2000), who posit that positive and negative spillover are distinct constructs. For example, a job that provides a high degree of negative spillover in the form of long hours and stress carried into the home, at the same time, could provide a high degree of positive spillover in the form of financial security and opportunities for growth that make for a better family member (Grzywacz & Marks, 2000). Kirchmeyer (1993) also suggests that professionals who reduce domain involvement in order to reduce interdomain conflict also risk reducing the positive outcomes of domain participation.

3.5 Influences on Spillover

There are many factors that might influence the pattern of spillover. Individual factors typically studied include gender, personality, and mental or physical health. Social structural factors that have been studied include status level or occupation, socioeconomic and financial status, degree of work and family responsibility, and family variables such as number and age of children and degree of support from spouse. Literature on only those variables examined in this thesis is reviewed below.

3.5.1 Gender

There is a great deal of debate in the literature with respect to the association between gender and spillover. Pleck (1977) introduced the idea of asymmetrically permeable boundaries between work and family. He hypothesized that, for men, family boundaries are more permeable than work boundaries (i.e. men are more likely to bring work demands and feelings home than vice versa), whereas for women, work boundaries are more permeable than family boundaries (i.e. women are more likely to bring family demands and feelings to work than vice versa).

A number of recent studies refute Pleck's asymmetric permeability of boundaries theory. Frone, Russell, & Cooper (1992) for example, did not find any evidence of gender differences in the permeability of boundaries between work and family. They cite work by Hall and Richter (1988) and Wiley (1987) in support of their findings that contradict that of Pleck (1977). They suggest that Pleck's hypothesis may have been valid at one time, but that the dynamics of the work and family boundaries may operate similarly among men and women today.

Findings by Williams and Alliger (1994) also did not support Pleck's (1977) asymmetric role permeability hypothesis. Women in their study displayed stronger spillover from family to work than did men but, contrary to expectations, they also displayed stronger spillover from work to family. Their explanation was that employed mothers are likely to have greater combined work and family loads than employed fathers (Pleck, 1985;

Wortman et al., 1991) and thus have less opportunity within a day to recover from stressful work and family roles (Frankenhaeuser, 1991).

Some authors suggest that women experience more stress from multiple domain participation (Greenhaus, Bedian, & Mossholder, 1987; Yogeve, 1986) and utilize less effective coping strategies than men (Pearlin & Schooler, 1982). Barnett and Marshall (1992) argue that this thinking suggests greater negative-spillover effects from family to work for women (i.e. employed women with family roles would be more likely than men to bring their home based conflicts to work).

In contrast, others suggest that women are better able to cope with negative spillover between work and family (Bolger et al, 1989, Kirchmeyer, 1992). Gutek et al. (1991) used a gender framework to explain why women would report lower family to work conflict than men. They argued that since family work represents a traditional gender role domain for women, women would be less likely to feel that family demands interfered with work (i.e. women would have less negative family-to-work spillover than men).

Still other researchers found no significant differences in spillover between women and men (Barling, 1986; Frone et al., 1992; Kirchmeyer, 1992, 1993; Kmec, 1998). For example Kirchmeyer (1992) found no gender differences in positive spillover from family to work. Similarly, Grzywacz (2000) found that work-family spillover affects

women and men's health equally. These results would lend support to those who argue that work-family spillover is not just an issue for women (Grzywacz, 2000; Kirchmeyer, 1993). This thesis hopes to resolve this issue by examining gender differences in work-family spillover.

3.5.2 Parental Status and Age of Children

Linked closely to the notion of gender is parental status and spillover. Crouter (1984) found that negative spillover was reported more by mothers than by fathers, but that overall there was little difference between parents and non-parents with respect to this construct. She found that fathers describe similar, low levels of spillover from family to work regardless of their stage of parenting. Interestingly, she found that single fathers were likely to resemble mothers in regard to higher negative spillover. Burley (1991) found family work time (number of hours spent in family related activities) was associated with higher family-to-work spillover for women. In contrast, time spent in family did not predict family-to-work spillover for men.

Campbell et al. (1994) suggests that the effects of role enhancement on a woman's work life appear to be a function of the nature, rather than the number of roles involved. Marriage alone had no impact on woman's work performance or commitment. It is only with the introduction of children (addition of motherhood role) that role expansion appears to influence work behaviours and attitudes. This suggestion receives support

from Crouter (1984), who argues that spillover from family-to-work does not appear to be a gender issue, but rather, a function of family roles and responsibilities, which in our society, are traditionally based upon gender.

Evidence also suggested that the age of the children might make a difference in the sign of spillover with perceived negative spillover being more prevalent an issue for mothers of young children (Crouter, 1984). Research suggests that mothers report high levels of negative spillover when their children are young, but when their children are in the adolescent age group, mothers resemble fathers in their depictions of spillover from home to work (Cohen, 1997; Crouter, 1984). This pattern appears in other research as well. In a study on absenteeism, Steers & Rhodes (1978) note 'that the available evidence suggests that the absenteeism rate for women declines throughout their work career (possibly because the family responsibilities with your children decline)' (p. 400). Researchers suggest that any study on work and family should pay particular attention to the parenting period of the family life cycle (Campbell et al. 1994; Voydanoff, 1980). This thesis takes parental status into consideration limiting the sample to respondents who are parents.

3.5.3 Occupational Group

Parents in higher prestige jobs, representing a greater commitment to the work role, appear to have greater work to family spillover (Marshall & Barnett, 1993). This is

consistent with findings by Bond et al. (1998), who found that workers in more difficult and demanding jobs experience higher levels of work to family spillover when they worked in less supportive workplaces (no difference in spillover when they worked in a supportive workplace). In contrast, Kmec (1998) found that professionals were able to buy their way out of housework. She found that the less housework one does, the lower the odds a job will interfere with that task (i.e. lower spillover). This study takes occupation group into consideration by limiting the study to respondents in one occupation.

3.5.4 Family Type

Marriage or cohabiting increases the numbers of roles a person must play. The research that is available in this area suggests that the association between marriage and the potential for work-to-family spillover depends on whether or not the spouse is employed, with different results for men and women (Kmec, 1998). This research takes these findings into account by examining the impact of family type (dual career family or traditional family with a non-working spouse) on patterns of work-family spillover for men and women. Relevant details on the two family types included in this study are provided below.

Dual-Career Family

A “dual-career” family refers to one with a spouse in a career oriented job (generally called dual career men or dual career women) (Higgins & Duxbury, 1992). Kmec (Ibid.) found that regardless of the employment status of their spouse, men spend less time in domestic labour than women do. On the other hand, married women, whether employed or not, still are responsible for most of the domestic work. She suggests that the existence of a dual-career household is associated with an increase in work-to-family spillover for women but should have minimal impact on work-to-family spillover for men. Similarly, Campbell et al. (1994) argue that as married women enter the work force, the interplay between work and family becomes more important. They suggest that as women assume the additional role of ‘employee’, they are not free to relinquish any of their previous traditional roles (spouse, mother etc) and are more likely to experience more work-to-family spillover. In addition research continues to show that wives dissatisfaction with the household division of labour is related to marital conflict (Kluwer et al, 1996) and that dual-career women who participate in more domestic labour experience greater work family conflict (Wiersma & van den Berg, 1991). As such they can also be expected to report higher negative role spillover.

Others researchers suggest that the employment status of a spouse also has an impact on negative work-to-family spillover for men. Benin and Nienstdent (1985) suggest that negative spillover will be greater for dual-career men than traditional-men. Research by Higgins and Duxbury (1992) found this to be true. They suggested that the work

environment does not provide the increased flexibility needed by dual-career men to balance the increased role demands associated with their lifestyle. Management does not alter work expectations simply because a man has a career oriented spouse (Colwill and Temple, 1988).

Traditional Family

A “traditional-family” refers to one with a homemaker spouse (generally labeled traditional career men) (Higgins & Duxbury, 1992). Kirchmeyer (1993) found that a spouse’s employment status made a significant contribution to the final equation of negative family-to-work spillover. She found that having a non-employed spouse (traditional family) meant experiencing less negative family-to-work spillover. This was particularly true for those in her sample who were parents. She suggests that parenting involves demands and strains on work that are eased significantly by a non-employed spouse. However, Higgins & Duxbury (1992) found that traditional-family men were as likely to experience negative spillover as their dual-career counterparts.

Research also suggests that dual career households report positive work-family spillover as well. In a study by Marshall and Barnett (1993), over two thirds of men and women in their sample reported that combining work and parenting had definite gains (positive spillover), including making them better parents.

3.5.5 Work and Family Domains

In a review of multiple role accumulation, Froberg et al. (1996) postulated that the outcomes of multiple role participation will depend on the types of roles involved. Kirchmeyer (1992) argued that each nonwork domain with its unique sets of roles would support, facilitate, and enhance work differently than other domains. Her comments were specifically on the subject of positive family-to-work spillover, but the argument would seem applicable to negative family-to-work spillover as well and also work-to-family spillover. It would seem plausible that the parental role would be influenced differently from work than volunteer roles. Likewise, family would likely have a different impact on an individual's overall career than how an individual was viewed by their co-workers.

3.6 Measures of Spillover

Despite the recognition of the conceptual dimensions of spillover, very few studies have actually used or developed spillover measures. This literature review found a limited number of studies that actually used or developed spillover measures.

Small and Riley (1990) developed the Work Spillover Scale (WSS), a 20-item measure to assess the extent to which work had negative spillover into four family roles (the parent role, the marital role, the leisure role, and the home management role). Each sub-scale of the WSS is composed of five items. Within each role context, questions were designed to assess three hypothesized spillover processes. One item assessed time interference (e.g.

'My working hours interfere with the amount of time I spend with my children'), one energy interference (e.g. 'When I get home from work I often do not have the energy to be a good parent'), and one psychological interference (e.g. 'Because I am often irritable after work, I am not as good a parent as I would like to be'). Two other items, not linked to any specific spillover process (time, energy, or psychological interference), were also included for each role context (e.g. 'I am a better parent because of my job'). Items were presented as declarative statements and rated on a 5 point scale from strongly agree to strongly disagree. The Cronbach's alpha was .93 for the overall work spillover measure. Small & Riley (1990) did not develop a specific measure of positive spillover, although some of the items reflect the concept of positive spillover.

Kirchmeyer (1993) developed measures to assess both positive and negative family-to-work spillover. Positive spillover was assessed using 15 statements about spillover in accordance with Sieber's (1974) four positive outcomes of role accumulation (role privileges, status security, status enhancement, and personality enrichment). Questions were asked about each family role in which the respondent participated (e.g. parent role, volunteer role). Statements began with the phrases 'Being a parent' or 'Being involved in the community' and continued with items such as 'Earns me certain privileges'. The respondent was asked to use a 6 point Likert scale to indicate the extent he or she agreed or disagreed with each statement. Negative spillover was assessed by an eight item measure based on Greenhaus and Beutell's (1985) three forms of interdomain conflict (time based, strain based, and behaviour based). Respondents indicated if participation in

family roles negatively affected work in any of these ways. Examples include 'Demands time from me that could be spent on the job' and 'Tires me out so I feel drained at work.' The Cronbach alphas of family-to-work spillover for the respective family roles are: parental role (positive spillover, $\alpha=.85$; negative spillover, $\alpha=.79$); community work role (positive spillover, $\alpha=.89$; negative spillover, $\alpha=.85$); recreation role (positive spillover, $\alpha=.88$; negative spillover, $\alpha=.85$).

Duxbury and Higgins (1998) developed both family-to-work and work-to-family spillover measures. The family-to-work spillover measure assessed the extent to which conditions in the family domain affected role performance at work. On a 1 to 5 scale, respondents were asked to indicate whether they felt that their family life had a positive (5), neutral (3), or a negative (1) impact on seven aspects of their work life (e.g. their productivity, their ability to relocate, and their ability to travel on the job). The Cronbach's alpha for the family-to-work spillover measure was .78. The work-to-family spillover measure assessed the extent to which conditions in the work domain affect role performance in the family domain. On a 1 to 5 scale, respondents indicate whether they feel that their work life has had a positive (5), neutral (3), or negative (1) impact on seven aspects of their family and personal life (e.g. time with partner, time with children, relationship with children). The Cronbach's alpha for the work-to-family spillover measure was .88. The Likert scales developed for these measures allowed respondents to indicate if they experienced positive spillover (role enhancement theory), negative

spillover (role conflict theory), or no spillover between aspects of their respective work and family roles.

Grzywacz (2000) and Grzywacz & Marks (2000) used a 14 item measure to assess four dimensions of spillover. These included: positive spillover family-to-work (e.g. 'How often does talking with someone at home help you deal with problems at work?'); negative spillover family-to-work (e.g. 'How often does stress at home make you irritable at work?'); positive spillover work-to-family (e.g. 'How often do the things you do at work help you deal with personal and practical issues at home?'); and negative spillover work-to-family (e.g. 'How often does stress at work make you irritable at home?'). Responses range from 1 = 'Never' to 5 = 'All the time'. The Cronbach's alpha for these four spillover measures were as follows: positive family-to-work spillover, $\alpha=.70$; negative family-to-work spillover, $\alpha=.80$; positive work-to-family spillover, $\alpha=.73$; negative work-to-family spillover, $\alpha=.82$.

3.7 Critique of Spillover Literature

Although the preceding review reveals a large literature bearing on the topic of spillover, the relationships between work and family remain unclear. It is surprising, given the increasing importance of work-family balance for both employers and employees, that so few conclusions can be drawn. Although research has furthered our knowledge on work-

family spillover, more work needs to be done. There are several possible reasons why the research on work-family spillover has provided so few answers.

First, there has been too much debate in the literature on which theory (segmentation, compensation, or spillover) best describes the way in which work and family are linked. Despite the fact that spillover has been supported empirically and conceptually, many continue to debate these three theories. Some authors, such as Lambert (1990), suggest that it might be more appropriate to consider segmentation, compensation, and spillover as overlapping, not competing processes. Others, such as Judge and Watanabe (1994) argue that each of the three models may be appropriate for different individuals, and that research should move away from trying to find one best model typifying the work-family interface. Lambert (1990) suggests that processes other than segmentation, compensation, and spillover may link work and family (Lambert, 1990). In any case, the lack of sound theoretical development in this area is an underlying problem on research in this area (Tenbrunsel et al., 1995).

A second problem is the limited samples used in studies. Often samples are limited to only men or women. This limits the generalizability of the results to the opposite gender. Samples are also typically industry specific (i.e. focus on health care or the banking industry). For example, Small and Riley (1990) used only married male bank executives with children and Leiter and Durup (1996) used only female hospital workers with families, as defined by the presence at home of children, and a husband, or partner with

whom they had an enduring relationship. This again limits the generalizability of the results to other populations. Small and Riley (1990) suggest that future studies may be interested in examining whether these processes of work spillover differ for different types of occupations (e.g. factory worker vs. white-collar professionals) or for male vs. female workers.

A third, and one of the greatest problems, with the spillover literature concerns the predominant focus on negative spillover. The majority of literature on work and family is focused on work-family conflict (a form of negative spillover) despite the recognition that positive spillover does exist. For example, Small and Riley (1990) only measured negative spillover, despite their recognition that positive spillover can exist. Researchers who set out to investigate only negative outcomes, are likely to find them (Kirchmeyer, 1992). As Sieber (1974) noted, research that contains only negative spillover items focus attention automatically on these aspects. Grzywacz & Marks (2000) argue that the almost exclusive focus on work-family conflict (negative spillover) is one of the greatest barriers facing work-family research. Furthermore, Adams et al. (1996) argue that most studies focus on either negative or positive aspects of the work-family interface and consequently do not provide an accurate view of the whole interface. Kirchmeyer (1993) suggests that future research needs to move beyond simply examining negative spillover, and that any comprehensive theory must encompass both the positive and negative sides of spillover.

There is also a need for the literature to further examine outcomes that are affected by work-family spillover. Crouter (1984) suggests that more research is needed that attempts to measure specific indicators or outcomes of spillover from the family to the workplace (such as performance, morale, absenteeism, and job involvement). Similarly, Lambert (1990) recommends the use of diverse outcome measures to capture the full range of patterns of the work-family interface. Despite this recognition, studies have generally only examined the effect of spillover on a few outcomes. For example, Cohen (1997) only examined turnover, Swanson et al. (1996) only examined stress, and Grzywacz (2000) examined only physical & mental health.

Another criticism concerns spillover measures. As discussed in the literature review, very few studies have actually developed measures to assess spillover. Some studies that did provide measures did not differentiate between work-to-family spillover and family-to-work spillover (e.g. Marshall & Barnett, 1993). Kossek and Ozeki (1998) suggest that measures that clearly specify the direction (work-to-family or family-to-work) perform better than general measures that mix items assessing both directions in global scales. Their comments were specifically directed at negative spillover, but the logic would seem applicable to positive spillover measures as well. Also, studies tended to focus on either work-to-family spillover (e.g. Small & Riley, 1990) or family-to-work spillover (e.g. Kirchmeyer, 1992, 1993), but not both. The exceptions to this critique are the measures developed by Duxbury & Higgins (1998), Grzywacz & Marks (2000), and Grzywacz (2000).

Another criticism of the literature is the notion that the work role is treated as a single construct. Several studies have examined the family role from a multiple role perspective (e.g. parental role, spousal role, leisure role) (see Kirchmeyer, 1992, 1993; Small & Riley, 1990) and assessed the effect of spillover on each of these roles. However, the work role is always assumed to be a single role. No doubt many jobs require people to occupy multiple roles, although this may be more true for certain occupations. Grzywacz (2000) suggests an expanded model of spillover might best reflect today's working individual. Perhaps there is also a need to examine the work role from a multiple role perspective.

Despite the recognition of the various dimensions of spillover (work-to-family & family to work, both positive and negative), few studies (exceptions include Duxbury & Higgins, 1998; Grzywacz, 2000; and Grzywacz & Marks, 2000) have attempted to examine all the dimensions simultaneously. Until a larger model of work-family spillover is adopted and examined more thoroughly an incomplete picture of the work-family interface will remain. Lambert (1990) suggests that without a better understanding of the processes which link work and family, it will be difficult to identify effective strategies for helping workers achieve work-family balance.

4. RESEARCH OVERVIEW

4.1 Objectives & Research Questions

The theories and research findings highlighted in the literature review suggest that holding multiple roles has both positive and negative consequences. Despite the conceptual and empirical evidence recognizing the various dimensions of spillover, some forms of spillover have received more attention in the literature than others. This study takes a more comprehensive view of spillover and as such, should increase our knowledge in this area. The main objectives of this thesis and the associated research questions used to address these objectives are discussed below.

First, we conducted a more in-depth examination of the construct of spillover by concurrently examining both the direction of spillover (work-to-family and family-to-work) as well as its sign (positive spillover and negative spillover) (see Figure 1, pg. 9). With few exceptions (exceptions include Duxbury & Higgins, 1998; Grzywacz, 2000; Grzywacz & Marks, 2000), no other research has examined all the dimensions of spillover in one comprehensive study. This objective was addressed by Research Question 1:

(Q1): How prevalent are the four types of work-family spillover?:

- a) Positive work-to-family spillover;
- b) Negative work-to-family spillover;
- c) Positive family-to-work spillover;
- d) Negative family-to-work spillover.

The second objective of this research was to look at the relationships between the different types of spillover and key work, work-family, and individual outcomes. Work outcomes considered include job satisfaction and job stress. Work family outcomes considered include role overload, interference from family-to-work, and interference from work-to family. Individual outcomes considered include stress and life satisfaction. Such data may help to make a case for change if spillover is found to have an impact on these key outcomes. At the same time, this study examined the relationship between work family interference and negative spillover. As noted in Section 3.3 - Defining Spillover, conceptually these measures represent overlapping constructs. Little research exists however which looks at how these two constructs overlap. These objectives were addressed by Research Question 2:

(Q2): What is the relationship between:

- a) the two types of spillover (work-to-family and family-to-work spillover);
- b) spillover and individual outcomes (stress, life satisfaction);

- c) spillover to work-family outcomes (role overload, interference work-to-family, interference family-to-work); and
- d) spillover and work outcomes (job satisfaction, job stress)?

The third objective of this research was to expand spillover theory by not just examining spillover between work and family roles but also by examining the effects of spillover between work roles. This was referred to as work-role spillover. It stands to reason that if work and family roles can interfere with each other so should multiple work roles. In other words the time or energy spent in work-role A takes away from time or energy available for work-role B (negative work-role spillover). Alternatively skills learned in work-role A may make it easier to perform work-role B (positive work-role spillover) (see Section 5.3.1 - Operationalizing Work-Role Spillover, page 47). This objective was addressed by Research Question 3.

(Q3): Does work-role spillover exist? If so, how prevalent are the different types of work-role spillover?

The fourth objective of this research was to look at the relationships between work-role spillover and the different types of spillover (work-to-family spillover and family-to-work spillover) and key work, work-family, and individual outcomes. This objective was addressed by Research Question 4 and Research Question 5.

(Q4): What is the relationship between:

- a) work-role spillover and individual outcomes (stress, life satisfaction);
- b) work-role spillover and work-family outcomes (role overload, interference work-to-family, interference family-to-work); and
- c) work-role spillover and work outcomes (job satisfaction, job stress)?

(Q5): What is the relationship between work-role spillover and:

- a) work-to-family spillover;
- b) family-to-work spillover?

The fifth objective of this research is to examine the impact of key contextual variables (i.e. gender, family-type) on each of the spillover relationships outlined in the previous paragraph. This is done in order to gain a better understanding of how gender and family-type impacts various aspects of spillover. This objective was addressed by Research Question #6.

(Q6): How does family-type (dual career men vs. traditional men) and gender (dual career men vs. dual career women) affect the prevalence of the different types of spillover?

5. METHODOLOGY

This section is divided into six sections and presents the methodology that was used to address the research questions outlined in the previous section. Section one describes the sample from which the research was drawn. Section two reviews details on the procedure used to collect the data. Section three provides details on the instrument and measures that were used to gather the research data. Included in this section is a discussion of how work role spillover was operationalized in this research. Section four presents data on the reliability of the measures. Section five describes the sample selection process and includes a discussion on how family-type was operationalized in this research. Section six outlines the statistical methods and tests used in the analysis of the data.

5.1 The Sample

The opportunity for this study came from a larger research project on “wellness” among medical faculty at a large university teaching hospital in Eastern Canada. Data was collected from the medical faculty of five departments (Ophthalmology, Pediatrics, Anaesthesia, Psychology, and Department of Medicine). Each department provided a list of their faculty members resulting in a total sample frame of 548.

The use of medical faculty is a particular strength of this study because the potential for spillover is large given the nature of the occupation. Previous research on faculty careers has demonstrated that, for faculty, work life and family life are a 'seamless web' (Sorcinelli & Gregory, 1987). This was consistent with other research on medical faculty which found significant spillover between work and family (Near & Sorcinelli, 1986; Olsen & Near, 1994).

5.2 Procedure

Quantitative data for this research were collected by pencil and paper survey. Questionnaires were distributed via internal mail to the faculty members in each of the five departments participating in the study. In order to ensure confidentiality of the questionnaire responses, faculty were provided with pre-paid return envelopes in which to seal the completed questionnaires. The questionnaires were returned directly to the researchers, in order to ensure that information could not be identified. To encourage participation, a separate form and envelope was provided to those participants who wanted a copy of the summary results of the entire study. Questionnaires were returned to the investigators unopened to protect confidentiality.

A cover letter from the university was also included with each questionnaire outlining the importance of the research to individuals and the organization (see Appendix A). An announcement by each department head was also made at their respective departmental

meetings, emphasizing the importance of the survey. It is believed that these actions helped encourage individuals to respond.

Out of the 548 questionnaires sent out, a total of 154 completed questionnaires were returned, representing a response rate of 28%. This is considered a high response rate for physicians who have particularly demanding work requirements (response rates of 20% are not uncommon for this occupational group). It is also considered acceptable given the length of the survey instrument.

5.3 The Instrument

A 17-page questionnaire was distributed to all study participants. The questionnaire is divided into the following six sections: Section A - *Information About You*; Section B - *Work, Family and Personal Life*; Section C - *Organizational Climate*; Section D - *Your Job*; Section E - *Interaction Between Work Roles*; and Section F - *Stress and Coping*. A copy of the questionnaire is provided in Appendix B. In order to ensure confidentiality, the pseudonym "The University of Eastern Canada" is used in place of the actual university name. Names other than those of the authors are also omitted from the questionnaire copy in Appendix B. Some of the items in the questionnaire were collected for other research purposes and will not be reported here. Those that are relevant to this study are discussed below.

5.3.1 Measures

Well established measures from the work-family literature were used to operationalize the constructs of interest. These constructs include two work-family spillover measures (work-to-family spillover and family-to-work spillover), two individual outcomes (perceived stress and life satisfaction), two work outcomes (job stress and job satisfaction), and three work-family conflict outcomes (role overload, interference from work to family, and interference from family to work). As well, measures have been developed for this study to examine work-role spillover (spillover of administrative, patient care, teaching and research roles).

Questions were also employed in this study to collect data on a number of demographic items (i.e. age, occupation of spouse, and number of children). Questions also asked respondents to indicate how much time he/she spent in different work and home related activities (i.e. amount of time at work per week), the amount of time a respondent's spouse spent in different work and home related activities, and who had primary responsibility for childcare in their family. Descriptions of these measures and questions are provided below.

Work-Family Spillover

Family-to-Work Spillover was examined using 10 items based on a measure developed by Duxbury and Higgins (1998). This measure assessed the extent to which the

respondent perceived his or her family hindered their ability to do their job (negative spillover) or enhanced their job performance (positive spillover). Respondents indicated their perception of the impact of family on work for each item using a 5-point Likert scale ranging from 1 = 'Positive Impact' to 5 = 'Negative Impact.' A midpoint of 3 = 'No Impact' was provided for each item to allow respondents to indicate if they felt there was no spillover. The items were modified slightly from the original measures to assess family spillover into a variety of work situations specific to this sample. Some examples of family-to-work spillover items included: the impact family has on 'Productivity', 'Your faculty's view of you', and 'Your patient's view of you'. The complete 10-item measure appears in Appendix B, question 19, on page 5 of the questionnaire.

Work-to-Family Spillover was examined using eight items based on a measure developed by Duxbury and Higgins (1998) to correspond to their Family-to-Work Spillover Scale. This measure assessed the extent to which the respondent perceived his or her work interfered with their ability to perform key family roles (negative spillover) or promoted better family functioning (positive spillover). Respondents indicated their perception of the impact of work on family for each item using a 5-point Likert scale ranging from 1 = 'Positive Impact' to 5 = 'Negative Impact.' A midpoint of 3 = 'No Impact' was again provided to allow respondents to indicate if they felt there was no spillover. One item was added to the original measure to assess work spillover into a non-work situation specific to this sample ('The amount of time spent in medically related volunteer activities'). Some examples of work-to-family spillover items included: the impact work

has on 'Amount of time spent with partner', 'Amount of time spent with children', and Sharing of family responsibilities. The complete 8-item measure appears in Appendix B, question 20.

Duxbury and Higgins (1998) suggests the following cutoffs for both spillover measures (family-to-work spillover and work-to-family spillover): mean scores of less than 2.5 indicate positive spillover; means scores between 2.5 and 3.5 indicate no spillover; and mean scores greater than 3.5 indicate negative spillover.

Work Outcomes

Job Satisfaction was assessed based on a measure of satisfaction developed by Quinn and Shepard (1974). Employees indicate how satisfied they are with their jobs in general, their pay, their work hours, their schedule and their work tasks using a Likert scale ranging from 1= 'Very Dissatisfied' to 5 = 'Very Satisfied'. The original scale contained five items. This scale was modified slightly to reflect the nature of the sample's unique job characteristics (e.g. on-call schedule, work mix), resulting in a nine item scale. Job Satisfaction is calculated as the summed average of item scores. A higher score indicates higher job satisfaction. The complete 9-item measure appears in Appendix B, question 29.

Job Stress was assessed using the Job Tension subscale of House and Rizzo's (1972) Work Stress Scale. This five item scale was described by the authors as a measure of "the existence of tensions and pressures growing out of job requirements including the

possible outcomes in terms of feelings or physical symptoms” (p. 481). Responses were collected using a 5-point Likert scale ranging from 1 = ‘Strongly Disagree’ to 5 = ‘Strongly Agree’. A midpoint of 3 = ‘neutral’ was also included. Job Stress is calculated as the summed average of item scores with high scores indicating high job tension. The complete 5-item measure appears in Appendix B, question 26 (first 5 items).

Individual Outcomes

Perceived Stress was measured using the Perceived Stress Scale (PSS) (Cohen, Kamarck and Mermelstein, 1983). The PSS was designed to assess estimates of the extent to which one’s current life situation is perceived to be uncontrollable, unpredictable, and burdensome. Cohen et al.’s (1983) modified nine item measure was used in this study (The original scale contained 14 items). Respondent’s were asked to indicate how often within the last 3 months that they experienced various stressful feelings on a 5-point Likert-type scale ranging from 1 = ‘Almost Never’ to 5 = ‘Almost Always’ (four items were reverse scored). A midpoint of 3 = ‘Neutral’ was provided for each item. Perceived Stress is calculated as the summed average of item scores. Higher scores on this measure indicate greater levels of perceived stress. Cohen et al. (1983) suggest that scores of 2.8 or higher represent “high” levels of stress, scores between 1.8 and 2.8 represent “moderate” levels of stress, and scores less than 1.8 represent “low” levels of perceived stress. The complete 9-item measure appears in Appendix B, question 36 (first 9 items).

Life Satisfaction was measured using the Satisfaction with Life Scale (SWLS) (Diener, Emmons, Larsen and Griffin, 1985). The SWLS was designed to measure the respondent's global life satisfaction using five items. Respondents were asked to indicate their degree of agreement with each of the 5 items in this measure using a 5-point Likert-type scale which ranges from 1 = 'Strongly Disagree' to 5 = 'Strongly Agree.' A midpoint of 3 = 'Neutral' is provided for each item. Items included statements such as: "In most ways my life is close to my ideal"; "The conditions of my life are excellent"; "I am satisfied with my life". Life Satisfaction is calculated as the summed average of item scores. A higher score indicates greater levels of life satisfaction. The complete 5-item measure appears in Appendix B, question 40 (first 5 items).

Work Family Outcomes

Role Overload Scale was assessed using a 5 item scale developed by Bohen and Viveros-Long (1981). The scale was developed to measure the impact of flextime programs on reducing work-family stress. The scale allows a respondent to indicate on a 5-point Likert type scale how often they feel strains of various kinds related to competing demands on their time. Items included statements such as: "I feel I have more to do than I can comfortably handle"; "I feel emotionally drained when I get home from work"; "I feel I have to rush to get everything done each day". Role Overload is calculated as the summed average of item scores. Higher scores indicate greater role overload. The complete 5-item measure appears in Appendix B, question 18 (first 5 items).

Interference from Work-to-Family was assessed by means of a four-item measure based on a scale developed by Gutek, Searle, and Klepa (1991). Items included statements such as: “My work schedule often conflicts with my personal life” and “The demands of my job make it difficult to be relaxed at home”. Respondents were asked to indicate their degree of agreement with each item on a 5-point Likert-type scale ranging from 1 = ‘Strongly Disagree’ to 5 = ‘Strongly Agree.’ A midpoint of 3 = ‘Neutral’ is provided for each item. Higher scores indicate higher levels of perceived interference from work-to-family. The complete 4-item measure appears in Appendix B, question 18 (items 8 to 11).

Interference from Family-to-Work was assessed by means of a four-item measure based on a scale developed by Gutek, Searle, and Klepa (1991). Items include statements such as: “Making arrangements for my children while I work involves a lot of effort” and “My family/personal life often keeps me from spending the amount of time I would like on my career”. Respondents were asked to indicate their degree of agreement with each item on a 5-point Likert-type scale ranging from 1 = ‘Strongly Disagree’ to 5 = ‘Strongly Agree.’ A midpoint of 3 = ‘Neutral’ is provided for each item. Higher scores indicate higher levels of perceived interference from family-to-work. The complete 4-item measure appears in Appendix B, question 18 (items 6,7,12, & 13).

Work done by Duxbury and Higgins (1991) and Higgins and Duxbury (1992), in their study of over 20,000 private and public sector employees in Canada, suggests the

following cutoffs for the outcome measures examine in this study (with the exception of perceived stress): mean scores of less than 2.5 indicates low levels for a particular measure; means scores between 2.5 and 3.5 indicate moderate levels for a particular score; and mean scores greater than 3.5 indicate high levels for a particular measure. As noted above, cutoffs for perceived stress differed from the other measures utilized in this study. With respect to perceived stress, Cohen et al. (1983) suggest the following cutoffs for this measure: mean scores of 2.8 or higher represent high levels of stress, scores between 1.8 and 2.8 represent moderate levels of stress, and scores less than 1.8 represent low levels of perceived stress.

Work Role Spillover

Operationalizing Work-Role Spillover

Adults in contemporary society occupy a variety of social roles (e.g. worker, parent, spouse) (Frone et al., 1995). However, by definition medical faculty also occupy multiple work roles (administrative, research, teaching, and clinical roles). This sample allowed us the opportunity to study the concept of work role spillover (see Figure 2). Specifically, we examined the impact of each of these four work roles on each other and attempted to assess if that impact was positive, negative, or neutral (no impact).

Figure 2: Operationalizing Work-Role Spillover

	Teaching	Admin	Research	Clinical
Teaching	X	Negative Spillover	Negative Spillover	Negative Spillover
Admin	Positive Spillover	X	Negative Spillover	Negative Spillover
Research	Positive Spillover	Positive Spillover	X	
Clinical	Positive Spillover	Positive Spillover	Positive Spillover	X

Work Role Spillover was assessed by an 18 item measure that was developed by the primary researchers of this study. Spillover measures in the literature and the ones employed in this study were used as a basis to create this measure. Four separate work role context subscales were designed to reflect the multiple work-roles of this specific sample: spillover of administrative role, spillover of teaching role, spillover of research role, and spillover of patient care role. Each subscale was designed to determine the extent to which the respondent perceives how this particular work role affects role performance in the other three work roles. For example, for Administrative Role Spillover, each respondent was asked to indicate the impact of the Administrative Work Role on each of the other work roles (Teaching Role, Research Role, and Patient Care Role). Respondents indicated on a 1 to 5 scale whether they felt that the Administrative Work Role had a positive (1), a neutral (3), or a negative (5) impact on two aspects of each of the other work roles: time available to spend on teaching and the impact on their ability to be a successful teacher. The complete 18-item measure appears in Appendix B, question 35.

The cutoffs established by Duxbury and Higgins (1998) for work-to-family and family-to-work spillover noted above were also used to assess the mean scores for the work-role spillover measures. Cutoffs for work-role spillover were as follows: mean scores less than 2.5 indicate positive work-role spillover; mean scores between 2.5 and 3.5 indicate no work-role spillover; and mean scores greater than 3.5 indicate negative work-role spillover.

Demographic Measures

Several demographic questions were included in the survey instrument (these questions may be found in Appendix B). Those relevant to this thesis are described below.

Gender: Respondents were asked to indicate their gender (question 1)

Marital Status: Respondents were asked to select a category which best described their marital status (question 3). Categories included: never married; married or living with significant other; widowed; and separated or divorced.

Age: Respondents were asked to indicate their age in years (question 2).

Occupation of Partner: Respondents were asked to select a category which best described the occupation of their partner (question 7). Categories included: M.D.; other

professional (manager, teacher, professor, engineer; nurse); other non-professional (clerical, administrative, production, retail, secretary); homemaker; and other. Occupation of partner was coded into two groups, career-spouse (dual-family) and homemaker spouse (traditional family).

Number of children: Respondents were asked to indicate the number of children they had (question 4).

Age of Children: Respondents were asked to indicate the number of children they had in four age categories (questions 5). Categories included: 0 to 5 years old; 6 to 11 years old; 12 to 18 years old; and over 18 years old.

Number of Elderly Dependents: Respondents were asked to indicate the number of elderly dependents they had in three categories: living at home; living nearby; and living elsewhere (questions 6).

Number of Years on Faculty: Respondents were asked to indicate how many years they had been on faculty with the university (question 8).

Academic Rank: Respondents were asked to select a category which best described their academic rank (question 10). Categories included: lecturer; associate professor; assistant professor; full professor; and other.

Responsibility for Childcare: Respondents were asked to indicate who in their family had the primary responsibility for day to day arrangements for the care of children (question 17). The following 5 point scale was used to collect the response: 1 = “I Have”, 3 = “It is Equally Shared”, and 5 = “Spouse Has”. A “not-applicable” category was included for respondents who did not have children or those who had no childcare responsibilities.

Hours Spent in Work and Home Activities: A series of open ended questions asked respondents to indicate the number of hours per week they spent in specific work and non-work activities (question 14 & 15). Activities included: time at work (excluding on-call); time on-call; time sleeping; time with family; time in personal activities; and time in volunteer activities.

Hours Significant Other Spends in Work & Home Activities: Respondents were asked to indicate how many hours per week they perceived that their significant other spent in three specific activities: time in paid employment; time in childcare activities; and time in home maintenance (question 16). Again, open ended questions were used to collect these data.

5.4 Reliability of Measures

Table 5.4 highlights the reliabilities of the scales used in this study. The standardized Cronbach’s alpha has been calculated for each measure. Cronbach’s alpha measures the

internal consistency of a scale. It represents the degree to which instrument items are homogeneous and reflect the same underlying construct(s) (Stevens, 1995). Bohrnstedt & Knoke (1994) suggest that researchers should strive for alphas of 0.70 or higher.

As the data below highlights, most of the scales appear to be reliable and coherent. The only exception was the work interferes with family scale ($\alpha = 0.50$). Detailed examination of the survey data for this measure revealed that the majority of respondents did not have eldercare responsibilities. As such, one item was removed from this measure ("Making arrangements for my elderly parents while I work takes a lot of effort"). This resulted in a revised Cronbach's alpha of 0.61, which although still lower than desired, was an improvement over the original scale. Cronbach alphas were not calculated for demographic nor single item measures.

Table 5.4 - Reliability of Measures

MEASURE	NUMBER OF ITEMS	CRONBACH ALPHA
Family-to-Work Spillover	10	.8427
Work-to-Family Spillover	8	.8708
<i>Work Outcomes</i>		
Job Satisfaction	9	.8199
Job Stress	5	.8029
<i>Individual Outcomes</i>		
Stress	9	.8592
Life Satisfaction	5	.9080
<i>Work Family Outcomes</i>		
Role Overload	5	.8421
Interference Work-to-Family	4	.8423
Interference Family-to-Work	4	.5015
* Revised Interference Family-to-Work	3	.6075
<i>Work Role Spillover</i>		
Admin Role Spillover	6	.8763
Teaching Role Spillover	4	.7021
Research Role Spillover	4	.7272
Patient Care Spillover	4	.8296

* Family-to-work Interference measure with eldercare item removed.

5.5 Sample Selection

Research presented in the literature review highlighted the important influences that gender, parental status, and family-type have on spillover outcomes. To minimize the influence of uncontrolled confounds the sample was selected to ensure our participants occupied specific social roles. Three groups were included in our sample: fathers with a homemaker spouse, fathers with a working spouse, and mothers with a working spouse (see Figure 3).

Figure 3: Operationalizing Family-Type

	HOMEMAKER SPOUSE	WORKING SPOUSE
Men	Traditional Household	Dual Career Household
Women	N/a	Dual Career Household

By only examining these groups we can ensure all participants occupy the parental role, the spousal role, and the four work roles. This will assist in further examining the theoretical framework of multiple-role participation and its impact on spillover. In order to assess the impact of family-type on spillover, comparisons will be made between men in a traditional household and men in a dual career household. In order to assess the impact of gender on spillover, comparisons will be made between men and women in

dual career households. Limiting our comparisons to these groupings allows us to partially control for potential confounding factors (i.e. parental status, gender, and spousal occupation).

The following is a description of the procedure used to pare down the initial sample so as to meet these methodological requirements. First, respondents who were unmarried, separated or divorced, and non-parents were eliminated from the study (30 respondents). Second, respondents for whom family type could not be determined (one respondent did not indicate occupation of their partner) were removed from the data. Finally, women with “homemaker” spouses (two were found in this sample) were removed from the data set. A graphical representation of this elimination process is provided in Figure 4.

Figure 4: Sample Selection Process

Original Sample	N=154
Remove employees unmarried, separated, or divorced & non-parents	- 30
Remove employee with partner's occupation unknown	-1
Remove female employee with homemaker spouse	- 2
Final Sample	N=121

5.6 Statistical Analysis

All statistical analyses of the survey data was conducted using SPSS. The main statistical tests used in this research are described below:

1. **T-test.** The t-test is an assessment of the differences between the means of two independent samples.
2. **Chi-Square Test.** The chi-square is a test of statistical significance between the observed distribution of data among categories and the expected distribution.
3. **Correlation Analysis.** Correlation analysis is a measure of association between two continuous variables. Correlation measures both the size and direction of relationships between two variables. The squared correlation is the measure of the strength of the association (Tabachnick and Fidell, 1989).
4. **Principal Components Analysis (PCA).** PCA is a data reduction technique that attempts to identify underlying variables, or factors, that explain the pattern of correlations within a set of observed variables. The purpose of PCA is “to determine factors (i.e. principal components) in order to explain as much of the total variation in the data as possible with as few of these factors as possible” (Dillon et al, 1984). PCA therefore helps identify how many dimensions

(underlying constructs) account for most of the variance on an instrument (scale) with the original variables being the items in a scale (Stevens, 1996).

When the PCA matrix of factor loadings does not allow clear interpretation of the data, the matrix of factor loadings can be rotated (Varimax rotation) to acquire more easily interpretable factors. This methodology is consistent with that suggested by Dillon et al. (1985) who suggested that rotated matrix of factor loadings offered an alternative interpretation of the data which in a mathematical sense is equally valid. The difference between the rotated and non rotated matrix is with respect to interpretability. The varimax method was used in this study to “make interpretation of the factors easier” (Stevens, 1996, p. 369).

The following describes which data analysis techniques and statistical tests were utilized in this research to answer the research questions. Table 5.6 summarizes for each research question and the demographic data the statistical techniques used to analyze this information. Detail on each of these items is given below.

Research Question 1: What is the prevalence of the various types of work-family spillover?

The prevalence of various types of spillover was determined in two ways: first, by calculating the summed average of items for the two spillover scales (work-to-family and family-to-work) and comparing the mean scores to determine which direction is more

prevalent. Secondly, the frequency distribution of the respondent scores for both the family-to-work and work-to-family scales were calculated. Positive spillover is defined as those who marked a 1 or 2, negative spillover is defined as those who marked a 4 or 5, and no spillover is defined as those who marked a 3.

PCA analysis was used in this thesis to interpret the data regarding both spillover measures by allowing the researchers to see how relevant items for each spillover measure clustered together. The techniques discussed above were then used to calculate the prevalence with which each of these factors occurred. The factor scores were used to calculate spillover subscales as follows: First, the mean scores for each of the PCA factors were computed by calculating the summed mean score for each factor. Second, the frequency distribution for the three spillover categories (positive spillover, negative spillover and no spillover) were then calculated for each subscale.

Research Question 2: What is the relationship between the types of spillover and outcomes of interest?

The relationships between spillover and key outcomes of interest were examined using correlation analysis. The mean scores of the two spillover scales (work-to-family and family-to-work) as well as the spillover subscales (i.e. PCA factors) were correlated with the summed average score of each of the outcomes of interest (individual outcomes, work-family outcomes, and work outcomes).

Research Question 2 (continued): What is the relationship between work-to-family and family-to-work spillover?

The relationship between work-to-family and family-to-work spillover was examined using correlation analysis. The two spillover scales (work-to-family and family-to-work) as well as the spillover subscales (i.e. PCA factors) were correlated with each other (i.e. a correlation matrix of all work-to-family and family-to-work spillover scales was calculated).

Research Question 3: What is the Prevalence of Work-Role Spillover?

Given the exploratory nature of this research on work-role spillover, PCA was a first step in this analysis. PCA was used to assess how relevant items for each of the work-role spillover measures clustered together. Second, the mean scores for each of the PCA factors were computed by calculating the summed average for each factor. These factors are referred to throughout the rest of this thesis as work spillover subscales. The prevalence of the various types of work-role spillover were then determined by comparing the mean scores of the various work spillover subscales. Lastly, the frequency distributions for the three spillover categories (positive spillover, negative spillover and no spillover) was also determined and assessed for each work spillover subscale. Positive spillover was defined as those who marked a 1 or 2, negative spillover was defined as those who marked a 4 or 5, and no spillover was defined as those who marked a 3. The category distributions were then compared to determine which type of work-role spillover was more prevalent.

Research Question 4: What is the relationship between Work-Role Spillover and the Outcomes of Interest?

The relationships between work-role spillover and key outcomes of interest were examined using correlation analysis. Each of the work spillover subscales were correlated with each of the outcomes of interest (individual outcomes, work-family outcomes, and work outcomes).

Research Question 5: What is the relationship between Work-Role Spillover and Work-Family Spillover?

The relationships between work-role spillover and work-to-family and family-to-work spillover were examined by calculating a correlation matrix using work-to-family and family-to-work spillover measures as well as their subscales and the work spillover subscales.

Research Question 6: What is the Impact of Family-Type and Gender on the Various Types of Spillover?

T-tests and chi-square were used in this thesis to identify significant between group differences in the levels of spillover experienced by respondents. They served to answer whether gender or family-type would significantly affect work-family spillover and work-role spillover.

A gender comparison assessed the differences between two categories: men with a working spouse and women with a working spouse. The aim was to see if there were differences between dual-career men and dual-career women in regard to work-family spillover. A family-type comparison was made between traditional-men (men with homemaker spouse) and dual-career men (men with working spouse). This enabled the researchers to examine the impact of family-type on work-family spillover. T-tests were used with respect to the mean scores of the various spillover measures (total spillover measures and spillover subscales), while chi-square was used with categorical data (i.e. frequencies) of the various spillover measures (total spillover measures and spillover subscales).

Demographic Data

Frequencies, mean scores and standard deviations were calculated for the demographic data utilized in this thesis. T-tests and chi-square were used to identify between group differences for the demographic data. T-tests were used with the means and standard deviations while chi-square was used with categorical data (i.e. frequencies).

Table 5.6 – Summary of Analysis of Data

Research Question	STATISTICAL TECHNIQUE USED
Demographic Data	<ul style="list-style-type: none"> • Frequencies for each category, mean scores and standard deviations.
What is the prevalence of the various types of spillover?	<ul style="list-style-type: none"> • PCA used to determine subscales. • Frequencies for each subscale and the total measure. • Mean scores and standard deviations for the total measure and subscale.
What is the relationship between spillover and outcomes?	<ul style="list-style-type: none"> • Correlation analysis between spillover measures, spillover subscales, and outcomes.
What is the prevalence of work-role spillover?	<ul style="list-style-type: none"> • PCA used to identify subscales. • Frequencies for each subscale. • Mean scores and standard deviations for subscales.
What is the relationship of work-role spillover and outcomes?	<ul style="list-style-type: none"> • Correlation analysis between work spillover subscales and outcomes.
What is the relationship of work-role spillover and family-to-work and work-to-family spillover?	<ul style="list-style-type: none"> • Correlation matrix using total work-to-family and total family-to-work spillover scales as well as their respective subscales and the work spillover subscales.
What is the impact of gender & family type on various types of spillover?	<ul style="list-style-type: none"> • T-test on mean scores of total spillover scales and subscales. • Chi-square test on frequencies of total spillover scales and subscales.

6. RESEARCH FINDINGS

This section presents the main findings of this research. Its purpose is to describe the survey sample and to present the results of the statistical analyses. The chapter is divided into nine sections. Section one describes the demographic characteristics of the final sample grouped by both gender and family-type. Section two describes the data results on the outcomes of interest (individual outcomes, work outcomes, work-family outcomes) grouped by both gender and family-type. Section three presents the results of the analyses of the assessment of prevalence of the various types of spillover (Research Question 1) as well as the PCA analysis for these variables. Evidence on the impact of family-type and gender (Research Question 6) on work family spillover is presented in section four. Section five presents the results of the analyses of the relationships between work-family spillover and outcomes of interest (work outcomes, individual outcomes, & work-family outcomes)(Research Question 2). Section six describes the results of the analysis of the association between work-to-family spillover and family-to-work spillover (Research Question 2). Section seven describes the analyses of the assessment of the existence and prevalence of work-role spillover (Research Question 3) as well as the factor analysis for these variables. The impact of gender and family-type on work-role spillover is presented in section eight. Finally, section nine identifies the relationships between work-role spillover and work-family spillover and the outcomes of interest (Research Question 4).

6.1 Sample Characteristics

The following section discussion describes the survey sample in terms of: (1) gender and family-type; (2) age; (3) number and age of children; (4) responsibility for childcare; (5) organizational tenure and rank; and (6) hours per week spent in home and work activities by both the respondent and their significant other.

6.1.1 Gender and Family Type

Table 6.2.1 presents the respondent data grouped by family-type. Seventy-three percent of the respondents were male and 27% were female. Of the 88 males in the final sample, 35% were found in a traditional family (n=31), while 65% were found in a dual-career family (n=57). Consistent with how the sample was selected, all female respondents were categorized in a dual-career family-type (n=33).

Table 6.1.1 – Sample by Gender and Family Type

	GROUPINGS						TOTAL SAMPLE	
	Traditional – Male		Dual – Male		Dual – Female			
	Count	%	Count	%	Count	%	Count	%
Male	31	35.2%	57	64.8%			88	72.7%
Female					33	100%	33	27.3%

6.1.2 Age

The average age of respondents was approximately 48, suggesting a population largely in their mid life cycle. Examination of the age data reported in Table 6.2.2 indicates a tendency for men to be older than their female counterparts. This pattern held for both traditional family men (mean age = 50.65) and dual career men (mean age = 49.26) versus dual career women (mean age = 44.70). These age differences were statistically significant (t-tests; traditional male vs. dual women; $t=2.657$, $p=.009$; dual male vs. dual women; $t=2.754$, $p=.008$).

Table 6.1.2 – Age

	FAMILY-TYPE						TOTAL SAMPLE	
	Traditional – Male		Dual – Male		Dual – Female			
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.
Age	50.65	9.51	49.26	7.93	44.70	7.73	48.37	8.56

6.1.3 Number and Age of Children

Table 6.2.3a provides data on the average number of children for the sample. On average, respondents had 2.6 children. The data indicates that the men in the sample in traditional families have more children than dual-career men (3.13 children vs. 2.40 children) (t-test: $t=3.09$, $p=.003$). However, the average number of children for dual-career men and dual-career women was found to be similar.

Table 6.1.3a - Number of Children

Number of Children	FAMILY-TYPE						GROUP TOTAL	
	Traditional – Male		Dual – Male		Dual – Female		Mean	Std Dev.
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.		
	3.13	1.31	2.40	.88	2.45	.71	2.60	1.01

Table 6.1.3b summarizes the age range of children for this sample. The age range of children in the family was important to this research as the age of children might make a difference in the sign of spillover (Crouter, 1984). Chi square tests revealed no significant between group differences with respect to the age ranges of children. While not statistically significant, it is interesting to note that the women in the sample tended to have younger children while traditional men had older children.

Table 6.1.3b - Age Range of Children

Children		GROUPINGS						TOTAL	
		Traditional – Male		Dual – Male		Dual – Female		Count	Col %
		Count	Col %	Count	Col %	Count	Col %		
0 to 5	No	25	80.6%	41	71.9%	18	54.5%	84	69.4%
	Yes	6	19.4%	16	28.1%	15	45.5%	37	30.6%
6 to 11	No	22	71.0%	38	66.7%	17	51.5%	77	63.6%
	Yes	9	29.0%	19	33.3%	16	48.5%	44	36.4%
12 to 17	No	24	77.4%	38	66.7%	24	72.7%	86	71.1%
	Yes	7	22.6%	19	33.3%	9	27.3%	35	28.9%
18 and over	No	13	41.9%	29	50.9%	23	69.7%	65	53.7%
	Yes	18	58.1%	28	49.1%	10	30.3%	56	46.3%

6.1.4 Responsibility for Childcare

Responsibility for Childcare data are summarized in Table 6.1.4. The question was stated as follows: “In your family, who has the main responsibility for the day to day arrangements for the care of children?”. The data suggests that responsibility for childcare belongs primarily to women regardless of their family situation. For traditional family males, 89% indicated that their spouse was responsible for childcare and 11% said responsibility was shared. None of these men reported having the primary responsibility

for childcare. This was perhaps not surprising given the nature of the family arrangement.

Approximately one in three of the dual career men and women in the sample said that responsibility for childcare was shared in their family. However for the other dual career families in the sample, women were statistically more like than men to have responsibility for childcare (chi-square 32.45, $p=.000$). Sixty-three percent of the dual career men in the sample indicated that their spouse was responsible for childcare. Similarly, of the dual career women in the sample, 59% indicated that childcare was their responsibility. These data are consistent with national trends in this area (Statistics Canada, 2000) and indicate that even women in high prestige, high demand, positions (i.e. physicians in this sample) are exposed to strong social pressures in this area and still bear the primary responsibility for childcare arrangements.

Table 6.1.4 - Responsibility for Childcare

Responsibility for childcare	GROUPINGS						TOTAL	
	Traditional – Male		Dual – Male		Dual – Female		Count	Col %
	Count	Col %	Count	Col %	Count	Col %		
Mine			1	2.4%	17	58.6%	18	20.5%
Equally shared	2	11.1%	14	34.1%	9	31.0%	25	28.4%
Spouse	16	88.9%	26	63.4%	3	10.3%	45	51.1%

6.1.5 Organizational Tenure & Rank

Organizational tenure data provided in Table 6.1.5a indicates that this sample is comprised of long standing employees (mean tenure = 13 years). While the men in this sample (traditional and dual) tended to have been with the organization longer than their female counterparts the differences were not statistically significant..

Evidence in Table 6.1.5b suggests that the sample was well distributed with respect to academic rank. Of the total sample five percent were Lecturers, 48% were Assistant Professors, 20% were Associate Professors, and 19% were Full Professors. Although there was variation between the groups with respect to rank, Chi-square testing revealed no significant between group differences.

Table 6.1.5a - Academic Tenure

Number of years on faculty	GROUPINGS						GROUP TOTAL	
	Traditional – Male		Dual – Male		Dual – Female		Mean	Std Dev.
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.		
	13.47	8.43	13.27	7.84	10.58	6.41	12.58	7.67

Table 6.1.5b - Academic Rank

Academic Rank	GROUPINGS						TOTAL	
	Traditional – Male		Dual Career – Male		Dual – Female		Count	Col %
	Count	Col %	Count	Col %	Count	Col %		
Lecturer	1	3.3%	3	5.3%	2	6.1%	6	5.0%
Assistant Professor	10	33.3%	26	45.6%	22	66.7%	58	48.3%
Associate Professor	9	30.0%	16	28.1%	4	12.1%	29	24.2%
Full Professor	9	30.0%	10	17.5%	4	12.1%	23	19.2%
Other	1	3.3%	2	3.5%	1	3.0%	4	3.3%

6.1.6 Hours Per Week Spent in Work/Home Activities

Hours spent in work and home activities by respondents are summarized in Table 6.1.6a while hours spent in work and home activities by a respondents' significant other are summarized in Table 6.1.6b. The data suggests that the sample experiences very heavy work demands with respondents spending approximately 50 hours per week at work (excluding time in pager on call) and approximately 8 hours per week working at home (excluding time in pager on call). Work demands appear to leave little time per week for non-work activities such as: hours spent with family (25 hours per week or 3.6 hours per day); hours spent in personal activities (8 hours per week or 1.1 hours per day); hours spent in community and professional volunteer activities (2.7 hours per week); and hours spent in maintenance of home (6.5 hours per week or 0.9 hours per day).

T-tests revealed no significant family-type differences between traditional and dual career men in regard to hours spent per week in work and home activities. There were significant differences in regard to the hours spent in paid employment, childcare activities, and home maintenance by a respondent's spouse. However, this was not unexpected given the nature of the family structure.

There were however significant differences between dual career men and dual career women in the number of hours worked. Dual career men worked longer than dual career women: 51 hours per week vs. 46 hours per week (t-test; $t=2.17$, $p=.033$). This was further supported by the question on hours per week spent by a respondent's spouse in paid employment. Dual career men indicated that their spouse worked 35 hours per week, while dual career women indicated that their spouse worked 49 hours per week ($t=-3.81$, $p=.000$). Dual career men also reported that their spouse spent more time on home maintenance than did the spouses of dual career women ($t=3.75$, $p=.000$).

The gender differences between dual career men and women suggest that men spend more time at work and women spend more time in home activities. These findings were consistent with other research that found that dual career men generally work longer hours than dual career women (e.g. Bond et al., 1998; Levine & Pittinsky, 1997).

Table 6.1.6a – Hours Per Week Spent in Work/Home Activities

	GROUPINGS						GROUP TOTAL	
	Traditional – Male		Dual – Male		Dual – Female		Mean	Std Dev.
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.		
Hours per Week: Working at all locations other than Home (excluding on-call)	49.73	12.78	50.85	8.30	46.62	9.83	49.39	10.08
Hours per Week: Performing Academic or Clinical work at Home (excluding on-call)	7.73	4.79	8.51	5.38	6.65	5.26	7.79	5.22
Hours per Week: On-call Pager	42.43	55.56	26.79	31.19	35.50	33.53	33.19	39.28
Hours per Week: On-Call Hospital	10.69	13.00	9.80	15.19	6.38	9.62	8.98	13.21
Hours per Week: Sleeping	43.13	15.57	45.61	6.46	45.63	14.83	45.03	11.78
Wakeful Hours per week left for: Your Family	24.76	9.60	24.43	11.44	27.17	15.89	25.30	12.41
Wakeful Hours per week left for: Your Own Personal Activities	9.37	8.70	7.74	6.09	7.55	9.38	8.06	7.72
Wakeful Hours per week left for: Volunteer Activities within community	.93	1.81	1.34	2.36	.90	1.57	1.11	2.01
Wakeful Hours per week left for: Volunteer Activities related to your profession	1.94	2.79	1.87	2.60	1.27	1.78	1.71	2.44
Wakeful Hours per week left for: Maintenance of the home	6.39	6.00	6.30	4.73	6.91	4.66	6.49	5.03

Table 6.1.6b – Hours Per Week Significant Other Spends in Work/Home Activities

	GROUPINGS						GROUP TOTAL	
	Traditional-Male		Dual-Male		Dual-Female			
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Hours per week Significant Other spends: In paid employment	4.54	6.99	34.66	16.84	49.21	17.28	31.46	22.25
Hours per week Significant Other spends: In childcare activities with your children	27.29	24.14	20.72	17.74	15.05	13.84	20.60	18.82
Hours per week Significant Other spends: In home maintenance activities	23.31	12.61	14.87	9.26	7.92	5.82	15.14	11.00

6.2 Data Analysis of Outcomes

This section provides summaries of data analyses of the outcomes of interest in this study. The results of the data analyses for individual outcomes (perceived stress and life satisfaction), work outcomes (job satisfaction, job stress) and work-family outcomes (role overload, work interferes with family, family interferes with work) are presented. As noted in Section 5.3.1 – Instrument Measures, baselines established by Duxbury and Higgins (1991) and Higgins and Duxbury (1992) were utilized to assess the results of the outcomes measures examined in this study (with the exception of job stress). They suggest the following cutoffs for each of the outcome measures (except job stress): mean scores of less than 2.5 indicate low levels for a particular measure; mean scores between 2.5 and 3.5 indicate moderate levels for a particular score; and mean scores greater than 3.5 indicate high levels for a particular measure. For example, a mean score of 3.7 on the job satisfaction measure would suggest that respondents experience high

levels of job satisfaction. In regards to perceived stress, Cohen et al. (1983) suggest the following baseline cutoffs: mean scores less than 1.8 indicate low perceived stress; mean scores between 1.8 to 2.8 indicate moderate levels of perceived stress; and mean scores greater than 2.8 indicate high levels of perceived stress. Table 6.2.a highlights the means and standard deviations for the outcomes examined in this study grouped by gender and family-type, while Table 6.2b presents the frequency distribution of the mean score cutoffs of the study outcomes grouped by gender and family-type.

Table 6.2a – Mean Scores of Study Outcomes by Group

	GROUPINGS						GROUP TOTAL	
	Traditional Male		Dual – Male		Dual – Female		Mean	Std Dev.
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.		
Individual Outcomes								
Perceived Stress	2.43	.59	2.64	.72	2.77	.75	2.62	.70
Life Satisfaction	3.51	.61	3.47	.99	3.52	.89	3.49	.87
Work Outcomes								
Job Satisfaction	3.54	.57	3.34	.77	3.39	.61	3.41	.68
Job Stress	2.90	.66	2.98	.71	3.07	.89	2.99	.75
Work-Family Outcomes								
Work Interferes with Family	3.40	1.01	3.46	.93	3.42	.95	3.44	.95
Family Interferes with Work	2.01	.81	2.35	.81	3.04	.87	2.45	.91
Role Overload	3.40	.85	3.57	.89	3.82	.82	3.60	.87

Outcome Cutoffs (except perceived stress):

- Less than 2.5 – Low
- 2.5 to 3.5 – Moderate
- Greater than 3.5 : High

Perceived Stress Cutoffs:

Less than 1.8 - Low
 1.8 to 2.8 - Moderate
 Greater than 2.8 - High

Table 6.2b – Frequency Distribution of Study Outcomes by Group

		GROUPINGS						TOTAL	
		Traditional Family - Male		Dual Career - Male		Dual Career - Female		Count	Col %
		Count	Col %	Count	Col %	Count	Col %		
Individual Outcomes									
Perceived Stress	Low	2	6.5%	6	10.5%	1	3.0%	9	7.4%
	Medium	21	67.7%	29	50.9%	16	48.5%	66	54.5%
	High	8	25.8%	22	38.6%	16	48.5%	46	38.0%
Life Satisfaction	Low	2	6.5%	9	15.8%	6	18.2%	17	14.0%
	Medium	11	35.5%	18	31.6%	6	18.2%	35	28.9%
	High	18	58.1%	30	52.6%	21	63.6%	69	57.0%
Work Outcomes									
Job Stress	Low	8	25.8%	15	26.3%	9	27.3%	32	26.4%
	Medium	15	48.4%	30	52.6%	12	36.4%	57	47.1%
	High	8	25.8%	12	21.1%	12	36.4%	32	26.4%
Job Satisfaction Scale	Dissatisfied			10	17.5%	1	3.0%	11	9.1%
	Neutral	15	48.4%	23	40.4%	20	60.6%	58	47.9%
	Satisfied	16	51.6%	24	42.1%	12	36.4%	52	43.0%
Work-Family Outcomes									
Work Interferes With Family Scale	Low	4	12.9%	9	15.8%	3	9.1%	16	13.2%
	Medium	13	41.9%	17	29.8%	14	42.4%	44	36.4%
	High	14	45.2%	31	54.4%	16	48.5%	61	50.4%
New Family Interferes with Work Scale	Low	21	67.7%	35	61.4%	7	21.2%	63	52.1%
	Medium	8	25.8%	16	28.1%	15	45.5%	39	32.2%
	High	2	6.5%	6	10.5%	11	33.3%	19	15.7%
Role Overload Scale	Low	4	12.9%	9	15.8%	2	6.1%	15	12.4%
	Medium	9	29.0%	14	24.6%	7	21.2%	30	24.8%
	High	18	58.1%	34	59.6%	24	72.7%	76	62.8%

6.2.1 Individual Outcomes

Table 6.2.a highlights the means and standard deviations for individual outcomes (perceived stress and life satisfaction) while Table 6.2b shows the distribution of the study outcomes. These data suggest moderate to high levels of perceived stress and life satisfaction. This interpretation is consistent with that observed with the frequency data which showed that 55% of respondents indicated moderate levels of perceived stress while 38% reported high levels of perceived stress. Frequency data also showed that 57% of respondents reported high levels of life satisfaction while 29% reported moderate levels of life satisfaction.

6.2.2 Work Outcomes

Means and standard deviations for work outcomes (job satisfaction and job stress) are provided in Table 6.2a, while the frequency distribution for the outcome scores are provided in Table 6.2b. According to the criterion noted above, the means presented in this table indicate moderate to high job satisfaction, and moderate job stress. This interpretation of the data is consistent with that observed with the frequency data which showed that 48% of respondents indicated that job satisfaction was moderate (neutral) and 47% of respondents indicated that job stress was moderate (medium). It should be noted that one in four respondents indicated high levels of job stress.

6.2.3 Work-Family Outcomes

Table 6.2a provides means and standard deviations for work family outcomes (role overload, family interferes with work, work interferes with family) while Table 6.2b provides the frequency distribution for each measure. According to the criterion noted above, the results in Table 6.2.3a suggest that respondents in this sample averaged in the high range for role overload, in the low range for family interferes with work, and moderate to high range for work interferes with family. This interpretation of the data is consistent with that observed with the frequency data which showed that 50% of respondents reported “high” interference from work to family, 52% reported “low” interference from family to work, and 63% reported “high” role overload.

6.2.4 Impact of Family-Type and Gender on Outcomes

Table 6.2a provides the means and standard deviations for the outcomes of interest in this study (work outcomes, individual outcomes, and work-family outcomes) grouped by gender and family-type. Table 6.2b provides the frequency distribution for the outcomes grouped by gender and family type.

Impact of Family-Type

The results of t-test analysis revealed that there were no significant family-type differences for any of the outcomes of interest.

Impact of Gender

T-test revealed that gender had a significant impact on only the family interferes with work measure ($t = -3.827$, $p = .000$) with dual-women reporting higher scores for this measure. This finding was further supported by chi-square tests of the frequency data which also found significant gender differences for family interferes with work ($\chi^2 = 14.824$, $p = .001$). Detailed examination of the data reveal that 33% of dual-women reported high levels of family interferes with work compared to only 11% of dual-men. Conversely, 61% of dual-men reported low family interference with work, compared to 21% of dual women.

Significant between group differences based on gender were not observed in this study for any of the remaining outcomes. However, it should be noted that although there were no significant differences between the groups with respect to role overload and work interferes with family, all three groups reported largely negative experiences. For the total sample, 63% of respondents reported high levels of role overload and 50% reported high levels of interference from work to family.

6.2.5 Summary of Sample Characteristics and Outcomes

In terms of demographics, dual-career women in this sample were slightly younger than their male counterparts, with both dual-career men and traditional men averaging around the same age. On average traditional-men had more children than both dual career men

and women. The age range of the respondent's children was similarly distributed in all three groups. Although the women in the sample tended to have younger children than their male counterparts (note: this difference was not statistically significant). The data indicated that the women in the sample carry the primary responsibility for childcare regardless of the family type. The sample was comprised of long standing employees with an average of 13 years service and was well distributed with respect to academic rank. There were no between group differences with respect to tenure or rank. Dual career women averaged 5 fewer hours of professional work per week and 3 more hours in family activities per week than did dual career men. No differences were found between dual career men and traditional men with respect to time spent in work and home activities.

Data analyses of the outcomes indicated that family-type had no effect on any of the outcomes examined in this study. These findings suggest that outcomes (e.g. job satisfaction, job stress, life satisfaction) for men do not depend on family-type. There were, however, significant gender differences in one of the outcomes under study: family interferes with work. Dual career women were three times more likely to report "high" interference from family to work than were dual career men. It is interesting to note that key work outcomes, such as job satisfaction and job stress, were not linked to gender. This would suggest that many of the gender differences noted in the research literature are likely attributable to differences in job (i.e. difference in job flexibility and job control) rather than gender.

6.3 Results Associated with Research Question 1: Prevalence of the Various types of Spillover

Table 6.3a highlights the means and standard deviations for both the work-to-family and family-to-work spillover measures. This research used the cutoffs established by Duxbury and Higgins (1998) as described in Section 5.3.1. Table 6.3b highlights the distribution of positive spillover, negative spillover, and no spillover with respect to these scales.

Table 6.3a – Work-Family Spillover Measures

	MEAN (N=121)	STD DEV.
Family-to-Work Spillover	3.07	.65
Work-to-Family Spillover	3.83	.60

Cutoffs:

- Less than 2.5 – Positive Spillover
- 2.5 to 3.5 – No Spillover
- Greater than 3.5 Negative Spillover.

Table 6.3b – Distribution of Scores of Work-Family Spillover Measures

		TOTAL	
		Count	Col %
Spillover: Family to Work	Positive Impact	17	14.0%
	No Impact	79	65.3%
	Negative Impact	25	20.7%
Spillover: Work to Family	Positive Impact	3	2.5%
	No Impact	33	27.3%
	Negative Impact	85	70.2%

According to the criterion noted above, the mean score for family-to-work spillover reported in Table 6.3a suggests that most respondents in this sample experienced little family-to-work spillover (mean=3.07). This interpretation of the data is consistent with that observed with the frequency data (Table 6.3.1b) which showed that 65% of respondents indicated they felt no family-to-work spillover (no impact), one in five (21%) reported negative family-to-work spillover (negative impact), while 14% reported positive family-to-work spillover (positive impact).

The mean score for work-to-family spillover reported in Table 6.3a suggests that most respondents in this sample experienced negative work-to-family spillover (mean=3.83). This interpretation is consistent with the frequency data (Table 6.3.1b) which shows that a majority of respondents felt that work had a negative impact on family. Seventy percent of respondents indicated they experienced negative work-to-family spillover (negative impact), 27% reported no work-to-family spillover (no impact), and 3% reported positive work-to-family spillover (positive impact) (see Table 6.3.1b).

These findings were consistent with the results of the work-family outcome measures (Section 6.2.3), where work was reported as interfering more strongly with family (50.4% reported high interference from work to family) than family interfered with work (15.7% reported high interference from family to work).

6.3.1 PCA of Family-to-Work Spillover

This section presents the results of PCA of the 10 items in the family-to-work spillover measure. PCA analysis of the 10 items yielded three principal components which accounted for 68% of the total variance in the data. Results of the PCA analysis and the rotated factors are found in Appendix C. The factors appeared to be acceptable instruments for examining family-to-work spillover based on internal reliability testing. The factors and their respective items as well as the Cronbach's alpha for each factor are provided below.

Factor 1 - Career Advancement

The following variables loaded on this factor: Productivity (0.65), overall career ambitions (0.81), job relocation (0.75), and job-related travel (0.57). This factor accounted for 42.8% of total variance explained. Examination of these items suggest that this factor relates to how a respondent's personal/family situation impacts factors traditionally associated with career advancement such as job relocation, job-related travel, productivity, and career ambitions. The Cronbach's alpha for this factor is .73. Respondents with a high score on this factor are more likely to perceive that their family is having an negative impact on their ability to engage in activities traditionally associated with career advancement.

Factor 2 - Employer's View (of the individual)

The following variables loaded on this factor: "The hospital's view of you" (0.71) and "Your department's view of you" (0.85). This factor accounted for 14.8% of the total variance explained. This Examination of these items suggest that this factor relates to how a respondent's personal/family situation affects how they are viewed by their employer. The Cronbach's alpha for this factor was .87. Respondents with a higher score on this factor are more likely to perceive that their family is having an a negative impact on how they are viewed by their employer (the hospital and their department).

Factor 3: "Key Stakeholder's" View

The following variables loaded on this factor. "Your faculty's view of you" (0.63), "Your patient's view of you as a physician" (0.85), and "Your colleagues' view of you" (0.65). This factor accounted for 10.4% of the total variance explained. Examination of these items suggest that this factor relates to how a respondent's family situation affects how they are viewed as a physician and a medical colleague, in other words by the key stakeholders in the medical treatment process. The Cronbach's alpha for this factor is .73. A higher score on this factor suggests that respondents are more likely to perceive that their family has had a negative impact on how they are viewed by key stakeholders (i.e. their faculty, their colleagues, and their patients).

Item 10, Amount of time spent on C.M.E. did not load clearly on any factor and therefore was dropped from the analyses.

Scores for each of the PCA factor subscales were computed by calculating the summed mean score of the items that loaded on each component. The same baseline cutoffs used above to assess the total family-to-work spillover measure were utilized for the family-to-work spillover subscales: subscale mean scores less than 2.5 indicated positive spillover; mean scores between 2.5 and 3.5 indicated no spillover; and mean scores greater than 3.5 indicate negative spillover. Table 6.3.1a provides means and standard deviations for the three family-to-work spillover PCA factor subscales, while Table 6.3.1b highlights the distribution of positive spillover, negative spillover, and no spillover with respect to each of these subscales.

Examination of the means for each of these subscales indicates that, on average, respondents in this sample perceived no spillover from family-to-work with respect to any of the three family-to-work subscales examined.

Further examination of the means does, however, indicate a high degree of variability in these data suggesting that the spillover mechanism depends on the work role being considered. These data suggest that: (1) a higher proportion of the respondents perceive their family has had a positive impact on how their stakeholders view them (mean of 2.68); (2) a higher proportion of respondents perceive that their family has had a negative impact on their career ambitions (mean of 3.25); a higher proportion of the respondents perceive that their family has had no impact on their employer's view of them (mean of 3.04).

Table 6.3.1a - Family-to-Work Spillover Subscales

	MEAN (N=121)	STD DEV.
Factor 1: Career Advancement	3.25	.85
Factor 2: Hospital/Department View	3.04	.76
Factor 3: Physician/Colleague View	2.68	.73

Cutoffs:

- Less than 2.5 – Positive Spillover
- 2.5 to 3.5 – No Spillover
- Greater than 3.5 Negative Spillover.

Examination of the frequency data for the family-to-work spillover subscales supports the interpretation of the data noted above. While the majority of respondents reported no family-to-work spillover for all three subscales, the impact of family-to-work spillover varies depending on the work role. The frequency data suggests that: (1) family has the most positive impact on how respondents were viewed by their stakeholders (factor 3), with almost 40% of the sample reporting positive spillover for this factor; (2) family has the most negative impact on a respondents career advancement, with 34% of the sample reporting negative spillover for this factor; and (3) family has little or no impact on the employer's view of respondents, with almost 70% reporting no spillover for this subscale.

Table 6.3.1b – Distributions of Family-to-Work Spillover (Total Measure and Subscales)

		TOTAL	
		Count	Col %
Spillover: Family to Work	Positive Impact	17	14.0%
	No Impact	79	65.3%
	Negative Impact	25	20.7%
Factor 1 – Career Advancement	Positive Impact	14	11.6%
	No Impact	66	54.5%
	Negative Impact	41	33.9%
Factor 2 – Hospital/Department View	Positive Impact	16	14.2%
	No Impact	77	68.1%
	Negative Impact	20	17.7%
Factor 3 – Physician/Colleague View	Positive Impact	47	39.2%
	No Impact	62	51.7%
	Negative Impact	11	9.2%

6.3.2 PCA of Work-to-Family Spillover

As with family-to-work spillover, PCA analysis was also performed on the work-to-family spillover measure. PCA analysis of the 8 items yielded two principal components which accounted for 68% of the total variance in the data. Results of the PCA analysis and the rotated factors are provided in Appendix D. These subscales appeared to be acceptable instruments for examining work-to-family spillover based on internal reliability testing. The subscales and their respective items as well as the Cronbach's alpha for each factor are described below.

Factor 1: Required Family Roles. The following variables loaded on this factor: “Amount of time spent with partner” (0.80), “Amount of time spent with children” (0.73), “Relationship with children” (0.71), and “Sharing of Family Responsibilities” (0.73). This factor accounts for 53.6% of the total variance explained. Examination of these items suggest that this factor relates to family roles that a respondent is required to play. That is to say, each respondent in this sample is a parent and a spouse and therefore must act in each of these roles. The Cronbach’s alpha for this factor is .84. Respondents with higher scores for this subscale were more likely to perceive that work has had a negative impact on key relationships at home (i.e. their required roles as parents and a spouse).

Factor 2: Optional Non-Work Roles. The following variables loaded on this factor: “Amount of time spent in leisure activities” (0.63), “Amount of time spent in community/volunteer activities” (0.91), and “Amount of time spent in medically related volunteer activities” (0.85). This factor accounts for 14.4% of the total variance explained. Examination of these items suggest that this factor relates to non-work roles which a respondent has the option to occupy, such as volunteer or leisure roles. The Cronbach’s alpha for this factor is .81. Respondents with higher scores for this subscales were more likely to perceive that work has had a negative impact on activities outside work that they may chose to participate in (i.e. their optional non-work roles).

Examination of these subscales suggest that spillover from work-to-family depends on whether the role is required (i.e. spouse, parent) or optional (i.e. volunteer role, leisure role). Scores for each of the subscales were computed by calculating the summed mean score of the items that loaded on each factor. The same baseline cutoffs used above to assess the total work-to-family spillover measure were utilized for the work-to-family spillover subscales: subscale mean scores less than 2.5 indicated positive spillover; mean scores between 2.5 and 3.5 indicated no spillover; and mean scores greater than 3.5 indicate negative spillover.

Table 6.3.2a provides means and standard deviations for the two work-to-family spillover subscales and Table 6.3.2b highlights the distribution of positive spillover, negative spillover, and no spillover with respect to these subscales.

The means presented in Table 6.3.1.2a indicate that on average respondents experience negative spillover from work to both required and optional non-work roles. Negative spillover was particularly high between work and the performance of optional non-work roles (mean=3.97). The majority of respondents also indicated that spillover between work and required family roles was also negative (mean score = 3.74).

Table 6.3.2a - Work-to-Family Spillover Subscales

	MEAN (N=121)	STD DEV.
Factor 1: Required Roles	3.74	.64
Factor 2: Optional Roles	3.97	.73

Cutoffs:

- Less than 2.5 – Positive Spillover
- 2.5 to 3.5 – No Spillover
- Greater than 3.5 Negative Spillover.

Similar findings to those noted above were obtained using the frequency data. In general the frequency data suggest: (1) few respondents experience positive spillover from work to non-work roles (4% reported positive spillover from work into “Required” non-work roles and 3% reported positive spillover from work into “Optional” non-work roles); (2) very few respondents are able to separate work from family (only 1 in 4 respondents reported experiencing no spillover between work and non-work roles); (3) the majority of respondents experience negative spillover from work to required and optional non-work roles (69% reported negative spillover from work to “Required” non-work roles and 75% reported negative spillover from work to “Optional” non-work roles).

Table 6.3.2b – Distribution of Work-to-Family Spillover Scale and Subscales

		TOTAL	
		Count	Col %
Spillover: Work to Family	Positive Impact	3	2.5%
	No Impact	33	27.3%
	Negative Impact	85	70.2%
Factor 1 – Required Roles	Positive Impact	5	4.1%
	No Impact	32	26.4%
	Negative Impact	84	69.4%
Factor 2 – Optional Roles	Positive Impact	3	2.5%
	No Impact	30	24.8%
	Negative Impact	88	72.7%

6.4 Impact of Family-Type and Gender on Work-Family Spillover

This research is interested in examining the impact of gender and family type on work family spillover (work-to-family spillover and family-to-work spillover). Between group differences were examined using t-tests and chi-square tests for the total work-family spillover measure as well as the work-family spillover subscales (as outlined in Section 5.3). The results of these analyses are presented below.

6.4.1 Family-to-Work Spillover

Table 6.4.1a provides the means and standard deviations for the total family-to-work spillover measure and the family-to-work spillover PCA factor subscales grouped by gender and family type. Table 6.4.1b highlights the distribution of positive spillover.

negative spillover, and no spillover with respect to the full measure and the PCA factor subscales.

Impact of Family-type

T-tests results indicated no significant family-type differences for family-to-work spillover were observed for either the total measure ($t = -.096$, $p = .924$) or the three subscales (factor 1: $t = -.717$, $p = .475$; factor 2: $t = -.441$, $p = .660$; factor 3: $t = .135$, $p = .893$). This finding suggest that, in general dual career men and traditional-men experience similar levels of family-to-work spillover.

Virtually none of the men, regardless of their family type, experienced negative family-to-work spillover. The majority of respondents perceived that their family had not affected their career advancement (Factor 1) or their employer's view of them (Factor 2). A plurality reported their family had positively impacted how they were viewed by key stakeholders (Factor 3).

Impact of Gender

There were significant gender differences with respect to the total family-to-work spillover measure ($t = -2.525$, $p = .013$). Examination of the means indicates that dual career women experience higher levels of family-to-work spillover than dual career men. The frequency data can be used to help us to interpret these findings. The women in this sample were much more likely to report negative family-to-work spillover than were

dual-men (almost 40% of dual career women reported negative family-to-work spillover versus 14% of dual career men). In this sample, dual career women were less likely than dual career men to report that family had no impact on work (49% of dual career women reported no family-to-work spillover versus 75% of dual career men).

T-tests of the family-to-work subscales revealed more details on these gender differences. There were significant gender differences in two of the subscales: Factor 1 – *Career Advancement* ($t = -2.42$, $p = .035$) and Factor 2 – *Employers View* ($t = -3.86$, $p = .000$). These data indicate that the dual women in this sample are more likely than their male counterparts to say their family has had a negative impact on their Career Advancement (Factor 1) and their Employers' View (Factor 2) of them. As highlighted in Table 6.4.1b, 49% of dual-women reported negative family-to-work spillover with respect to career advancement (Factor 1) compared to 35% of dual men. Similarly, 39% of dual-women reported negative family-to-work spillover with respect to how they were viewed by the hospital and their department (versus 9% of dual career men). There were no differences between the groups with respect to how they were viewed as a physician and colleague (Factor 3). This suggests that family has a more negative impact on how a female doctor is viewed by her employer and her ability to advance than does a male physician in a similar family situation. It is interesting to note that this finding is consistent with responsibility for childcare data noted previously (i.e. women have greater responsibility at home).

Finally it is interesting to note that the majority of both male and female doctors perceive that their family circumstances have either no impact or a positive impact on how they are viewed by their stakeholders (colleagues, patients) with 52% reporting no impact, 39% reporting a positive impact and only 9% reporting negative impact.

Table 6.4.1a – Family-to-Work Spillover & Factors by Group

	GROUPINGS						GROUP TOTAL	
	Traditional – Male		Dual –Male		Dual – Female		Mean	Std Dev.
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.		
Spillover Family to Work	2.96	.67	2.98	.60	3.32	.68	3.07	.65
Factor 1 – Career Advancement	3.05	.86	3.18	.76	3.57	.91	3.25	.85
Factor 2 – Hospital/Department View	2.93	.82	2.86	.65	3.45	.73	3.04	.76
Factor 3 – Physician/Colleague	2.63	.79	2.61	.65	2.84	.77	2.68	.73

Cutoffs:

- Less than 2.5 – Positive Spillover
- 2.5 to 3.5 – No Spillover
- Greater than 3.5 Negative Spillover.

Table 6.4.1b – Distribution of Family-to-Work Spillover & Factors by Group

		GROUPINGS						TOTAL	
		Traditional – Male		Dual - Male		Dual Female		Count	Col %
		Count	Col %	Count	Col %	Count	Col %		
Spillover: Family to Work	Positive Impact	7	22.6%	6	10.5%	4	12.1%	17	14.0%
	No Impact	20	64.5%	43	75.4%	16	48.5%	79	65.3%
	Negative Impact	4	12.9%	8	14.0%	13	39.4%	25	20.7%
Factor 1 – Career Advancement	Positive Impact	5	16.1%	6	10.5%	3	9.1%	14	11.6%
	No Impact	21	67.7%	31	54.4%	14	42.4%	66	54.5%
	Negative Impact	5	16.1%	20	35.1%	16	48.5%	41	33.9%
Factor 2 – Hospital/Department View	Positive Impact	6	20.7%	9	17.0%	1	3.2%	16	14.2%
	No Impact	20	69.0%	39	73.6%	18	58.1%	77	68.1%
	Negative Impact	3	10.3%	5	9.4%	12	38.7%	20	17.7%
Factor 3 – Physician/Colleague View	Positive Impact	16	51.6%	21	37.5%	10	30.3%	47	39.2%
	No Impact	13	41.9%	31	55.4%	18	54.5%	62	51.7%
	Negative Impact	2	6.5%	4	7.1%	5	15.2%	11	9.2%

6.4.2 Work-to-Family Spillover

Table 6.4.2a provides the means and standard deviations for the work-to-family spillover scale and the work-to-family PCA factor subscales grouped by gender and family type. Table 6.4.2b highlights the distribution of positive spillover, negative spillover, and no spillover with respect to the full measure and the PCA factor subscales.

Impact of Family-Type

T-tests revealed no significant family-type differences for either the total work-to-family spillover measure ($t = -.274$, $p = .785$) nor the two factors that make up this measure (factor

1: $t = -.483$, $p = .630$; factor 2: $t = -.036$, $p = .971$). The majority of men regardless of their family circumstances, perceived that their work had a negative impact on their family roles (both required and optional).

Impact of Gender

There were no significant gender differences in the total work-to-family spillover measure (dual-men and dual-women: $t = .071$, $p = .943$). Nor were there any significant gender differences with respect to the two work-to-family spillover subscales (factor 1: $t = 1.30$, $p = .197$; factor 2: $t = 1.608$, $p = .111$). These findings suggest that when job type and family type are controlled for, men and women experience similar levels of work-to-family spillover. This would suggest that many of the gender differences observed previously in the spillover literature may have less to do with gender and more to do with job type (women in many of the research samples were more likely to occupy lower level positions, have less control of their jobs, and less job flexibility).

Although there were no significant differences between the groups, it should be noted that all three groups experienced largely negative work-to-family spillover. For the total sample, 70% experienced negative work-to-family spillover, 27% experienced no work-to-family spillover, and only 3% experienced positive work-to-family spillover (see Table 6.4.2b). These results were consistent with the high levels of interference between work and family reported previously.

Table 6.4.2a – Work-to-Family Spillover & Factors by Group

	GROUPINGS						GROUP TOTAL	
	Traditional Male		Dual – Male		Dual – Female		Mean	Std Dev.
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.		
Spillover Work to Family	3.81	.54	3.84	.53	3.83	.76	3.83	.60
W-F Factor 1 – Required Roles	3.75	.60	3.81	.53	3.62	.84	3.74	.64
W-F Factor 2 – Optional Roles	3.89	.63	3.90	.66	4.16	.89	3.97	.73

Cutoffs:

- Less than 2.5 – Positive Spillover
- 2.5 to 3.5 – No Spillover
- Greater than 3.5 Negative Spillover.

Table 6.4.2b – Distribution of Work-to-Family Spillover & Subscales by Group

		GROUPINGS						TOTAL	
		Traditional – Male		Dual – Male		Dual – Female		Count	Col %
		Count	Col %	Count	Col %	Count	Col %		
Spillover: Work to Family	Positive Impact	0	0%	0	0%	3	9.1%	3	2.5%
	No Impact	11	35.5%	18	31.6%	4	12.1%	33	27.3%
	Negative Impact	20	64.5%	39	68.4%	26	78.8%	85	70.2%
Factor 1 – Required Roles	Positive Impact	1	3.2%	0	0%	4	12.1%	5	4.1%
	No Impact	8	25.8%	15	26.3%	9	27.3%	32	26.4%
	Negative Impact	22	71.0%	42	73.7%	20	60.6%	84	69.4%
Factor 2 – Optional Roles	Positive Impact	0	0%	0	0%	3	9.1%	3	2.5%
	No Impact	12	38.7%	17	29.8%	1	3.0%	30	24.8%
	Negative Impact	19	61.3%	40	70.2%	29	87.9%	88	72.7%

6.4.3 Summary of Impact of Family-Type and Gender

Table 6.4.3 presents a summary of the analysis of the impact of family-type and gender on the work-family spillover measures, their respective subscales, and the outcomes of interest in this study. Family-type was found to have no significant impact on any of the total spillover measures, the spillover subscales, or the study outcomes. Gender was found to have significant impact on the total family-to-work spillover measure, two of the subscales (Factor 1 – Career Advancement and Factor 2 – Hospital/Department View), and one study outcome (family interferes with work). Dual career women were more likely than their male counterparts to report that family has had a negative impact on work. This finding is consistent with the fact that in this sample dual career women were more likely than dual career men to report high family to work interference. Dual career women were also more likely than dual career men to report that they perceived that their family has had a negative impact on their career advancement (Factor 1) and how they were viewed by the hospital and department (Factor 2). Gender was found to have no impact on the total work-to-family spillover measure, the work-to-family spillover subscales, or the remaining study outcomes.

Table 6.4.3 – Summary of Impact of Family-Type and Gender

MEASURE/FACTORS	FAMILY TYPE	GENDER
Family-to-Work Spillover – Full Scale	X	√ w>m negative spillover
Factor 1 – Career Advancement	X	√ w>m negative spillover
Factor 2 – Hospital/Department View	X	√ w>m negative spillover
Factor 3 – Physician/Colleague View	X	X
Work-to-Family Spillover – Full Scale	X	X
Factor 1 – Required Family Roles	X	X
Factor 2 – Optional Family Roles	X	X
Individual Outcomes		
Perceived stress	X	X
Life satisfaction	X	X
Work Outcomes		
Job satisfaction	X	X
Job stress	X	X
Work Family Outcomes		
Work Interferes with Family	X	X
Family Interferes with Work	X	√ w>m high interference
Role overload	X	X

Legend: √ - Significant Group Differences
 X – No Significant Group Differences
 W – dual career women
 M – dual career men

6.5 Results Associated with Research Question Two: The Relationship Between Work Family Spillover and Outcomes of Interest

Correlation analyses using the total work-to-family spillover measure as well as the work-to-family spillover subscales and the study outcomes measures are provided in Table 6.5.1. Correlation analyses using the total family-to-work spillover measure as well as the family-to-work spillover subscales and the study outcomes measures are provided in Table 6.5.2. Both are discussed below.

Table 6.5.1 - Family-to-Work Spillover Correlations

		Perceived Stress	Life Satisfaction	Job Satisfaction	Job Stress	Role Overload Summary Scale	Work Interferes with Family	Family Interferes with Work
Spillover Family to Work	Pearson Correlation	.282**	-.278**	-.205*	.257**	.357****	.082	.443****
	N	121	121	121	121	121	121	121
F-W Factor 1 – Career Advancement	Pearson Correlation	.353****	-.329****	-.214*	.303***	.428****	.157	.494****
	N	121	121	121	121	121	121	121
F-W Factor 2 – Hospital/Department View	Pearson Correlation	.103	-.087	-.081	.067	.137	-.091	.301***
	N	113	113	113	113	113	113	113
F-W Factor 3 – Physician/Colleague	Pearson Correlation	.124	-.106	-.150	.180	.137	.020	.209*
	N	120	120	120	120	120	120	120

Note: * $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$
 **** $p \leq .0001$

Table 6.5.2 - Work-to-Family Spillover Correlations

		Perceived Stress	Life Satisfaction	Job Satisfaction	Job Stress	Role Overload Summary	Work Interferes with Family	Family Interferes with Work
Spillover Work to Family	Pearson Correlation	.569****	-.443****	-.482****	.491****	.503****	.594****	.143
	N	121	121	121	121	121	121	121
W-F Factor 1 – Required Roles	Pearson Correlation	.491****	-.441****	-.442****	.459****	.455****	.580****	.113
	N	121	121	121	121	121	121	121
W-F Factor 2 – Optional Roles	Pearson Correlation	.535****	-.331****	-.420****	.403****	.442****	.458****	.157
	N	121	121	121	121	121	121	121

Note: * $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$
 **** $p \leq .0001$

6.5.1 Family-to-Work Spillover Correlations

Correlation analysis of family-to-work spillover and outcomes revealed numerous significant relationships. Family-to-Work Spillover was found to be positively correlated to the following outcomes: perceived stress ($r = .282$, $p = .002$); job stress ($r = .257$, $p = .004$); role overload ($r = .357$, $p = .000$); and family interferes with work ($r = .443$, $p = .000$). In other words respondents who reported high levels of family-to-work spillover were more likely to report high levels of perceived stress, job stress, role overload, and interference from family to work.

Family-to-Work Spillover was found to be negatively correlated to the following outcomes: life satisfaction ($r = -.278$, $p = .002$) and Job Satisfaction ($r = -.205$, $p = .023$).

These data suggest that respondents who reported high levels of family-to-work spillover were more likely to report lower levels of life satisfaction and job satisfaction.

As noted in Section 3.3, family-interferes with work is arguably equivalent to negative family-to-work spillover. The high correlations between family-to-work spillover and family-interferes with work supports this theory and suggests that they are overlapping constructs.

Family-to-work spillover was not found to be significantly correlated to the work interferes with family measure. This finding supports research which suggests that these two forms of interference are distinct constructs.

It would appear from these data then, that negative family-to-work spillover is associated with negative consequences both at work and at home. As noted above, negative spillover was found to be associated to high levels of perceived stress, job stress, role overload, and family-interferes with work. Likewise, negative family-to-work spillover was found to be associated with lower levels of job satisfaction and life satisfaction.

6.5.1.1 Family-to-Work Spillover Subscale Correlations

Correlation analysis of the three Family-to-Work spillover subscales indicate that only Factor 1- *Career Advancement* had any significant correlations with the outcomes

included in this study. These correlations mirrored the correlations of the original family-to-work spillover scale (see Table 6.1.1) but were stronger. These data suggest that individuals who perceive that family roles and responsibilities hinder career advancement experience high levels of perceived stress, job stress, role overload. That is to say, if you perceive that family responsibilities get in the way of your career ambitions there will be negative consequences for both the employee (i.e. less able to balance work and family) and the employer (i.e. higher job stress and lower job satisfaction).

Factor 2 – *Hospital/Department View* and Factor 3 – *Physician/Colleague View* were significantly correlated to only one of the outcomes, family-interferes with work, which was found to be positively correlated to Factor 2 ($r = .301$, $p = .001$) and Factor 3 ($r = .209$, $p = .022$). This suggests that those employees who experience interference from family to work are more likely than those who do not to perceive that their families have a negative impact on how they are viewed by their employer and key stakeholders. Individual outcomes and work outcomes had no association with how respondents perceived how they were viewed by their employer or key stakeholders.

It should be noted that with correlations data, we are unable to determine a causal mechanism. For example, it could be that high role overload and high job stress lead to increased negative family-to-work spillover or that increased family responsibilities cause increased role overload which in turn makes it difficult to devote time and energy

to work and hence lower life satisfaction. All we can say is that these variables are strongly intercorrelated.

6.5.2 Work-to-Family Spillover Correlations

Correlation analysis indicates that Work-to-Family Spillover was found to be positively correlated to the following outcomes: perceived stress ($r = .569$, $p = .000$); job stress ($r = .491$, $p = .000$); role overload ($r = .503$, $p = .000$); work interferes with family ($r = .594$, $p = .000$). These data suggest that employees who experience negative work-to-family spillover are likely to experience greater perceived stress, high job stress, high role overload, and greater interference from work to family.

Work-to-Family Spillover was found to be negatively correlated to the following outcomes: life satisfaction ($r = -.443$, $p = .000$); job satisfaction ($r = -.482$, $p = .000$). These data suggest that employees who experience negative work-to-family spillover are likely to experience lower levels of life satisfaction and job satisfaction.

These data again support the theory that work interfering with family and negative work-family spillover are overlapping constructs. The strength of the correlation between work-to-family spillover and work interferes with family ($r = .594$) is consistent with the high level of negative work-to-family spillover reported for the entire sample (70% of respondents indicated negative work-to-family spillover).

Work-to-Family Spillover was not significantly related to the revised family interferes with work measure. We again see that family interferes with work (negative family-to-work spillover) and work-to-family spillover are distinct constructs.

6.5.2.1 Work-to-Family Spillover Subscale Correlations

Correlation analysis of the two Work-to-Family spillover subscales indicate that both factors were found to have similar significant relationships with the outcomes. This data suggests that work interfering with both required (Factor 1) and optional family roles (Factor 2) is equally problematic for the employee and employer.

It should be noted that the strength of the correlation between Factor 1 – Required Non-Work Roles and work interferes with family ($r = .580$) is consistent with the high level of negative work-to-family spillover reported for this factor (70% of respondents indicated negative work-to-family spillover for Factor 1 – Required Roles). This suggests that employees who experience work interfering with family will also experience negative work-to-family spillover to their required non-work roles. This supports our contention that these are overlapping constructs.

6.6 Results Associated with Research Question 2 : Relationship Between Work-to-Family and Family-to-Work Spillover

Correlation analysis of the two spillover measures and their respective PCA factors are provided in Table 6.6. These data suggest that with few exceptions, the two spillover

measures and their respective PCA factors are strongly associated with each other. The exceptions to these findings include the associations between family-to-work Factor 2 – Employer's View and (1) work-to-family spillover (complete measure) ($r = .159$, $p = .093$) and (2) work-to-family spillover Factor 2 – Required non-work roles ($r = .097$, $p = .307$).

The number of significant correlations between work-to-family and family-to-work spillover suggests that these two constructs are strongly related. Spillover between family and work is likely to be associated with spillover between work and family. This suggests that the same underlying factors appear to contribute to both work-to-family and family-to-work spillover.

Table 6.6 – Spillover Correlations

		Spillover Work to Family	W-F Factor 1 - Required Roles	W-F Factor 2 - Optional Roles
Spillover Family to Work	Pearson Correlation	.358****	.312****	.332****
	N	121	121	121
F-W Factor 1 - Career Advancement	Pearson Correlation	.358****	.310***	.332****
	N	121	121	121
F-W Factor 2 – Employer's View	Pearson Correlation	.159	.097	.201*
	N	113	113	113
F-W Factor 3 – Key Stakeholder's View	Pearson Correlation	.270**	.266**	.210*
	N	120	120	120

Note: * $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$
 **** $p \leq .0001$

6.7 Results Associated with Research Question 3: Prevalence of Work-Role Spillover

Given the exploratory nature of this research on work role-spillover and the size of our sample, variable reduction using PCA was performed before any other analysis was done to assess how the 18 items that made up the four work-role spillover scales clustered together. PCA analysis of the 18 items yielded six principal components (subscales) which accounted for 78% of the total variance in the data. Results of the PCA and rotated factors are provided in Appendix E. The subscales appeared to be acceptable instruments for examining work-role spillover based on internal reliability testing. The subscales and their respective items as well as the Cronbach's alpha for each factor are described below:

Factor 1- Spillover: Admin to Teaching/Research

The following variables loaded on this factor: Admin impact on time spent in teaching (.81), Admin impact on ability to be successful teacher (.70), Admin impact on time spent in research (.85), Admin impact on ability to be successful researcher (.87). The Cronbach's alpha for this factor was .85. Examination of these items suggest that this factor relates to how the admin work role impacts both the teaching and research roles. In other words, respondents perceived that time and energy spent in the admin role has an impact on their ability to be a successful researcher and teacher as well as their ability to spend time in these roles.

Factor 2- Spillover: Admin to Physician

The following variables loaded on this factor: Admin impact on time spent in patient care (.75), Admin impact on ability to offer the kind of patient care you want (.80). The Cronbach's alpha for this factor was .80. Examination of these items suggest that this factor relates to how the admin role impacts the physician (or clinical) role specifically. In other words, respondents perceived that time and energy spent in the admin role has impacted their ability to be a successful physician (clinical role) as well as their ability to spend time in the physician role.

Factor 3- Spillover: Teaching to Research

The following variables loaded on this factor: Teaching impact on time spent in research (.85) and Teaching impact on ability to be successful researcher (.89). The Cronbach's alpha for this factor was .78. Examination of these items suggest that this factor relates to how the teaching role impacts the research role. In other words, respondents perceived that time and energy spent in the teaching role impacted their ability to be a successful researcher as well as their ability to spend time in the research role.

Factor 4- Spillover: Teaching to Physician

The following variables loaded on this factor: Teaching impact on time spent in patient care (.93) and Teaching impact on ability to offer kind of patient care you want (.75). The Cronbach's alpha for this factor was .73. Examination of these items suggest that this factor relates to how the teaching role impact the physician role. These findings suggest that respondents perceived that time and energy spent in the teaching role has

impacted their ability to be a successful physician (clinical role) as well as their ability to spend time in the research role.

Factor 5 - Spillover: Research to Other Roles

The following variables loaded on this factor: Research impact on time spent in teaching (.84), Research impact on ability to be successful teacher (.73), Research impact on time spent in patient care (.72), and Research impact on ability to offer the kind of patient care you want (.78). The Cronbach's alpha for this factor was .77. Examination of these items suggest that this factor relates to how the research role impacts other roles, specifically the patient care role and teaching. In other words, respondents perceived that time and energy spent in the research role impacts their ability to be successful in both their teaching and physician roles as well as their ability to spend time in these roles.

Factor 6 - Spillover: Physician to Other Roles

The following variables loaded on this factor: Clinical impact on time spent in research (.67), Clinical impact on ability to be successful researcher (.82), Clinical impact on time spent teaching (.77), and Clinical impact on ability to be successful teacher (.81). The Cronbach's alpha for this factor was .80. Examination of these items suggest that this factor relates to how the clinical/physician roles impacts other work roles, specifically research and teaching. These results suggest that respondents perceived that time and energy they spent as a physician impacts their ability to be successful in their research and teaching roles as well as time spent in these roles.

Scores for each of the PCA factors were computed by calculating the summed mean score of the factors that loaded on each component. Table 6.7a provides means and standard deviations for the 6 work-role spillover subscales, while Table 6.7b provides the distribution of positive spillover, negative spillover, and no spillover with respect to each of these subscales.

These data suggest that work roles do interact with each other, with some roles producing more spillover than others. While the majority of respondents indicate no spillover with respect to the six work spillover subscales, the data indicate that some roles are more “intrusive” than others. In particular, the administrative and physician roles seem to negatively impact the teaching and research roles. The teaching and research roles, on the other hand, appeared to have the least impact on the each other. Positive work-role spillover was not reported often, but was mostly associated with the teaching and research roles.

Table 6.7a - Work-Role Spillover PCA Factor Subscales

	MEAN	STD DEV.
Factor 1 – Spillover: Admin to Teaching/Research	3.45	.60
Factor 2 – Spillover: Admin to Physician	3.39	.61
Factor 3 – Spillover: Teaching to Research	3.18	.51
Factor 4 – Spillover: Teaching to Physician	3.11	.55
Factor 5 – Spillover: Research to Other Roles	2.96	.37
Factor 6 – Spillover: Physician to Other Roles	3.48	.70

Cutoffs: Less than 2.5 – Positive Spillover;
 2.5 to 3.5 – No Spillover;
 Greater than 3.5 Negative Spillover.

Table 6.7b - Distribution of Work-Roles Spillover Factors

		TOTAL	
		Count	Col %
Factor 1 – Spillover: Admin to Teaching/Research	Positive Impact	2	1.7%
	No Impact	72	62.6%
	Negative Impact	41	35.7%
Factor 2 – Spillover: Admin to Physician	Positive Impact	2	1.8%
	No Impact	76	67.9%
	Negative Impact	34	30.4%
Factor 3 – Spillover: Teaching to Research	Positive Impact	3	2.6%
	No Impact	94	80.3%
	Negative Impact	20	17.1%
Factor 4 – Spillover: Teaching to Physician	Positive Impact	7	6.1%
	No Impact	91	79.1%
	Negative Impact	17	14.8%
Factor 5 – Spillover: Research to Other Roles	Positive Impact	7	6.2%
	No Impact	100	88.5%
	Negative Impact	6	5.3%
Factor 6 – Spillover: Physician to Other Roles	Positive Impact	6	5.3%
	No Impact	62	54.4%
	Negative Impact	46	40.4%

6.8 Results Associated with Research Question 6: Impact of Gender and Family-Type on Work-Role Spillover

Table 6.10 provides the means and standard deviations for the work-role spillover subscales grouped by gender and family-type. T-tests revealed that with one exception neither gender nor family-type had a significant effect on work-role spillover factors. Family-type had a significant effect on Factor 1 – Spillover: Admin Role to Teaching/Research. Dual-career men were more likely than traditional men to report negative spillover from the administrative to teaching/research role ($t = -2.363$, $p = .021$).

It is difficult to assess how family-type impacts work-role spillover given the exploratory nature of this research.

Table 6.8 – Work-Role Spillover Subscales by Group

	GROUPINGS						GROUP TOTAL	
	Traditional Male		Dual Career – Male		Dual Career – Female		Mean	Std Dev.
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.		
Factor 1 – Spillover: Admin to Teaching/Research	3.28	.57	3.60	.58	3.34	.62	3.45	.60
Factor 2 – Spillover: Admin to Physician	3.40	.57	3.46	.59	3.27	.68	3.39	.61
Factor 3 – Spillover: Teaching to Research	3.07	.49	3.20	.56	3.25	.46	3.18	.51
Factor 4 – Spillover: Teaching to Physician	3.10	.53	3.14	.38	3.06	.78	3.11	.55
Factor 5 – Spillover: Research to Other Roles	2.87	.38	3.00	.41	2.98	.26	2.96	.37
Factor 6 – Spillover: Physician to Other Roles	3.29	.67	3.56	.72	3.53	.67	3.48	.70

6.9 Work-Role Spillover Subscale Correlations

Table 6.9 highlights the correlations of the work-role spillover subscales, work-family spillover measures (work-to-family spillover and family-to-work spillover), and the outcomes of interest in this study (individual outcomes, work outcomes, and work-family outcomes).

Table 6.7.1 - Work Role Factors Correlations

		W-to-F Spill	F-W Spill	Perceived Stress	Life Satisfaction	Job Satisfaction	Job Stress	Role Overload	Work Interferes with Family	Family Interferes with Work
Factor 1 – Spillover: Admin to Teaching/Research	Pearson Correlation	.291***	.058	-.223*	.114	-.262****	.227*	.243**	.361****	.023
	N	118	118	118	118	118	118	118	118	118
Factor 2 – Spillover: Admin to Physician	Pearson Correlation	.403****	.010	-.135	.132	-.268**	.280**	.218*	.402****	-.082
	N	115	115	115	115	115	115	115	115	115
Factor 3 – Spillover: Teaching to Research	Pearson Correlation	.192*	.122	-.174	.198*	-.192*	.122	.148	.142	.102
	N	120	120	120	120	120	120	120	120	120
Factor 4 – Spillover: Teaching to Physician	Pearson Correlation	.093	.179	-.011	.070	-.023	.112	.133	.135	.067
	N	118	118	118	118	118	118	118	118	118
Factor 5 – Spillover: Research to Other Roles	Pearson Correlation	.117	.157	-.071	.111	-.146	.000	.068	.110	.172
	N	116	116	116	116	116	116	116	116	116
Factor 6 – Spillover: Physician to Other Roles	Pearson Correlation	.362****	.237*	-.227*	.101	-.327****	.151	.292***	.277**	.291***
	N	117	117	117	117	117	117	117	117	117

Note: * $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$
 **** $p \leq .0001$

Factor 1 – Spillover: Admin to Research/Teaching

Factor 1 was found to be positively correlated to the following outcomes: work-to-family spillover ($r = .291$, $p = .001$); role overload ($r = .243$, $p = .008$); work interferes with family ($r = .361$, $p = .000$); and job stress ($r = .227$, $p = .013$). Factor 1 was found to be negatively correlated to the following outcomes: perceived stress ($r = -.223$, $p = .015$) and job

Satisfaction ($r = -.262, p=.004$). Factor 1 was not found to be significantly correlated to life satisfaction, family interferes with work, or family-to-work spillover.

In other words, respondents who perceive that their administrative responsibilities are getting in the way of their successful performance of their teaching & research roles (i.e. negative work-role spillover) are more likely to experience high role overload (i.e. have too much to do), high job stress (perhaps because they cannot meet all their work expectations) and negative spillover from work to family and negative work to family interference (suggesting that interference between work roles contributes to work-life conflict). They are also more likely to report high stress and are less satisfied with their work.

It is interesting to note that work-role spillover is not associated with family to work interference nor family to work spillover. This supports the observation made earlier, that these types of interference are quite separate and may have different causal mechanisms (i.e. work-role interference contributes to work to family interference just as family role interference may lead to family to work interference).

Factor 2 – Admin Role Spillover on Physician Role

Factor 2 was found to be positively correlated to the following outcomes: work-to-family spillover ($r=.403, p=.000$); role overload ($r=.218, p=.019$); work interferes with family ($r=.402, p=.000$); and job stress ($r=.280, p=.002$). Factor 2 was found to be negatively correlated to : job Satisfaction ($r= -.268, p=.004$). Factor 2 was not found to be

significantly correlated to life satisfaction, family interferes with work, perceived stress, or family-to-work spillover.

These results are virtually identical to the correlations for Factor 1. These data suggest that that higher work-role interference would be associated with greater negative work-to-family spillover, more negative work outcomes (increased job stress, lower job satisfaction), and more negative work-family outcomes (higher role overload, higher work to family interference). This again provides support for the notion that greater work-role interference will be associated with greater work to family interference.

Factor 3 – Teaching Role Spillover on Faculty Role

Factor 3 was found to be positively correlated to the following outcomes: work-to-family spillover ($r=.192$, $p=.036$); and life satisfaction ($r=.198$, $p=.030$). Factor 3 was found to be negatively correlated to the following outcomes: job Satisfaction ($r= -.192$, $p=.036$). Factor 3 was not found to be significantly correlated to the following outcomes: role overload, life satisfaction, family interferes with work, work interferes with family, perceived stress, job stress or family-to-work spillover.

It should be noted that: (1) the relationship between this work spillover subscale and the outcomes is not as strong as those observed with Factor 1 and Factor 2, and (2) there were fewer significant relationships between this factor and the outcomes of interest.

These findings are consistent with the fact that the majority of respondents (80%) reported no spillover from the teaching role to the research role.

Factor 4 – Teaching Role Spillover on Physician Role & Factor 5 – Research Role Spillover on Other Roles

Neither Factor 4 nor Factor 5 were found to be significantly correlated to any of the outcomes in this study. The absence of any significant correlations for these factors is again consistent with the fact that the majority of respondents indicated little spillover for these factors (79% of respondents reported no spillover for Factor 4 and 89% reported no spillover for Factor 5).

Factor 6 – Clinical Role Spillover on Other Roles

Factor 6 - Clinical Spillover onto other roles was found to be positively related to the following outcomes: work-to-family spillover ($r=.362$, $p=.000$), family-to-work spillover ($r=.237$, $p=.010$); role overload ($r=.292$, $p=.001$); work-interferes with family ($r=.277$, $p=.002$); and family interferes with work ($r=.291$, $p=.001$). Factor 6 was found to be negatively related to the following outcomes: perceived stress ($r= -.227$, $p=.014$); and job satisfaction ($r= -.327$, $p=.000$). Factor 6 was not significantly related to the following outcomes: life satisfaction and job stress.

These data again suggest that higher work-role interference would be associated with lower job satisfaction, greater negative work to family interference, and more negative work-family outcomes (higher role overload, higher work to family interference). However, it is noteworthy that only Factor 6 – *Spillover: Physician on Other Roles* had any association with family-to-work spillover and family-interferes with work. A possible explanation for this association might be that these faculty consider their physician role to be their primary work role. Respondents indicated that the majority of the time spent in each work role was spent in the physician role. Therefore, they may perceive this role to have a negative influence on all other roles, including their family roles. Also, they have less control of the clinical role therefore making it harder to keep it separate from other roles. It is also interesting to note that Factor 6 – *Spillover: Physician to Other Roles* did not correlate with job stress. Evidence suggests that the faculty in this sample enjoyed their physician role more than the other work roles. This would suggest that individuals who spent more time in the physician role will not necessarily experience great job stress despite the high work-role interference reported.

7. DISCUSSION OF RESULTS

This section provides a discussion of the data results in the context of the theoretical and empirical literature. This chapter is presented in five parts.

The first section discusses the data results on the prevalence of various dimensions of work-family spillover (Research Question 1). Evidence on the impact of family-type and gender on work-family spillover (Research Question 6) has been incorporate into this section. Section two, will look at the relationship between dimensions of work-family spillover and individual outcomes, work outcomes, and work-family outcomes (Research Question 2). Section three will discuss the relationship between work-to-family spillover and family-to-work spillover. Section four will discuss the findings in the area of work-role spillover (Research Question 4) with the impact of family-type and gender incorporated into this section (Research Question 6). Section five will highlight the relationships between work-role spillover, work-family spillover, and the outcomes of interest in this study (Research Question 5).

7.1 Research Question 1: What is the Prevalence of the Various Types of Spillover?

Findings of this research in regards to work family spillover indicate that work-to-family spillover is more pronounced than family-to-work spillover. In this sample, 65% of respondents experienced no family-to-work spillover compared with only 27% of

respondents who experienced no work-to-family spillover. These findings were consistent with other research which found that while family-to-work spillover exists, it occurs less frequently than work-to-family spillover (Bartolome & Evans, 1980; Bolger et al., 1989; Delong & Delong, 1992; Frone et al., 1992). These findings were also consistent with data from this sample which found that work interfered more strongly with family than family interfered with work (56% of respondents reported experiencing high levels of interference from work to family compared with only 16% of respondents who indicated high levels of interference from family to work). However, it may be erroneous to infer from this result that this sample did not experience family-to-work spillover. Despite the fact that 65% of respondents reported no family-to-work spillover, 21% reported negative family-to-work spillover and 14% reported positive family-to-work spillover.

There may be theoretical and sample specific reasons why family-to-work spillover was less pronounced than work-to-family spillover. Theories on spillover suggest that family boundaries are more permeable than work boundaries (Frone, Russell, & Cooper, 1992) and that it is easier to block out family problems at work than vice versa, due to the explicit reward system at the workplace (DeLong & Delong, 1992).

Two other sample specific factors may also have contributed to the lower level of family-to-work spillover than work-to-family spillover. First, the broad age range of children may have “watered down” the level of family-to-work spillover reported by this group

(i.e., family-to-work spillover may have been more prominent for parents of preschoolers than older children). The age range of children in the family has been shown to be associated with increased child care demands in the household (Lero et al, 1992) and negative family-to-work spillover (Crouter, 1984).

Second, theories also suggest that occupation group may influence work-to-family spillover. Marshall and Barnett (1993) theorize that parents in higher prestige jobs (representing a greater commitment to work) would experience greater work-to-family spillover. Similarly, faculty specific research suggest that faculty undertake long years of training to become members of their profession, demonstrate high levels of intrinsic interest in their work, have flexible work schedules that extend into evenings and weekends, and regularly work more than a forty-hour week (Austin and Gamson, 1983). As such they can be expected to put work ahead of family and hence experience greater work-to-family spillover. Doctors also generally have higher family incomes which affords them the opportunity to purchase family support (i.e. daycare, maid service) which in turn may lower family to work interference. Finally, it is also possible that the tenure length of respondents played a role in the high level of work-to-family spillover reported. Respondents had an average service length of almost 13 years, suggesting a population in their mid-careers which may also translate into greater job commitment and heavier work demands.

Not only was work-to-family spillover more prevalent in this sample than family-to-work spillover, negative work-to-family spillover was reported substantially more frequently than positive work-to-family spillover. This research does not support the idea that people experience positive spillover between work and family. Seventy percent of respondents reported negative work-to-family spillover which compared sharply to the only 3% who reported positive work-to-family spillover. Arguably, there may be a temporal component to spillover. In other words, negative spillover is more immediate in that people are more aware of immediate problems or hassles, and therefore respondents are more likely to report negative spillover (e.g. family problems may affect the mood and performance an employee at work). On the other hand, positive spillover may be less intangible, something that is experienced over a longer time frame, and therefore reported less often by respondents. For example, the benefits of a supportive spouse might be experienced over an extended time frame, and therefore respondents might not immediately recall or report as much positive family-to-work spillover. Indeed, respondents in this study were much more likely to report experiencing negative spillover than positive spillover. These findings are consistent with research by Williams and Alliger (1994), who found that negative moods spillover over from work to family, but that positive spillover did not occur as often. They theorized that role transitions tended to disrupt pleasant mood states but not unpleasant mood states.

Examination of the work-to-family PCA factors suggests that work-to-family spillover is not uniform across family domains. Although work-to-family spillover was largely

negative for both PCA Factors, it was greater for Factor 2 - *Optional Roles* than for Factor 1 - *Required Roles*. This suggests that respondents are more likely to perceive that work has a greater negative impact on non-work roles they would like to do (i.e. “Optional” roles such as volunteer and leisure roles) than roles they have to do (i.e. “Required” family roles such as parental and spousal roles). If organizations support the idea of their employees participating in volunteer and community activities, evidence from this study suggests that these respondents are finding it difficult to do so.

Examination of the family-to-work PCA factors suggest that family roles and responsibilities do not spillover into all dimensions of work in the same fashion. Respondents were more likely to report that their family had negatively affected behaviours associated with “Career Advancement” (Factor 1) (34% of respondents reported experiencing negative family-to-work spillover into this area). These findings are consistent with research citing the family as one of the major reasons why managers refuse transfers and limit work related travel (Crouter, 1984). On the other hand respondents were more likely to perceive that their family had a positive effect on how they were viewed by patients and colleagues (Factor 3 – Key Stakeholder’s View) (40% of respondents experiencing positive spillover into this area). This finding was consistent with previous research that found positive spillover between family and work and is consistent with the role enhancement hypothesis. That is to say, respondents in this sample may be experiencing the benefits of multiple role participation such as social support, skills transfer, and increased self worth. For example, respondents in Crouter’s

(1984) study reported that having a family helped them with people at work because they were better able to talk to other people and could relate to other people's problems as they had been through similar experiences. Experiences in their family domains may help these faculty to perform better in their jobs as physicians and colleagues.

The majority of respondents reported that family had no impact on how they were viewed by the hospital or department (Factor 3 – "Employer's View") (Almost 70% reported no spillover into this area). Of the respondents who did experience spillover from family to Factor 2: Employer's View, they were equally likely to experience positive and negative spillover (14% reported positive spillover and 18% reported negative spillover to this area).

The observation that the pattern of spillover is not uniform across work and family domains is consistent with research by Froberg et al. (1986). This evidence is important for both employees and employers in that it helps both to gain a better understanding of how specific work and family domains (roles) are impacted by spillover, both positive and negative. A better understanding will, it is hoped, lead to more appropriate and effective interventions or solutions to help employees achieve a better balance between work and family.

Impact of Family-Type (Research Question 6)

Evidence suggests that family-type had no significant effect on work-to-family spillover. This suggests that traditional-men and dual-career men experienced similar levels of work-to-family spillover (largely negative work-to-family spillover in this study). This was consistent with research by Kmec (1998), who found that men spend less time in domestic labour (than do women) regardless of the employment status of their spouse. She also postulated that the presence of a dual career household will have a minimal impact on work-to-family spillover for men.

The results also suggest that family-type had no effect on family-to-work spillover. The mean scores of the family-to-work spillover measure indicates that spillover levels were in the moderate range for both traditional-men and dual-career men. Detailed examination of the data revealed that traditional-men and dual-career men experienced similar levels of negative family-to-work spillover (13% for traditional-men and 14% for dual-career men). This was consistent with findings by Higgins and Duxbury (1992), who found traditional-men experienced the same levels of negative spillover as dual-career men. This was however, contrary to findings by Kirchmeyer (1993) who found that having a non-employed spouse (traditional family) meant experiencing less negative family-to-work spillover. These findings were also contrary with research that found dual-men perceived that being in a dual-career family had a negative effect on their careers, in that they were perceived as being less committed, less job-involved by both peers and supervisors (Burley, 1991).

Impact of Gender (Research Question 6)

Dual-career women in this sample were more likely to report negative family-to-work spillover than were dual-career men. Almost 40% of dual-career women reported negative family-to-work spillover versus 14% of dual-career men. This was consistent with Pleck's (1977) hypothesis on asymmetric boundary permeability.

Examination of the family-to-work spillover PCA Factors provide more details on the differences between dual-career men and dual-career women. There were significant gender differences for Factor 1 – *Career Advancement*, with 49% of dual-career women reporting negative family-to-work spillover for this item versus 35% of dual-career men. Similarly, there were significant gender differences for Factor 2 – *Hospital/Department View*, with 39% of dual-career women reporting negative family-to-work spillover versus only 9% of dual-career men. There were no significant gender differences for Factor 3 – *View as Physician/Colleague*, suggesting perhaps that how others view one's performance as a doctor is less impacted by the family than are the other work subscales. This would seem to suggest that women who try to put their families ahead of their career, perceive that this has had a negative impact on their career and how they are viewed by their employer. This was consistent with a study of medical faculty by Carr et al. (1998), which found that female faculty with children published less, had slower self-perceived career progress, and were less satisfied with their careers than their male counterparts with children. They also suggested that family responsibilities consume

more time for female faculty, and women are less able than men to expand their working hours. This was consistent with data in this study that found that women spent fewer hours in work related activities and more in family activities than did men.

Dual-career men and dual-career women did experience similar levels of overall positive family-to-work spillover. This was consistent with research by Kirchmeyer (1992) who found no gender differences in positive spillover from family-to-work.

It is noteworthy that only dual-career women reported any agreement with positive statements about work-to-family spillover (no dual-career men or traditional men indicated any positive work-to-family spillover). An explanation for this finding could be due to the occupation of the sample, specifically their roles as doctors. A study of female nurses by Barnett & Marshall (1992) found similar findings of positive work-to-family spillover. They suggested that women in their sample were employed in two "caregiving occupations" (home and work). They postulated that the presence of positive work-to-family spillover may be explained by a special responsiveness of women in the nursing profession to the rewards inherent in the caregiving aspects of their work. Arguably, female faculty may also benefit from the "caregiving" aspect of their job (the physician role), which may explain the positive work-to-family spillover reported.

Kmec (1998) suggests that certain individual and family characteristics increase the likelihood of negative spillover because they increase an individual's exposure to

situations in which negative spillover can occur (e.g. the amount of time in domestic labour one has to do, the likelihood of family crises to take care of). The fact that the dual-career women in this sample were more likely than their dual-male counterparts to be responsible for childcare may account for the greater negative family-to-work spillover reported by dual-career women in this study.

The nature of the occupation of this sample may offer another explanation for dual-career women experiencing greater negative family-to-work spillover. The dual-career women in this sample were all in career tracks, highly committed to their work but not free to relinquish their family responsibilities (arguably their required family roles). These findings are contrary to what might be expected according to some authors. Some have argued that since medicine is a high-status, high paid occupation, that doctors would have greater resources than most for coping with issues of work family balance. It is suggested that doctors can generally afford domestic help and high quality child-care, making it easier for female doctors to fully participate in their careers (Swanson et al., 1998). It is interesting that a group that could buy its way out of some family responsibilities did not appear to do so, evidenced by the fewer number of hours women spent at work and greater number of hours they spent at home. This would suggest that negative family-to-work spillover may be due more to social expectations and gender role definitions than socio-economic or work factors.

7.2 What is the relationship between the various types of spillover and key outcomes? (Research Question 2)

The work-to-family spillover measures correlated more strongly with the outcomes than did the family-to-work measures. These findings are consistent with the higher levels of work-to-family spillover than family-to-work spillover reported in this sample. These data are consistent with other research (e.g. Gutek et al, 1991) that found that work to family interference (arguably negative work-to-family spillover) was found to be more strongly associated with problems within the work domain (work outcomes), while family to work interference (arguably negative family-to-work spillover) was associated with problems within the family domain (family outcomes). No family outcomes were included in this study.

The strongest correlates of work-to-family spillover was work interferes with family (i.e. negative work-to-family spillover). This again suggests that these two measures are overlapping constructs. As for the remaining associations, with the exception of family interferes with work, all the outcomes (individual, work, and work-family) were strongly correlated with work-to-family spillover. The number of significant high correlations between work-family spillover and the outcomes suggests that overall work-to-family spillover measure and the work-to-family spillover subscales are predictors of key work outcomes, individual outcomes, and work family outcomes (with the exception of family interferes with work).

The strongest correlates of family-to-work spillover was family-interferes with work (i.e. negative family-to-work spillover) again emphasizing that these are overlapping constructs. That is, family interferes with work and negative family-to-work spillover are conceptually very similar. The fact that family-to-work spillover did not correlate as strongly with the outcomes in this study is consistent with the lower reporting of family-to-work spillover in this study (65% of respondents indicated they perceived no family-to-work spillover). The number of significant correlations between family-to-work spillover and the outcomes suggests that the overall family-to-work spillover measure and the first subscale (Career Advancement) are predictors of key work, individual, and work-family outcomes (with the exception of work interferes with family). The other two family-to-work spillover subscales (Employer's View and Key Stakeholder's View) would not be good predictors of any key outcomes (with the exception of family interferes with work).

7.3 What is the relationship between spillover measures? (Research Question 2)

The number of significant correlations between the two spillover measures and their respective factors suggest that the two constructs are strongly related. These findings underscore the importance of examining both work-to-family and family-to-work spillover simultaneously. As noted in the critique of the spillover literature, most studies have focused on work-to-family spillover and fewer have explored family-to-work spillover, often referred to as "the neglected side of the work-family interface" (Crouter,

1984). Studies that focus only on one type of spillover are likely to miss out on the important relationships between the two.

7.4 What is the prevalence of Work-Role Spillover? (Research Question 3)

Results suggest that a majority of respondents experienced no spillover between their respective work roles. However, those who did report work-role spillover reported that it was largely negative in nature. There was little evidence of positive work-role spillover. These findings indicate that having too many roles at work is as problematic as having too many roles outside of work (i.e. women who had additional family responsibilities (roles) reported greater levels of negative family-to-work spillover). The evidence also suggests that respondents appeared to be able to distinguish between their work-roles and assess the impact of each individually given the range of mean scores for each of the work spillover subscales. Given that these four work roles comprise a majority of the overall work-role for these individuals, the level of negative spillover and lack of positive spillover might be of concern to employees and employers.

Impact of Gender and Family-Type (Research Question 6)

There were few significant family-type and gender differences with respect to work-role spillover. This suggests that work-role spillover is likely linked more to the job you do rather than your gender or family type. Respondents in this sample all performed the same job, had the same number of work-roles, and faced similar job pressures and expectations, yet few differences were found. The lack of significant work-role spillover

differences between dual-career men and dual-career women is contrary to research that suggest that women experience more stress from multiple domain participation (Greenhaus, Bedian, & Mossholder, 1987; Yogev, 1986) than men and use less effective coping strategies than men (Pearlin & Schooler, 1982). The findings in this research suggest that many gender differences reported in the work family literature can likely be attributed to job type rather than gender.

7.5 What is the relationship between work-role spillover and outcomes and work-family spillover? (Research Questions 4 & 5)

The pattern of significant correlations between work-role spillover, the work-family spillover measures, and the outcomes in this study is consistent with the proportion of the sample reporting negative work-role spillover. For the work-role PCA factors where respondents have reported negative work-role spillover, we also see evidence of negative outcomes such as: increased negative work-to-family spillover; decreased job satisfaction; and increased job stress. Where there is no work-role spillover (i.e. respondents say no effect from certain work roles on other work roles) we see no negative outcomes (no correlations).

Although the majority of respondents indicated no work-role spillover, data suggests that work-role spillover does in fact exist for some respondents. Just as other research has found that specific roles in the family domain impact work differently (i.e. how parental status affects the levels of family to work interference), evidence in this study suggests

that certain work domains (work-roles) influence other work-roles to varying degrees. Arguably, some work roles are “greedier” than others in that they consume or demand more time and energy. This, in turn, affects spillover from work to family as well as specific work outcomes. These findings also lend validity to our measure of work-role spillover and the underscore the importance of further research in the area of work-role spillover.

8. CONCLUSIONS

This research has examined the topic of work-family spillover and the construct of work-role spillover (a previously unexplored topic) in a group of male and female faculty members in a large Canadian university teaching hospital. This chapter will highlight the major findings of this research.

Demographic data on the employees surveyed for this research show few differences associated with either gender or family-type. In general these faculty members were found to be in their mid-career & life cycle, with almost half the sample consisting of dual-career men and the balance almost evenly distributed with traditional-men and dual-career women. They had heavy responsibilities in the workplace, leaving less time for family. They had a tremendous amount of work experience, and were found to be well distributed with respect to age range of children and academic rank. Women were found to be younger than men and were also found to have shorter academic tenure. This could mean that the gender differences are due to differences in “life stages” between the sample groups rather than gender.

Consistent with other research dual-career women in this study spent less time in labour and more time on family responsibilities (Bond et al, 1998; Levine & Pittinsky, 1997). Research suggests that although men are working more hours at home, there is continued gender segregation in household tasks (Galinsky et al., 1993). Men tend to have more

discretion and flexibility in when they do tasks around the home (e.g. mow the lawn, household repairs, etc.), whereas women continue to be responsible for tasks (e.g. fixing meals, child care) that have less flexibility (Milkie & Peltola, 1999). Evidence in this study would tend to support these arguments with the responsibility for childcare still residing with women, even when the women are in an “elite” job.

“What is the prevalence of the various types of spillover?” The findings of this study would tend to support the following ideas: (1) work-to-family spillover occurs more often than family-to-work spillover and (2) negative spillover occurs more frequently than positive spillover. This was particularly true for work-to-family spillover with all groups reporting high negative levels of spillover.

Evidence from this study and other studies on work-family spillover found that work-to-family spillover is more prevalent than family-to-work spillover. This was consistent with Pleck’s (1977) theory that family boundaries are more permeable than work boundaries. That is to say, work will have a greater impact on family than family will have upon work. However, these findings do not necessarily prove that work is the paramount force in people’s lives. As noted earlier, the highly specific occupation of this sample may have unique demands and pressures that may have influenced the results.

Data indicates that respondents experience both positive and negative work-family spillover. The fact that more positive family-to-work spillover was reported than positive

work-to-family spillover, does not indicate that positive spillover does not exist. Given that our sample reported both positive and negative spillover does suggest the two are not mutually exclusive. Some researchers have argued that the concentration in the past on the dysfunctional outcomes of multiple role participation may have obscured the positive outcomes (Kirchmeyer, 1992, Grzywacz, 2000, 2001). This could explain the reason why work-family spillover was found to be largely negative, but that work and individual outcomes were generally moderate, which was opposite of what might be expected.

Some researchers suggest that positive and negative spillover are not mutually exclusive. That is to say workers can experience both positive and negative at the same time (for example, the opposite of negative spillover is no negative spillover not positive spillover). Some suggest that positive and negative spillover represent separate dimensions of experience rather than opposite ends of the same continuum (Crouter, 1984; Kirchmeyer, 1992, 1993). Role enhancement theorists suggest that “some roles may be performed without any net energy loss at all: they even create energy for use in that role or in other role performances” (Marks, 1977, p. 926). In order to better evaluate the role enhancement and role conflict hypotheses (Section 2.1) researchers suggest that separate scales be developed to measure both positive and negative spillover (both work-to-family and family-to-work) (Grzywacz, 2000; Tiedje et al, 1990). These two dimensions of spillover (positive and negative) might coexist to some degree, and may have common determinants and consequences (Grzywacz, Ibid.). Hence, further research may want to split the work-family spillover scales into both positive and negative scales.

Analysis also suggests that spillover is a multidimensional construct in that it affects work and family roles differently. The evidence from this study suggests that family-to-work spillover is a function of the particular aspect of work being considered. Similarly, work-to-family spillover was found to vary depending on the aspect of the family domain being examined. These findings support Froberg et al.'s (1986) contention that the outcomes of multiple role participation depend on the type of role involved.

In this study, family-to-work spillover was found to have different effects on three dimensions of work: Career Advancement; Employer's View; and Key Stakeholder's View. Family-to-work spillover was found to have the most negative impact in the area of career ambitions, the most positive impact on how respondents were viewed by key stakeholder's (patients and colleagues), and little to no impact on how respondents were viewed by their employer (hospital, department. Work-to-family spillover on the other hand, was found to have similar affects on the two sets of family roles identified in this study: required non-work roles; and optional non-work roles. Work-to-family spillover was equally problematic into both non-work domains, with slightly more respondents reporting negative spillover into optional non-work roles than required non-work roles. Combined these findings demonstrate the importance of examining multiple dimensions of both work and family domains.

"What is the relationship between work family spillover and outcomes of interest?" The correlations of the spillover scales and most of the outcomes of interest were significant,

suggesting a clear relationship between spillover and the outcomes. As noted in Section 6.5.2, the correlation of the work-to-family spillover scale and the outcomes was generally stronger than the correlation of the family-to-work spillover scale and the outcomes. This was likely due to the fact that while a majority of the sample reported negative work-to-family spillover the majority also felt that family-to-work spillover did not occur. The strong correlations between work-to-family spillover and work interferes with family and family-to-work spillover and family interferes with work confirmed that these are overlapping constructs and helped to validate the spillover measures used in this study. The spillover measures used appear to have captured the interference component of spillover (negative spillover). It is difficult to assess if the measures failed to capture positive spillover (role enhancement) or if there was simply little positive spillover experienced by respondents. Future scales may wish to split spillover into both positive and negative scales to better highlight the relationship between the positive and negative aspects of spillover and the outcomes of interest. The correlation analysis of the PCA factors was also encouraging. Researchers may be interested in examining the relationship between specific outcomes (work, individual, and work-family outcomes) and work-family spillover subscales to gain a better understanding on how specific work and family domains affect employees.

“What is the relationship between work-to-family and family-to-work spillover?” The significant correlations between work-to-family spillover and family-to-work spillover

suggest the two constructs are closely related. That is to say, an individual who experiences work-to-family spillover is likely to experience family-to-work spillover. This evidence stresses the importance that researchers examine both work-to-family and family-to-work to gain a better understanding of the interplay between work and family and lends support to Crouter's (1984) contention that the work-family interface is a "dynamic reciprocal system" (p. 439).

"Does work-role spillover exist? What is the prevalence of work-role spillover?" This research provides limited support for the new construct of work-role spillover. Although a majority of respondents indicated that they perceived no spillover between the various work roles, they appeared to be able to distinguish between each role and evaluate the effect of each role separately. At the same time, a number of respondents indicated that they did experience work-role spillover, although it was overwhelmingly negative. Although the evidence was inconclusive, it provides a stepping stone for future research. Studies have examined the family role in a multiple-role context and this is the first attempt to examine the work role in such a way. This analysis shows that work-role spillover does exist and that different work roles have a different impact on family roles.

"What is the relationship between work-role spillover, work-family spillover, and the outcomes of interest?" The pattern of significant correlations between work-role spillover, the work-family spillover measures, and the outcomes in this study is consistent

with the proportion of the sample reporting negative work-role spillover. Where respondents reported negative work-role spillover, we also found evidence of negative outcomes such as: increased negative work-to-family spillover; increased work to family interference; decreased job satisfaction; and increased job stress. We see that negative work-role interference is associated with greater negative work-to-family spillover and negative work outcomes. This evidence again supports the validity of the construct of work-role spillover and the measure developed in this study to examine this construct.

“What is the impact of gender and family-type on the various types of spillover?”

Gender was found to have an important impact on the results of the research. Data suggests there are significant gender differences in family-to-work spillover, with dual-career women experiencing greater negative spillover than dual-career men. This evidence was consistent with Pleck’s (1977) hypothesis that work boundaries would be more permeable for women than for men (i.e., women are more likely to bring family demands and feelings to work than vice versa). Detailed analysis suggests that dual-career women reported less negative work-to-family spillover into their “required” family roles than dual-career men, but much greater negative work-to-family spillover into their “optional” family roles spillover than dual-career men. A larger sample is, however, required to determine if such a finding is significant or an artefact of this study.

Data also suggested that dual-career women and dual-career men reported similar high levels of negative work-to-family spillover. Unlike in the family role where women are

unable to relinquish their family responsibilities, in the work role, women appear to experience similar levels of work-to-family spillover as men. However, these results show high levels of negative work-to-family spillover for all groups, consistent with the heavy work demands reported by respondents. This evidence suggests that when men and women have similar jobs (i.e. work roles), with similar levels of flexibility and control, men and women experience similar levels of spillover. Where they have different roles (i.e. family roles), with different levels of flexibility, men and women experience different levels of spillover.

This research provided no support for the impact of family-type on spillover for men. The data in this research suggests that having homemaker spouse may not be as much of a buffer against family-to-work spillover as previously thought. This result is perhaps not surprising given the results that continue to show that women still bear most of the responsibility for family regardless of whether they are employed or not. As a result, the impact of family-type for men in the area of work-family spillover should be minimal. The lack of impact of family-type on spillover in this research does not suggest that family-type is not an important issue for future examination. Research does suggest that men are increasingly taking on more family responsibilities (Crispell, 1992) and there is some evidence in this study to suggest that men are experiencing greater negative work-to-family spillover than women at least with respect to the issue of the sharing of family responsibilities. Given the fact that the number of men in dual-career families is increasing (Higgins & Duxbury, 1991; Kmec, 1998), research should continue to

examine the impact of family-type on work-family spillover as this trend continues over time. We were unable to test the impact of family-type for women in this research given the demographic make up of the sample. However, future research should attempt to assess the impact of family-type on spillover for women (e.g. single parent versus dual-career women).

In this research we have accounted for the confounding factors of job level, parental status, age of children, occupational group, job flexibility, and even the number of roles each respondent occupied. The evidence suggests that most group differences can be attributed to gender in this sample. However, closer examination of the results revealed differences not so much related to gender but rather family roles. These findings were consistent with those of Crouter (1984) who argues that spillover does not appear to be a gender issue, but rather, a function of family roles and responsibilities, which in our society, are traditionally based on gender.

The influence of sex roles responsibilities both inside and outside the family is a pervasive theme in the work-family literature (Crouter, 1984). Bohen & Viveros-Long (1981) found that even with the presence of flexible work schedules, other factors are more influential in determining how people distribute their energy between work and family. They suggest that the most powerful influences are sex-role expectations both "internalized and institutionalized"(p.1097). Crouter (1984) goes on to say:

“As long as society see child care and household work as primarily mothers’ responsibilities, many mothers are likely to experience (negative) spillover from family to work in the form of absenteeism, tardiness, energy deficit, preoccupation with family-related matters, and reluctance to accept work related responsibilities that conflict with family time and activities (Crouter, 1984, p 437).”

The key conclusion in regard to gender differences from this study is that all things being equal, women continue to have primarily responsibility for childcare activities and, as such, do not experience family-to-work spillover in the same way as men.

With respect to work-role spillover, few differences associated with gender or family-type were found. These findings suggest that work-role spillover is more likely to be linked to the type of job you do rather than your gender or family-type (i.e. people in the same job face the same pressures, expectations, etc.).

In summary, although the results of this study may not generalize to a wider population, this research takes another step in moving research toward examining both the positive and negative aspects of work-family spillover. Can we treat work-to-family and family-to-work spillover as a global construct, or do they have conceptually and empirically different subscales? Evidence in this and other research suggests the importance of examining various dimensions of both work and family domains. Likewise work-role spillover is a concept that should be explored further. This study has taken a first step in examining the work-role from a multi-role perspective.

As work family balance continues to increase in importance to both individuals and organizations, a better understanding of the connection between the work and family domains is needed. Traditionally work family balance has been considered a women's issue, but recent studies indicate that men are as likely as women to have difficulty managing work and family demands. Employers would want to know how both men and women manage a diversity of life domains (Kirchmeyer, 1993). Only with a better understanding of the work family interface will organization be able to effectively evaluate if work sponsored efforts to help work/family balance (job sharing, job flexibility, maternity and paternity leaves) actually help employees achieve a better work/life balance. Likewise, given the high levels of negative work-to-family spillover found in this and other research and the link between spillover and outcomes (individual, work, and work-family outcomes), organizations should attempt to address this issue or face the prospect of losing talented employees.

9. LIMITATIONS, BENEFITS & SUGGESTIONS FOR FUTURE RESEARCH

9.1 Limitations of Research

The main limitation of this study is that of generalizability. As this research was restricted to a single organization, the results may not be generalizable to other organizations. Also, given the use of a highly specific occupational group, medical school faculty, the specific wording of some of the measures would need to be modified slightly to use on other occupational groups. Research indicates that many of the same factors that make a faculty's work and nonwork life a "seamless web" are also conducive to high levels of role conflict and role overload (Greenhaus and Beutell, 1985) and may have had a large impact on the levels of work-family spillover reported. Likewise, the results of this research might only generalize to other high status professional groups, who have greater financial options to buy their way out of some family responsibilities. This may in turn reduce the amount of family-to-work spillover experienced, as was found in this sample.

Second, the participants in this study were volunteers who expressed an interest in or concern with work-family spillover. These individuals may be highly involved in both family and work and may experience higher than average levels of work-family spillover. As in any self reporting study, respondents may answer the questions in the way they

want, rather than answering the questions at face value. For example, Robinson and Godbey (1997) suggest that self report data of time in work activities is substantially inflated. Employees may overestimate their hours to appear to be working harder.

Third, there is also concern of how the results of the 72% of the employees in the original target population who did not respond to this study might differ from the 28% who did respond. It may be that those employees working the longest hours did not have time to respond, hence those with the greatest workloads may be underrepresented here. Likewise, those with the fewest work-family spillover issues may have felt little need to participate and choose not to respond.

Of concern may also be differences among the departments participating in the study. Although the departments are part of one larger hospital, each might have distinctive characteristics, such as leadership, culture, and job characteristics, that may influence their faculty members. These differences were not investigated in this study.

Another shortcoming of this research is that the spillover measures used have been treated as both continuous and discrete measures, which arguably may have affected how the results of each measure are reported. Despite this shortcoming, the results associated with treating the spillover measures as discrete (i.e. frequency or categorical data results), was always found to be consistent with the results when the spillover measures were treated as continuous (i.e. mean scores of measures). This consistency gives us greater

confidence with the reported results associated with the spillover measures, however, future research should be more clear in treating these spillover measures as either continuous or discrete measures. This will in turn affect the type of test used to assess any between group differences researchers may wish to examine (i.e. t-tests for continuous measures and chi-square tests for discrete measures). Likewise, if future researchers wish to examine the relationships between the spillover measures and other outcome measures (i.e. correlation analysis), this will require that the spillover measures be treated as discrete measures in order to run this type of analysis.

A final limitation of this study is that it is based on cross-sectional data. Lambert (1990) contends that longitudinal data examining work-family linkages will contribute more to the understanding of the processes through which work and family affect each other, than will cross-sectional data. However, due to time and financial constraints the collection of longitudinal data was not possible.

9.2 Research Benefits and Suggestions for Future Research

This research should provide a number of benefits. First, it contributes to the work-family literature by examining both work-to-family and family-to-work spillover in one study. Likewise, we have also recognized that spillover can be both positive and negative. There is a great deal of research on negative spillover. Less often has research recognized the positive influences work and family can have on each other. Despite the

conceptual and theoretical recognition of the bi-directional nature of spillover, few studies have attempted to examine both simultaneously.

Second, this study should provide a better understanding of the processes that link work and family. Kirchmeyer (1992) suggests that trying to explain job attitudes and performance levels simply in terms of working conditions and experiences is somewhat limiting. She suggests that a better understanding of work-family spillover may be necessary to explain certain attitudes and behaviours at work. Work and family issues are becoming increasingly problematic in the corporate world (Galinsky et al., 1993). Furthermore, Lambert (1990) suggests that it would be difficult to identify effective strategies for helping workers balance work and family life, without a better understanding of the processes that link the two. The importance of a better understanding of the work-family interface cannot be underestimated.

Anticipated demand for employees in high skill areas means that organizations may have to become more responsive to the personal needs of their employees if they are to meet staffing goals (Ontario Women's Directorate, 1990). As such, this study may help organizations identify those variables that increase positive spillover and reduce negative spillover, allowing the organization to develop or modify employee support programs accordingly.

A third benefit of this study is an opportunity to examine the work role from a multiple-role perspective (teaching role, administrative role, research role, and physician role) and to examine work role spillover. Studies have previously examined multiple non-work roles (i.e. parental role, spousal role, leisure role; see Kirchmeyer, 1993; Small & Riley (1990) for examples) and how each is affected by work-to-family spillover. In contrast, the work role has always been examined as a single role. No other studies have been found that have examined the work role from a multiple-role perspective. Examining work from a multi-role perspective could offer more benefits to organizations by identifying the work roles that most influence or are most influenced by each other and the impact they have on work-to-family spillover.

What should researchers learn from this study? The results of this study will hopefully be a stepping stone upon which future research can build. First, it appears that work and family are clearly not “separate worlds” and that they influence each other. However, we cannot fully understand the work family interface without examining both work-to-family and family-to-work spillover. As well, research should examine both positive and negative spillover in separate measures as this research suggests that they are distinct constructs that are not mutually exclusive. At the same time, researchers should recognize that positive and negative spillover may manifest themselves differently. Positive spillover may be something that is experienced over a longer time frame, whereas negative spillover may be experienced more immediately. As such, the measures developed to evaluate positive and negative spillover should take this temporal

impact into account. Also, it is important to realize that work and family are complex roles. What elements of the work (family) domain provide positive and or negative spillover to the family (work) domain? Identifying these key influencing dimensions may help individuals focus on the positive consequences and attempt to minimize the negative ones. The end result will be to allow individuals to achieve a better work-family balance.

Future research may wish to examine generational differences among dual-career men with respect to work-family spillover. Will younger men in dual-career families be more involved in their families (i.e. increased responsibility for childcare) than older men in dual-career families? Will this affect family-type differences in regards to spillover?

Future research may also wish to explore the impact of eldercare on work family spillover. Crouter (1984) suggests that similar levels of negative family-to-work spillover will be experienced by those with eldercare responsibilities as with childcare responsibilities. Given the aging population and increasing importance of eldercare, this fact could have major implications for organizations and individuals. Who will have primary responsibility for eldercare issues and subsequently the theorized negative family-to-work spillover? Research by Carr et al. (1998) has already found that women are twice as likely as men to be responsible for elderly dependents. Will eldercare responsibilities simply replace childcare responsibilities for women? This is an important issue left for future research.

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APPENDIX A - COVER LETTER

Note: In order to ensure confidentiality, this copy of the cover letter replaces the name of the participating organization with the pseudonym “University of Eastern Canada.” Organizational member names have also been removed from this copy of the cover letter. The original cover letter was printed on the participating organization’s letter head.

University of Eastern Canada

To: University of Eastern Canada
School of Medicine

From: Authors names omitted to ensure confidentiality

The Faculty of Medicine at the University of Eastern Canada is committed to providing an encouraging and supportive environment for our work. Recognizing that excessive stress in the workplace can have a negative impact on faculty as well as their families, the Task Force on Professional Stress is undertaking a serious initiative to enhance the development of a supportive environment.

The attached survey is an important component of this strategy. Its purpose is to identify the stress related factors that may be affecting the professional development and satisfaction of all our faculty. The survey was developed in collaboration with Dr. Linda Duxbury from the School of Business at Carleton University. She has extensive experience in assessing the stress related factors in industry. Analysis of data collected for high tech companies and large financial institutions have helped companies to change the work environment to be more supportive. This survey will require approximately 30 minutes of your time to complete. We would strongly encourage each faculty member to fill out the survey so that the information collected can be used to focus attention on components of our system which are causing undue stress. Armed with this information, we can then work together with you for change to improve the quality of our work environment.

All individual responses will be kept absolutely confidential. The questionnaire is to be returned to Dr. Linda Duxbury at the School of Business at Carleton University in the envelope supplied. All individual responses will be kept absolutely confidential. Only aggregate data will be available to the Task Force and to department chairmen and faculty. A summary of the report will be made available to the faculty in the Fall of 2000. If you would like a copy of the summary data, please enclose your name and address with the appropriate box ticked inside the 8.5 X 11 sized envelope supplied. This latter envelope can be either mailed directly to Dr. Duxbury or put inside the questionnaire envelope that you will be returning.

As we move forward on restructuring of the hospitals, downsizing of the health care system, diminishing opportunities for external research funding, the Faculty of Medicine faces an unprecedented challenge in its mission of delivering outstanding patient care, educating the next generation of physicians, leading in biomedical research, and providing excellent community service. Our Faculty is our most important resource for meeting these challenges.

We hope you will take the time to assist us in helping to improve our work environment.

APPENDIX B - SURVEY INSTRUMENT

Note: In order to ensure confidentiality, this draft of the questionnaire replaces the name of the participating organization with the pseudonym “University of Eastern Canada.” Some other names have also been modified.

University of Eastern Canada*

Faculty of Medicine

Wellness Survey

Please be assured that your responses will be held in **confidence** by the researchers. No one in your organization will see your questionnaire and only summary results from the entire survey will be presented in the final report document.

Please note that throughout the questionnaire:

X N/A means Not Applicable

Thank you for taking the time to fill out this questionnaire.
Your response is greatly appreciated.

Richard Brisbois
M.M.S student
School of Business
Carleton University
Ottawa, Ontario
K1Y 3S1

Linda Duxbury
Professor
School of Business
Carleton University
Ottawa, Ontario
K1Y 3S1

*Pseudonym

SECTION A: INFORMATION ABOUT YOU

We need some information about you to help us interpret this questionnaire. To answer the following questions, please **CIRCLE** the letter of the answer which best describes you and/or **FILL IN** the information requested. **Please be assured that your responses will be held in confidence by the researchers.**

1. What is your gender?
 - a. Male
 - b. Female

2. What is your age? _____ YEARS

3. What is your present marital status? (**CIRCLE** all that apply)
 - a. Never married
 - b. Married or living with a significant other
 - c. Widowed,
 - d. Separated or Divorced

4. How many children do you have? _____ CHILDREN (if zero, Please skip to question 6)

5. Please indicate how many children you have in each of the following categories:

0 to 5 YEARS OLD _____

6 to 11 YEARS OLD _____

OVER 18 YEARS OLD _____

6. Please indicate the **number of elderly dependents** in each of the following categories.

Living in your home _____ ELDER DEPENDENTS

Living nearby (i.e. within a short drive) _____ ELDER DEPENDENTS

Living elsewhere _____ ELDER DEPENDENTS

7. Please **CIRCLE** the letter which **best** fits most of the work your **partner** does:
- a. N/a
 - b. M.D.
 - c. Other Professional (i.e. Manager, teacher, professor, engineer, nurse)
 - d. Clerical, Administrative, Production, Retail, Secretary
 - e. Homemaker
 - f. Other
8. How long have you been on faculty at the University of Eastern Canada?
_____ YEARS
9. What is your current work status?
- a. Geographic Full Time
 - b. Major Part-time
 - c. Part-time
 - d. Other
10. What is your academic rank?
- a. Lecturer
 - b. Assistant professor
 - c. Associate professor
 - d. Full professor
 - e. Other (please specify) _____
11. What year did you graduate from medical school? _____ YEAR
12. What is your major department appointment?
- a. Medicine
 - b. Pediatrics
 - c. Anaesthesia
 - d. Ophthalmology
 - e. Other

13. What percent of your income comes from:
a. Patient billings (directly received)	_____PERCENT
b. University Income	_____PERCENT
c. Hospital Stipend	_____PERCENT
d. Alternative Funding programs	_____PERCENT
e. Practice Plan	_____PERCENT
f. Other	_____PERCENT
TOTAL	100 PERCENT

14. At present, approximately how many **hours per week** do you spend:

Working at all locations other than home (excluding on-call)
 ____HOURS/WEEK

Performing academic or clinical work at home (excluding on-call)
 ____HOURS/WEEK

On-call: Pager ____HOURS/WEEK

On-call: In House ____HOURS/WEEK

Sleeping ____HOURS/WEEK

15. In a typical week how many **wakeful hours per week** are left for:

Your family (spouse, children, parents) ____HOURS/WEEK

Your own personal activities ____HOURS/WEEK

Volunteer activities within the community ____HOURS/WEEK

Volunteer activities related to your profession ____HOURS/WEEK

Maintenance of the home
 (i.e. homechores, repairs, yardwork) ____HOURS/WEEK

16. Approximately how many hours/week does your **significant other** spend:

In paid employment? _____ HOURS/WEEK N/A

In childcare or activities with your children _____ HOURS/WEEK N/A

In home maintenance activities _____ HOURS/WEEK

17. In your family, who has the main responsibility for the day to day arrangements for the care of the children?

I HAVE		IT IS SHARED EQUALLY		SPOUSE HAS		
1	2	3	4	5		N/A

SECTION B: WORK, FAMILY AND PERSONAL LIFE

The following are ways in which work, family and personal life can interact. **Family** can include **partner, elders and/or children**. Please indicate the extent to which you agree or disagree with each of the following statements by **CIRCLING** the appropriate response.

18. To what extent do you agree or disagree with the following statements:

	STRONGLY DISAGREE		NUETRAL		STRONGLY AGREE
I feel I have more to do than I can comfortably handle	1	2	3	4	5
I feel physically drained when I get home from work	1	2	3	4	5
I feel emotionally drained when I get home from work	1	2	3	4	5
I feel I have to rush to get everything done each day	1	2	3	4	5
I feel I don't have enough time for myself	1	2	3	4	5
Making arrangements for my children while I work involves a lot of effort	1	2	3	4	5 N/A
Making arrangements for my elderly parents while I work involves a lot of effort	1	2	3	4	5 N/A
My work schedule often conflicts with my personal life	1	2	3	4	5
My family dislikes how often I am preoccupied with my work while I am at home	1	2	3	4	5 N/A
The demands of my job make it difficult to be relaxed at home	1	2	3	4	5
My work takes up time I would like to spend with my family or friends	1	2	3	4	5 N/A

My family/personal life often keeps me from spending the amount of time I would like on my job/my career

1 2 3 4 5

My family/personal life often interferes with my responsibilities at work

(i.e. getting to work on time, working overtime)

1 2 3 4 5

19. Please consider each of the following **work** situations and indicate the extent to which they have been affected by your **personal and/or family** situation.

	POSITIVE IMPACT		NO IMPACT		NEGATIVE IMPACT		
	1	2	3	4	5		
Productivity	1	2	3	4	5		N/A
Overall career ambitions	1	2	3	4	5		N/A
Job relocation	1	2	3	4	5		N/A
Job-related travel	1	2	3	4	5		N/A
The hospital's view of you	1	2	3	4	5		N/A
Your department's view of you	1	2	3	4	5		N/A
Your faculty's view of you	1	2	3	4	5		N/A
Your patient's view of you as a physician	1	2	3	4	5		N/A
Your colleagues' view of you	1	2	3	4	5		N/A
Amount of time spent on C.M.E.	1	2	3	4	5		N/A

20. Please consider each of the following **family or personal** situations and indicate the extent to which they have been affected by your **work** situation.

	POSITIVE IMPACT		NO IMPACT		NEGATIVE IMPACT	
Amount of time spent with partner	1	2	3	4	5	N/A
Amount of time spent with children	1	2	3	4	5	N/A
Relationship with partner	1	2	3	4	5	N/A
Relationship with children	1	2	3	4	5	N/A
Sharing of family responsibilities	1	2	3	4	5	N/A
Amount of time spent in leisure activities	1	2	3	4	5	
Amount of time spent in community/volunteer activities	1	2	3	4	5	
Amount of time spent in medically related volunteer activities	1	2	3	4	5	

SECTION C: ORGANIZATIONAL CLIMATE

The following questions ask about your experiences at your current place of work and about the “unwritten rules” (i.e. norms) which influence what you do. Please **CIRCLE** the most appropriate answer for each question. Please note: In all the questions below “department” refers to your University Department

21. Please indicate the extent to which you agree or disagree with each of the following statements:

	STRONGLY DISAGREE		NUETRAL		STRONGLY AGREE
The hospital values my contribution to its well-being	1	2	3	4	5
My department values my contribution to its well-being	1	2	3	4	5
The hospital fails to appreciate any extra effort from me	1	2	3	4	5
My department fails to appreciate any extra effort from me	1	2	3	4	5
Even if I did the best job possible the hospital would fail to notice	1	2	3	4	5
Even if I did the best job possible my department would fail to notice	1	2	3	4	5
The hospital takes pride in my accomplishments at work	1	2	3	4	5
My department takes pride in my accomplishments at work	1	2	3	4	5
Help is available from the hospital when I have a problem	1	2	3	4	5
Help is available from my department when I have a problem	1	2	3	4	5
The hospital really cares about my well being	1	2	3	4	5
My department really cares about my well being	1	2	3	4	5
The hospital is willing to extend itself in order to help me perform my job to the best of my ability	1	2	3	4	5
My department is willing to extend itself in order to help me perform my job to the best of my ability	1	2	3	4	5

	STRONGLY DISAGREE		NUETRAL		STRONGLY AGREE
The hospital disregards my best interests when it makes decisions that affect me	1	2	3	4	5
My department disregards my best interests when it makes decisions that effect me	1	2	3	4	5
The hospital is willing to help me when I need a special favour	1	2	3	4	5
My department is willing to help me when I need a special favour	1	2	3	4	5
The hospital cares about my opinions	1	2	3	4	5
My department cares about my opinions	1	2	3	4	5
Conditions in the hospital allow me to be about as productive as I can be	1	2	3	4	5
Conditions in my department allow me to be about as productive as I can be	1	2	3	4	5
The hospital promotes an environment that supports a balance between work and personal life	1	2	3	4	5
My department promotes an environment that supports a balance between work and personal life	1	2	3	4	5
The hospital has a sincere interest in the well-being of its staff	1	2	3	4	5
My department has a sincere interest in the well-being of the members of the department	1	2	3	4	5
It is not acceptable in this hospital to say "no" to more work	1	2	3	4	5
It is not acceptable in my department to say "no" to more work	1	2	3	4	5

Respect for the individual is a key element of this hospital's culture	1	2	3	4	5
Respect for the individual is a key element of my Department's culture	1	2	3	4	5
Academic promotion is valued in the hospital	1	2	3	4	5
Academic promotion is valued in my department	1	2	3	4	5

SECTION D: YOUR JOB

The following questions ask about your job and experiences with your employer. Please **CIRCLE** the most appropriate answer for each of the following questions.

22. Please **CIRCLE** the number that best describes how you feel about:

	VERY WORRIED		MIXED FEELINGS		VERY GOOD
Your future with the Faculty of Medicine, University of Eastern Canada	1	2	3	4	5
Your future with University of Eastern Canada teaching hospitals	1	2	3	4	5
The future of academic medicine in this Province	1	2	3	4	5
The future of academic medicine in Canada	1	2	3	4	5
The future of others who work in the University of Canada teaching hospitals.	1	2	3	4	5
The future of others who work in affiliated teaching hospitals	1	2	3	4	5

23. How often do you think about leaving academic medicine?

NEVER	YEARLY	MONTHLY	WEEKLY	DAILY
1	2	3	4	5

24. How often do you think about leaving medicine in Canada?

NEVER	YEARLY	MONTHLY	WEEKLY	DAILY
1	2	3	4	5

25. How often do you think about leaving medicine all together?

NEVER	YEARLY	MONTHLY	WEEKLY	DAILY
1	2	3	4	5

26. To what extent do you agree or disagree with the following statements:

	STRONGLY DISAGREE		NUETRAL		STRONGLY AGREE
I work under a great deal of tension	1	2	3	4	5
I have felt fidgety or nervous as a result of my job	1	2	3	4	5
If I had a different job, my health would probably improve	1	2	3	4	5
Problems associated with my job have kept me awake at night	1	2	3	4	5
I often "take my job home with me" in the sense that I think about it when doing other things	1	2	3	4	5
I have too little authority to carry out the responsibilities assigned to me	1	2	3	4	5
I have too heavy a work load	1	2	3	4	5
I am not able to satisfy the conflicting demands of various people	1	2	3	4	5
I am unable to influence decisions and actions that will affect me	1	2	3	4	5
I do not know what the people I work with expect of me	1	2	3	4	5
I feel that I have to do things on the job that are against my better judgement	1	2	3	4	5

27. Does your job regularly require you to travel outside of this City?

a. No

b. Yes , Approximately _____DAYS PER MONTH

28. Do you find job-related travel stressful?

**NOT
AT ALL**

|
1

|
2

**MODERATELY
STRESSFUL**

|
3

|
4

**VERY
STRESSFUL**

|
5

N/A

29. Please indicate how satisfied you are with:

**VERY
DISSATISFIED**

NEUTRAL

**VERY
SATISFIED**

|

|

|

Your job in general

1

2

3

4

5

The amount of pay you get

1

2

3

4

5

The number of hours you work

1

2

3

4

5

Your on-call schedule

1

2

3

4

5

Your current work mix

1

2

3

4

5

The amount of freedom you have on the job

1

2

3

4

5

The respect you get from the people you work with

1

2

3

4

5

The friendliness of the people you work with

1

2

3

4

5

Your current work load

1

2

3

4

5

30. Please think back over the last year and estimate the percentage of your total **work satisfaction** that was derived from participation in each of the following role:

Clinical work	_____PERCENT
Administrative activities	_____PERCENT
Teaching (i.e. undergraduates, graduates, CMEs)	_____PERCENT
Scholarly activities (i.e. research, preparing publications, preparing and giving presentations)	_____PERCENT
TOTAL	100 PERCENT

31. How easy or difficult is it for you:

	VERY DIFFICULT	NEITHER DIFFICULT NOR EASY			VERY EASY
To vary your working hours (i.e. arrival and departure times)?	1	2	3	4	5
To spend some of your regular work day working at home?	1	2	3	4	5
To take your holidays when you want?	1	2	3	4	5
To take time to attend a course or conference?	1	2	3	4	5
To interrupt your work day for personal/family reasons and then return to work?	1	2	3	4	5
To keep regular hours?	1	2	3	4	5
To arrange your work schedule (i.e. shifts, on-call) to meet family/personal commitments?	1	2	3	4	5

32. How often in the last three months:

	ALMOST NEVER	SOMETIMES			ALMOST ALWAYS
Did the stresses and strains from working long hours reduce your productivity?	1	2	3	4	5
Did the amount of work you had to do interfere with how well it gets done?	1	2	3	4	5
Did the working conditions in your area make it difficult to be productive?		2	3	4	5
Did you feel encouraged to come up with new/better ways of doing things?	1	2	3	4	5
Did you try to improve work methods to solve work problems?	1	2	3	4	5
Did you spend time trying to develop your skills and abilities to do a better job?	1	2	3	4	5
Did you feel frustrated when trying to do your job?	1	2	3	4	5
Did you extend your work day or take work home to finish work?	1	2	3	4	5
Did you have a sense of achievement in performing your job?	1	2	3	4	5

SECTION E: INTERACTION BETWEEN WORK ROLES

The following section examines how your professional roles interact. To answer the following questions, please **CIRCLE** the most appropriate response and/or **FILL IN** the information requested.

33. To what extent do you agree or disagree with the following statements:

	STRONGLY DISAGREE		NUETRAL		STRONGLY AGREE
Teaching and interacting with undergraduate students is one of the most satisfying aspects of my job	1	2	3	4	5
Teaching and interacting with residents/fellows is one of the most satisfying aspects of my job	1	2	3	4	5
Administration is one of the most satisfying aspects of my job	1	2	3	4	5
Patient care is one of the most satisfying aspects of my job	1	2	3	4	5
Being able to pursue my research interests is one of the Most satisfying aspects of my job	1	2	3	4	5
Teaching is one of the most important aspects my job	1	2	3	4	5
Administration is one of the most important aspects of my job	1	2	3	4	5
Treating patients is one of the most important aspects of my job	1	2	3	4	5
Research is one of the most important aspects of my job	1	2	3	4	5
I am satisfied with my performance as a teacher	1	2	3	4	5
I am satisfied with my performance as an administrator	1	2	3	4	5
I am satisfied with my performance treating patients	1	2	3	4	5
I am satisfied with my performance as a researcher	1	2	3	4	5

33. (continued)

To what extent do you agree or disagree with the following statements:

	STRONGLY DISAGREE		NUETRAL		STRONGLY AGREE
Others value my performance as a teacher	1	2	3	4	5
Others value my performance as an administrator	1	2	3	4	5
Others value my performance treating patients	1	2	3	4	5
Others value my performance as a researcher	1	2	3	4	5

34. During the past academic school year, approximately how many hours per week did you spend in the following roles (you can give a range if the amount of time you spend performing this role fluctuates widely from week to week):

a.	Administrative duties	_____	HOURS/WEEK
b.	Teaching and teaching-related activities	_____	HOURS/WEEK
c.	Research and research-related activities	_____	HOURS/WEEK
d.	Patient care	_____	HOURS/WEEK

35. Many of us find it challenging to balance competing demands for our time and attention. Please look at each of the situations listed below and indicate how your:

	POSITIVE IMPACT		NO IMPACT		NEGATIVE IMPACT
Administrative activities and responsibilities have affected:					
-the amount of time you have available to spend in teaching?	1	2	3	4	5
-your ability to be a successful teacher?	1	2	3	4	5
-the amount of time you have available to spend in research?	1	2	3	4	5
-your ability to be a successful researcher?	1	2	3	4	5
-the amount of time you have available to spend in patient care?	1	2	3	4	5
-your ability to offer the kind of patient care you want?	1	2	3	4	5
Teaching activities and responsibilities have affected:					
-the amount of time you have available to spend in research?	1	2	3	4	5
-your ability to be a successful researcher?	1	2	3	4	5
-the amount of time you have available to spend in patient care?	1	2	3	4	5
-your ability to offer the kind of patient care you want?	1	2	3	4	5
Research activities and responsibilities have affected:					
-the amount of time you have available to spend in teaching?	1	2	3	4	5
-your ability to be a successful teacher?	1	2	3	4	5
-the amount of time you have available to spend in patient care?	1	2	3	4	5
-your ability to offer the kind of patient care you want?	1	2	3	4	5

	POSITIVE IMPACT	NO IMPACT			NEGATIVE IMPACT
Patient care activities and responsibilities have affected:					
-the amount of time you have available to spend in research?	1	2	3	4	5
-your ability to be a successful researcher?	1	2	3	4	5
-the amount of time you have available to spend in teaching?	1	2	3	4	5
-your ability to be a successful teacher?	1	2	3	4	5

SECTION F: STRESS AND COPING

The following questions assess stress and coping. Please **CIRCLE** the appropriate answer for each of the following questions.

36. How often in the **last three months** have you (**CIRCLE** the number appropriate for each statement):

	ALMOST NEVER		SOMETIMES		ALMOST ALWAYS
Been upset because something happened unexpectedly?	1	2	3	4	5
Felt that you were unable to control important things in your life?	1	2	3	4	5
Felt nervous or "stressed"?	1	2	3	4	5
Felt confident about your ability to handle your your personal/family problems?	1	2	3	4	5
Felt that things were going your way?	1	2	3	4	5
Found that you could not cope?	1	2	3	4	5
Been able to control irritations in your life?	1	2	3	4	5
Felt you were on top of things?	1	2	3	4	5
Been angered because of things that happened that were outside of your control?	1	2	3	4	5
Felt difficulties were piling up so high that you could not overcome them?	1	2	3	4	5
Felt "burned out" from your job?	1	2	3	4	5
Felt "frustrated" by your job?	1	2	3	4	5
Felt fatigued when you got up in the morning and had to face another day on the job?	1	2	3	4	5
Felt "used up" at the end of the workday?	1	2	3	4	5
Felt emotionally drained by your job?	1	2	3	4	5

37. How often in the last three months have you (**CIRCLE** the number appropriate for each statement):

	ALMOST NEVER 		SOMETIMES 		ALMOST ALWAYS
Felt that you just couldn't get going?	1	2	3	4	5
Felt that you were a worrier?	1	2	3	4	5
Felt that your memory wasn't all right?	1	2	3	4	5
Had personal worries that made you feel sick?	1	2	3	4	5
Felt that nothing turned out right for you?	1	2	3	4	5
Wondered if anything was worthwhile any more?	1	2	3	4	5
Blamed yourself and felt bad over things you Had done?	1	2	3	4	5
Had a hard time making up your mind?	1	2	3	4	5
Got so discouraged that you wondered whether Anything was worthwhile?	1	2	3	4	5
Had your feelings hurt?	1	2	3	4	5

38. All things considered, how has your physical health been in the last three months?

POOR		AVERAGE		EXCELLENT
1	2	3	4	5

39. All things considered, how has your mental/emotional health been in the last three months?

POOR		AVERAGE		EXCELLENT
1	2	3	4	5

40. To what extent do you agree or disagree with the following statements?

	STRONGLY AGREE		NEUTRAL	STRONGLY DISAGREE	
In most ways my life is close to my ideal	1	2	3	4	5
The conditions of my life are excellent	1	2	3	4	5
I am satisfied with my life	1	2	3	4	5
So far I have gotten the important things I want in life	1	2	3	4	5
If I could live my life over, I would change almost nothing	1	2	3	4	5
There is really no way I can solve some of the problems I have	1	2	3	4	5
Sometimes I feel I am being pushed around in life	1	2	3	4	5
I have little control over the things that happen to me	1	2	3	4	5
I can do just about anything I set my mind to	1	2	3	4	5
What happens to me in the future depends mostly on me	1	2	3	4	5
There is little I can do to change many of the important things in my life	1	2	3	4	5

41. How often, in the **past three months**:

	ALMOST NEVER		SOMETIMES		ALMOST ALWAYS
Have you felt anxious?	1	2	3	4	5
Have you experienced bodily symptoms of anxiety (i.e. GI system problems, sweating, tachycardia)?	1	2	3	4	5
Have you had trouble sleeping because of worrying about things?	1	2	3	4	5
Have you been concerned about your physical health?	1	2	3	4	5
Have you been concerned about your mental health?	1	2	3	4	5
Have you felt <i>really stressed</i> ?	1	2	3	4	5
Have you felt <i>really depressed</i> ?	1	2	3	4	5

42. How well do you think you cope with the stress in your life?

**NOT AT ALL
WELL**

1

2

**MODERATELY
WELL**

3

4

**VERY
WELL**

5

43. What would you say are the biggest sources of stress in your life (please specify)?

44. How do you cope with stress (e.g. work harder, exercise, have a few drinks) (please specify)?

Have you any comments you would like to make?

Thank you for completing this questionnaire.

Please be assured that your responses will be held in confidence by the researchers. Dr. Duxbury will ensure that all surveys will remain anonymous. Only aggregate responses will be reported.

Richard Brisbois

Dr. Linda Duxbury

APPENDIX C – Family to Work Spillover PCA Factors

PCA Factors – Family-to-Work Spillover

Rotated Component Matrix

	COMPONENT		
	1	2	3
Q19_1 The impact your Personal/Family Situation has on your Work: Productivity	.651	.323	-.174
Q19_2 The impact your Personal/Family situation has on your Work: Overall career ambitions	.806	.207	.172
Q19_3 The impact your Personal/Family situation has on your Work: Job relocation	.753	-.318	.328
Q19_4 The impact your Personal/Family situation has on your Work: Job-related travel	.569	.332	.163
Q19_5 The impact your Personal/Family situation has on your Work: The hospitals view of you	4.096E-02	.711	.472
Q19_6 The impact your Personal/Family situation has on your Work: Your departments view of you	.214	.850	.252
Q19_7 The impact your Personal/Family situation has on your Work: Your faculty's view of you	.350	.349	.629
Q19_8 The impact your Personal/Family situation has on your Work: Your patients view of you as a physician	1.262E-02	7.984E-02	.849
Q19_9 The impact your Personal/Family situation has on your Work: Your colleagues view of you	.160	.487	.648
Q19_10 The impact your Personal/Family situation has on your Work: Amount of time spent on C.M.E.	.519	.629	6.430E-02

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 12 iterations.

APPENDIX D – Work to Family Spillover PCA Factors

PCA Factors – Work-to-Family Spillover

Rotated Component Matrix

	COMPONENT	
	1	2
Q20_1 The impact your Work Situation has on your Family-Personal Situation: Amount of time spent with partner	.795	.225
Q20_2 The impact your Work Situation has on your Family-Personal Situation: Amount of time spent with children	.731	.401
Q20_3 The impact your Work Situation has on your Family-Personal Situation: Relationship with partner	.709	.138
Q20_4 The impact your Work Situation has on your Family-Personal Situation: Relationship with children'	.729	.297
Q20_5 The impact your Work Situation has on your Family-Personal Situation: Sharing of family responsibilities	.799	9.141E-02
Q20_6 The impact your Work Situation has on your Family-Personal Situation: Amount of time spent in leisure activities	.526	.630
Q20_7 The impact your Work Situation has on your Family-Personal Situation: Amount of time spent in community-volunteer activities	.183	.912
Q20_8 The impact your Work Situation has on your Family-Personal Situation: Amount of time spent in medically related volunteer activities	.165	.849

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 3 iterations.

APPENDIX E – Work Role Spillover PCA Factors

Rotated Component Matrix

	COMPONENT					
	1	2	3	4	5	6
Impact of Admin Role on: the amount of time you have available to spend in teaching	.814	.128	3.926E-02	.323	-2.130E-02	4.603E-02
Impact of Admin Role on: your ability to be a successful teacher	.700	.195	3.866E-02	.318	-9.282E-02	.209
Impact of Admin Role on: the amount of time you have to spend in research	.850	1.124E-02	4.752E-02	5.744E-02	.125	3.808E-02
Impact of Admin Role on: your ability to be a successful researcher	.868	4.524E-02	-.111	8.061E-02	.135	1.320E-02
Impact of Admin Role on: the amount of time you have available to spend in patient care	.382	-8.484E-03	7.427E-03	.748	9.733E-02	.204
Impact of Admin Role on: your ability to offer the kind of patient care you want	.320	8.642E-02	2.938E-02	.795	2.439E-02	6.663E-02
Impact of Teaching Role on: the amount of time you have available to spend in research	.193	-3.467E-02	-6.487E-02	-7.772E-02	.851	.208
Impact of Teaching Role on: your ability to be a successful researcher	-3.608E-02	.152	6.500E-02	.183	.886	9.254E-02
Impact of Teaching Role on: the amount of time you have to spend in patient care	.106	-2.253E-02	-8.389E-02	-6.932E-03	.155	.928
Impact of Teaching Role on: your ability to offer the kind of patient care you want	7.278E-02	.173	9.789E-02	.331	.161	.745
Impact of Research Role on: the amount of time you have available to spend in teaching	9.847E-02	.110	.841	-2.556E-02	.120	8.282E-03
Impact of Research Role on: your ability to be a successful teacher	-.165	.128	.726	.152	-.150	-.217
Impact of Research Role on: the amount of time you have to spend in patient care	.165	-.110	.724	-.332	-6.171E-02	.259
Impact of Research Role on: your ability to offer the kind of patient care you want	-6.611E-02	.211	.781	.128	3.965E-02	6.492E-03
Impact of Patient Care Role on: the amount of time you have available to spend in research	.390	.667	6.017E-02	-.306	.269	-6.710E-02
Impact of Patient Care Role on: your ability to be a successful researcher	.237	.817	.138	-.146	.124	-.126
Impact of Patient Care Role on: the amount of time you have to spend in teaching	5.800E-03	.768	8.505E-02	.288	9.316E-02	.149
Impact of Patient Care Role on your ability to be a successful teacher	-6.546E-02	.806	.144	.165	-.192	.146

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 8 iterations.