



Defence Research and  
Development Canada    Recherche et développement  
pour la défense Canada



# **The relationship between work-life conflict/work-life balance and operational effectiveness in the Canadian Forces**

*Donna I. Pickering*

**Defence R&D Canada**  
Technical Report  
DRDC Toronto TR 2006-243  
December 2006

**Canada**



# **The relationship between work-life conflict/work-life balance and operational effectiveness in the Canadian Forces**

Donna I. Pickering

**Defence R&D Canada – Toronto**

Technical Report

DRDC Toronto TR 2006-243

December 2006

Principal Author

*Original signed by Donna I. Pickering*

---

Donna I. Pickering

Approved by

*Original signed by Pang Shek, PhD*

---

Pang Shek, PhD

Head, Individual Readiness Section

Approved for release by

*Original signed by K.M. Sutton*

---

K.M. Sutton

Chair, Document Review and Library Committee

- © Her Majesty the Queen in Right of Canada, as represented by the Minister of National Defence, 2006  
© Sa Majesté la Reine (en droit du Canada), telle que représentée par le ministre de la Défense nationale, 2006

## Abstract

---

This report reviews studies that have been conducted on work-life conflict/work-life balance and its relationship to operational effectiveness. The majority of studies that are reviewed in this report focus on this issue within the Canadian Forces (CF). Where insufficient information exists within the context of the CF, information from other militaries is discussed. Most of the research that has been conducted focuses on work-to-life interference, where work has a negative impact on an individual's personal life, in particular on the CF member's family. For the purpose of this report operational effectiveness refers to turnover intentions, degree of work commitment, physical and psychological health and well being, unit attributes such as morale, readiness, cohesion, and performance. Findings from the studies reviewed suggest that work-life conflict/work-life balance is related to CF members' decisions to leave or remain in the CF, to a variety of physical and psychological health outcomes, and to certain unit attributes. However, little research has been conducted on the relationship between work-life conflict/work-life balance and performance. The research that has been done has obtained inconsistent findings, making it difficult to determine whether these constructs are interrelated as theorized. Some initial research is presented suggesting that work-life conflict may mediate the PERSTEMPO-operational effectiveness relationship. Finally, future research directions are presented.

## Résumé

---

Ce document présente un examen des études qui ont été consacrées à la relation entre le conflit/la conciliation travail-vie personnelle et l'efficacité opérationnelle. La majorité des études examinées ici ont traité de cette question dans le cadre des Forces canadiennes (FC). Dans les cas où les travaux réalisés auprès de membres des FC n'étaient pas suffisamment nombreux, des renseignements ont été obtenus d'autres forces armées. La plupart des travaux faits jusqu'ici ont porté sur l'interférence travail-vie personnelle, c.-à-d. les situations dans lesquelles le travail nuit à la vie personnelle de quelqu'un, et en particulier à la vie familiale d'un membre des FC. Pour les fins de ce document, l'efficacité opérationnelle désigne les intentions de mouvement, le degré d'engagement envers le travail, la santé physique et mentale, le bien-être et des caractéristiques de l'unité comme le moral, l'état de préparation, la cohésion et le rendement. À en juger par les travaux examinés, il y aurait un lien entre le conflit/la conciliation travail-vie personnelle et la décision d'un militaire de quitter ou non les FC, divers aspects de la santé physique et mentale et certaines caractéristiques de l'unité. Peu de travaux cependant ont été consacrés à la relation entre le conflit/la conciliation travail-vie personnelle et le rendement. Comme les études faites jusqu'ici n'ont pas mené à des conclusions cohérentes, il est difficile de dire si ces concepts sont effectivement liés comme on l'a soutenu. Selon certaines études examinées, il se pourrait que le conflit travail-vie personnelle agisse sur la relation entre le rythme des affectations et l'efficacité opérationnelle. Des avenues de recherche sont enfin présentées.

This page intentionally left blank.

## Executive summary

---

### The relationship between work-life conflict/work-life balance and operational effectiveness in the Canadian Forces

Donna I. Pickering; DRDC Toronto TR 2006-243; Defence R&D Canada – Toronto; December 2006.

**Introduction and Background:** Increasing attention has been paid to the issue of work-life conflict/work-life balance in Canadian Forces (CF) members undoubtedly because the personal tempo (PERSTEMPO) of CF members has continued to increase over the past 10 to 15 years (Auditor General of Canada, 2002). This increase in PERSTEMPO is a consequence of a variety of factors including the decreased size of the CF due to government cutbacks on funding to the CF (Auditor General of Canada, 2006), issues of attrition, and an increase in domestic and international deployments. One aspect of this interest pertains to the relationship between work-life conflict/work-life balance and operational effectiveness, particularly attrition. Some initial research suggests that the decreased size of the CF, combined with an increased operational pace, appear to have had a negative impact on the quality of life of CF members (e.g., Jefferies 2001a, 2001b; Dunn & Pepin, 2006). Accordingly, the purpose of this report was to critically review the research that has been undertaken focusing on the relationship between work-life conflict/work-life balance and operational effectiveness in CF members. Work-family conflict, in particular work interference with family life, will be the primary focus of this report since most of the research that has been undertaken has used it as an indicator of work-life interface. For the purposes of this report operational effectiveness, which may be assessed while in-theatre, in-garrison, or during training, refers to turnover intentions, degree of work commitment, job performance, physical and psychological health and well being, and unit attributes such as morale, readiness, and cohesion. Where there is an insufficient amount of research on a particular topic utilizing CF members, information obtained from other militaries, and/or the general literature will be included. Limitations of past research are noted along with recommendations for future research.

**Results:** There is growing evidence from various surveys of CF members and their families that work-life conflict is an issue and that they have a desire for increased work-life balance (e.g., Jefferies 2001a, 2001b). Most of the research that has been done suggests that the issue of work-family conflict, in particular high work-to-life conflict, is related to intentions to leave the CF (e.g., Dowden, 2001a). There is also research indicating that increased amounts of work-to-family conflict is linked to decreased psychological health and well being in CF members (Duxbury & Higgins, 2001). Little research has been done focusing on the relationship between work-life conflict/work-life balance and physical health in CF members. Furthermore, there has been a dearth of research on the connection between work-life conflict/balance and performance in the general literature, although these two constructs have been theorized to be related (Weiss & MacDermid, 2003). Some initial research suggests that work-to-family conflict may be related to unit attributes (e.g., Britt & Dawson, 2005). Limitations of this research are outlined, including the inadequate operationalization of key constructs. Finally, it is suggested that work-life conflict may mediate the relationship between PERSTEMPO and operational effectiveness.

**Significance:** In general, it is believed that a better understanding of how quality of life issues such as work-life conflict/work-life balance are related to operational effectiveness may be of benefit to individual CF members, their families, and the CF. Information that is obtained from research in this area can be used to guide policy and, if embraced by leadership, has the potential not only to increase the quality of life of CF members and their families, but can also be used to identify ways of increasing operational effectiveness, which ultimately benefits the CF.

**Future plans:** There is a need for more research on the relationship between work-life conflict/work-life balance and operational effectiveness in the CF. Most of the research to date has focused on the link between work-life conflict/work-life balance and attrition in the CF. However, in comparison relatively little research has been conducted on the relationship between work-life conflict/work-life balance and job performance. There is a need to conduct research in a more systematic manner. Accordingly, a model of work-life conflict and operational effectiveness is proposed and may be used to guide future research. Further, the issue of the operationalization of key constructs needs to be addressed in future research so as to overcome past research limitations. As well, consideration of key demographic groups including single CF members, women, single-parent families, dual military couples, and reservists needs to occur when undertaking this type of research.



## Sommaire

---

### **La relation entre le conflit/la conciliation travail-vie personnelle et l'efficacité opérationnelle dans les Forces canadiennes**

**Donna I. Pickering; RDDC Toronto, TR 2006-243; R & D pour la défense Canada – Toronto; décembre 2006.**

**Introduction et contexte :** Il ne fait aucun doute que la question du conflit/de la conciliation travail-vie personnelle dans les Forces canadiennes (FC) suscite plus d'intérêt parce que le rythme des affectations des membres des FC n'a pas cessé d'augmenter au cours des 10-15 dernières années (Vérificateur général du Canada, 2002). Cet accroissement du rythme des affectations tient à une foule de facteurs, et notamment à la diminution de la taille des FC consécutive à la réduction par le gouvernement du budget des FC (Vérificateur général du Canada, 2006), à l'attrition et à une augmentation du nombre de déploiements au pays et à l'étranger. Cet intérêt concerne notamment la relation entre le conflit/la conciliation travail-vie personnelle et l'efficacité opérationnelle, particulièrement du point de vue de l'attrition. Selon certaines études, il semble que la diminution de la taille des FC et l'accroissement concomitant du rythme des opérations ont nuit à la qualité de vie des membres des FC (voir p. ex. Jefferies 2001a, 2001b; Dunn et Pepin, 2006). Nous nous proposons donc dans ce document de faire un examen critique des travaux qui ont été consacrés à la relation entre le conflit/la conciliation travail-vie personnelle et l'efficacité opérationnelle des membres des FC. Le document porte principalement sur la question du conflit travail-vie personnelle, et plus particulièrement sur l'interférence travail-vie familiale, puisque ce concept a servi d'indicateur dans la majorité des travaux qui ont été consacrés à l'interface travail-vie personnelle. Pour les fins de ce document, l'efficacité opérationnelle – qui peut s'évaluer dans le théâtre, en garnison ou pendant l'instruction – désigne les intentions de mouvement, le degré d'engagement envers le travail, le rendement au travail, la santé physique et mentale, le bien-être et des caractéristiques de l'unité comme le moral, l'état de préparation et la cohésion. Dans les cas où les travaux réalisés auprès de membres des FC n'étaient pas suffisamment nombreux, des renseignements ont été obtenus d'autres forces armées ou d'autres sources. Les limites des travaux antérieurs sont soulignées, et des recommandations sur les travaux futurs sont faites.

**Résultats :** Diverses enquêtes menées auprès des membres des FC et de leurs familles tendent de plus en plus à confirmer que le conflit travail-vie personnelle n'est pas une abstraction et que les membres des FC souhaiteraient mieux concilier leur travail et leur vie personnelle (voir p. ex. Jefferies 2001a, 2001b). La majorité des travaux faits jusqu'ici donnent à penser qu'il y a un lien entre l'intention des militaires de quitter les FC et la question du conflit travail-vie familiale, surtout quand le conflit est intense (voir p. ex. Dowden, 2001a). D'autres études montrent qu'il y a un lien entre l'intensification du conflit travail-vie familiale et la dégradation de la santé mentale et du bien-être des membres des FC (Duxbury et Higgins, 2001). Peu de travaux ont été consacrés à la relation entre le conflit/la conciliation travail-vie personnelle et la santé physique des membres des FC. En outre, il y a très peu d'études qui concernent le lien entre le conflit/la conciliation travail-vie personnelle et le rendement, même si certains ont émis l'hypothèse que ces deux concepts étaient liés (Weiss et MacDermid, 2003). Selon certaines études, le conflit travail-vie familiale pourrait être associé à des caractéristiques de l'unité (voir p. ex. Britt et

Dawson, 2005). Les limites de ce travail et les insuffisances de l'opérationnalisation de ses principaux concepts sont décrites. Il se pourrait, enfin, que le conflit travail-vie personnelle agisse sur la relation entre le rythme des affectations et l'efficacité opérationnelle.

**Portée :** En général, nous estimons qu'une meilleure compréhension de la relation qu'il y a entre des questions de qualité de vie comme le conflit/la conciliation travail-vie personnelle et l'efficacité opérationnelle pourrait profiter aux membres des FC, à leur famille et aux FC. Les renseignements tirés des travaux dans ce domaine pourraient servir à orienter la politique et, avec l'adhésion de la direction, contribuer non seulement à améliorer la qualité de vie des membres des FC et de leur famille, mais aussi à trouver des moyens d'accroître l'efficacité opérationnelle, au bénéfice des FC.

**Travaux futurs :** Il y aurait lieu de consacrer plus de travaux à la relation qu'il y a entre le conflit/la conciliation travail-vie personnelle et l'efficacité opérationnelle dans les FC. La majorité des études faites jusqu'ici ont porté sur le lien entre le conflit/la conciliation travail-vie personnelle et l'attrition dans les FC. Il a cependant été fait peu de travaux sur la relation entre le conflit/la conciliation-vie personnelle et le rendement au travail. Cette question mériterait de faire l'objet de recherches plus systématiques. Nous avons donc proposé un modèle du conflit travail-vie personnelle et de l'efficacité opérationnelle susceptible d'orienter de futurs travaux. Par ailleurs, il faudra s'occuper de la question de l'opérationnalisation des principaux concepts dans les travaux futurs pour échapper aux limites des études qui ont été faites jusqu'ici. Il faudra également tenir compte dans les travaux de cette nature des principaux groupes démographiques des FC : militaires célibataires, femmes, familles monoparentales, couples militaires et réservistes.

# Table of contents

---

Abstract .....	i
Résumé .....	i
Executive summary .....	iii
Sommaire .....	v
Table of contents .....	vii
List of figures .....	viii
1 Introduction.....	1
2 A Model of Operational Effectiveness: Including Work-Life Conflict in the Model.....	5
3 The Importance of the Work-Life Conflict/Work-Life Balance Issue for the Canadian Forces.....	7
4 Work-Life Conflict/Work-Life Balance and Operational Effectiveness .....	11
4.1 The Issue of Attrition.....	11
4.1.1 Research on Work-Life Conflict and Attrition in the CF.....	12
4.2 Work-Life Conflict/Work-Life Balance and Physical and Psychological Health and Well Being.....	17
4.2.1 Work-Life Conflict/Work-Life Balance and Health and Well Being in the CF.....	18
4.3 Work-Life Conflict/Work-Life Balance and Unit Attributes .....	19
4.4 Work-Life Conflict/Work-Life Balance and Performance.....	20
5 PERSTEMPO and Operational Effectiveness: Work-Life Conflict as a Mediating Variable.....	23
6 Future Research Directions.....	25
6.1 Special Demographic Populations.....	25
6.1.1 Single CF Personnel.....	25
6.1.2 Single-Parent Families in the CF .....	25
6.1.3 Women in the CF .....	25
6.1.4 Dual Member Military Couples .....	25
6.1.5 Reserve Members.....	26
6.2 Model Development.....	26
6.3 Further Instrument and Methodological Refinement .....	29
6.4 Conclusion.....	30
References .....	31

## List of figures

---

Figure 1 Proposed Model of the Impact of PERSTEMPO and Work-Life Conflict on Organizational, Health, and Family Outcomes.....	28
--	----

# 1 Introduction

---

This report reviews research assessing how the intersection of work and life domains impacts on operational effectiveness in the Canadian Forces (CF). More specifically, the relationship between work-life balance or conversely, work-life conflict and operational effectiveness will be the focus of this report. By operational effectiveness I am referring to turnover intentions, degree of work commitment, job performance, physical and psychological health and well being, and unit attributes such as morale, readiness, and cohesion.<sup>1</sup> Operational effectiveness can be assessed while in-theatre, in-garrison, or during training. It will become apparent as the results of a variety of studies are presented and directions for future research are recommended that this is a topic that will continue to be of importance to the CF, its members, and their families.

This paper is divided into six sections. In this (the first) section a brief overview of the ways in which the work-life interface and operational effectiveness has been conceptualized in the literature is presented. In the second section a model of operational effectiveness is presented. Third, the relevance of work-family conflict/work-family balance as an important issue for the CF is established. Following this, in the fourth section, a critique of the literature on the interplay between the work-life relationship and operational effectiveness is undertaken. Attrition, physical and psychological health and well being of CF members, unit attributes, and job performance are the specific indicators of operational effectiveness that will be the focus. The relationship among personnel tempo (PERSTEMPO), work-life conflict, and operational effectiveness will be addressed in the fifth section. In the final section, any gaps in the literature will be noted along with directions for future research. Although most of the research refers to studies undertaken using CF personnel, some additional research from other militaries is also presented when there is a limited amount of CF research. Finally, it will be argued that a greater understanding of the ways in which work and life domains intersect and of how this intersection impacts on operational effectiveness can be used to develop strategies that simultaneously enhance the quality of life of CF members and the operational effectiveness of the CF.

## *Conceptualizing the Work-Life Relationship*

There has been an evolution in the way in which work and personal life are conceptualized in the scientific literature. The focus initially was, and continues to be, on the conflict between work and family (Lewis, 2002). This notion of conflict is based on the idea that the workplace and the family are “greedy” institutions, demanding loyalty and time from individuals (Segal, 1986). The demands of work are incompatible with the demands placed on individuals by their family, which also requires attention, thus creating a conflict (Segal, 1986). Work-family conflict is theorized to consist of three components: (a) time conflicts, (b) role-produced strain, and (c) incompatible in-role behaviour patterns (Greenhaus & Beutell, 1985). Work-family conflict occurs when the time used to fulfill the requirements of one role makes it difficult to fulfill the requirements of another role, when strain from participating in one role makes it difficult to meet the requirements of another role, and when specific behaviours required in one role make it difficult to meet the requirements of another role (Greenhaus & Beutell, 1985). Thus, for example, work-to-family conflict (WFC) occurs when the time demands, strain, and behaviours associated with

---

<sup>1</sup> The rationale for the use of this particular definition of the operational effectiveness construct will be provided in the following section of this report.

work (e.g., having to attend an out-of-town meeting) interfere with an individual's ability to fulfill their family role. Family-to-work conflict (FWC) is also an important issue since the family is a "greedy" institution (Segal, 1986) with competing time demands and role expectations. Although this emphasis on conflict is still prevalent today, the idea of work-family balance has also begun to emerge as a way to understand the relationship between work and family (Lewis, 2002). Work-family balance refers to a 50/50 balance between work and family with respect to amount of time, involvement, and satisfaction (Greenhaus, Collins, & Shaw, 2003). Time balance refers to spending an equal amount of time on work and family roles (Greenhaus et al., 2003). Involvement balance involves being psychologically involved in work and family roles to the same extent (Greenhaus et al., 2003). Satisfaction balance occurs when an individual is equally satisfied with their work and family roles (Greenhaus et al., 2003). One limitation of this approach is that not all individuals may desire a 50/50 balance between their work and family lives (Rapaport, Bailyn, Fletcher, & Pruitt, 2002). Also, as is the case with the concept of work-family conflict, the use of the term "family" is problematic. Instead of using the term "family," some researchers suggest that the term "personal life" should be used so that the experiences of non-married or single individuals, or childfree individuals, are considered (Burke, 2004). As well, this change in conceptualization allows other non-family activities, such as leisure time and friendships, which are undoubtedly important to many individuals, to be taken into account. The most recent approach to conceptualizing the work-life relationship focuses on integrating the two domains (Rapaport et al., 2002). Integration refers to individuals participating in and obtaining satisfaction from both work and personal life, irrespective of the amount of time they spend in each role (Rapaport et al., 2002). Although there have been three approaches used in the theorizing of the work-life relationship, most of the empirical research that has been conducted has focused on work-family conflict (Allen, Herst, Bruck, & Sutton, M., 2000; Netemeyer, Boles, McMurrian, 1996). Accordingly, most of the research that is reviewed in this report focuses on work-to-family conflict, in particular work-to-family conflict.

### *Conceptualizing Operational Effectiveness*

In order to understand the term operational effectiveness, which has been used to describe the effectiveness of operations in a military context, it is necessary to understand the more general concept of organizational effectiveness. The information gleaned from the more generic organizational effectiveness construct will then be applied to effectiveness of a particular type namely, the military focused concept of operational effectiveness.

The term organizational effectiveness comes from the industrial/organizational literature and is used to describe the effectiveness of an organization. Organization effectiveness has been defined in a variety of ways. In fact, there is no one definition of organizational effectiveness (Cameron, 1981). However, there are four widely used approaches to understand organizational effectiveness (Cameron, 1981). The first approach is the Goal Model (Etzioni, 1964; Price, 1972). This model assumes that an organization has an identifiable goal and that progress towards achieving this goal can be measured (Cameron, 1981). The Goal Model focuses on outputs (Cameron, 1981). The closer an organization's outputs approximate its goals, the more effective the organization is said to be (Cameron, 1981.) The main limitation of this model is that an organization's goals may not all be aligned and may depend on the major stakeholders (Cameron, 1981). The second model is the System-Resource Model (Yuchtman & Seashore, 1967). Based on this approach, organizational effectiveness increases with an organization's ability to attain needed resources from its external environment for system maintenance (Cameron, 1981).

Organizational inputs or achieving a competitive advantage in the marketplace is the focus of this model as opposed to achieving one's goals (Cameron, 1981). The third model is the Internal Resource Model (Cameron, 1981). Based on this approach an organization is considered to be more effective the more they possess a number of internal characteristics. These characteristics include: 1) the absence of internal strain, 2) members who are highly integrated into the system, 3) smooth internal functioning, 4) trust and benevolence towards individuals and, 5) smooth vertical and horizontal flow of information (Likert, 1967). The fourth model is the Strategic-Constituencies Model (Connolly, Conlon, & Deutsch, 1980; Keeley, 1978). Based on his model organizational effectiveness is defined as the extent to which the organization's constituencies are at least minimally satisfied (Cameron, 1981). Constituents refer to a group of individuals who have a stake in the organization such as employees, clients, customers, shareholders, or individuals whose lives are significantly affected by the organization such as the general public. None of these models is appropriate for all organizational types in all circumstances (Cameron, 1981).

One model that attempts to integrate past models is the Competing Values Model (Quinn, 1988; Quinn & Rohrbaugh, 1981). The most recent expanded version of the model seeks to understand organizational effectiveness by attempting to understand the interrelationship among the various approaches to conceptualizing organizational effectiveness. In order to do this a diagram with vertical and horizontal axes has been created. Each of the various models discussed above can be fitted into the four quadrants that are created through the intersection of the vertical and horizontal axes. The vertical axis of this diagram reflects flexibility and autonomy at one end and stability and control at the other (Quinn, 1988). The horizontal axis reflects an internal focus on individuals on one end and a more external focus on the whole organization on the other (Quinn, 1988). For instance, the upper left quadrant of this diagram reflects a focus on human relations and emphasizes morale and human resource management (Quinn, 1988). Based on the factors considered in this quadrant indicators of organizational effectiveness would include factors such as employee morale, satisfaction, retention, and so on. The Competing Values Model assumes that different constituents have different interests and that they may use different criteria to evaluate organizational effectiveness, thus implying that there is no one right way to evaluate organizational effectiveness (Robbins, 1990).

Since there is no consensus about how to define organizational effectiveness, the current report will focus on the human component of effectiveness in the CF because it is thought that the individuals that compose an organization (or operation) are key to its success. In fact, Katz (1964) stated that there are three major ingredients in organizational effectiveness. These ingredients pertain to the recruitment and retention of excellent employees, the extent to which these employees are able to carry out the requirements of their jobs and their engagement in innovative, spontaneous activity going beyond formal job descriptions or role requirements (Katz, 1964). Accordingly, using this focus on the human component of effectiveness, the following will be utilized as indicators of operational effectiveness in a military context: turnover intentions, degree of work commitment, job performance, physical and psychological health and well being, and

unit attributes such as morale, readiness, and cohesion. Operational effectiveness can be assessed while in-theatre, in-garrison, or during training.<sup>2</sup> It can also be assessed at the level of the effectiveness of individuals, effectiveness of groups or subunits, and effectiveness of the overall organization (i.e., CF) (Cameron, 1981). It is important to note that effectiveness on one level may also affect effectiveness on another level (Cameron, 1981).

---

<sup>2</sup> Although operational effectiveness is typically thought to focus on operations the conceptualization of operational effectiveness employed in this report is similar to the approach taken by Castro and Adler (2005) in conceptualizing operational tempo (OPTEMPO). They treat OPTEMPO as a “multifaceted construct and, as such, it consists of several “operational definitions that reflect workload in garrison, training, and deployed environments” (Castro & Adler, 2005, p. 132).



## 2 A Model of Operational Effectiveness: Including Work-Life Conflict in the Model

---

### *Application of Organizational Effectiveness Model to the Military Setting*

A model originally developed for understanding the factors related to organizational effectiveness in a civilian context (i.e., Savoie & Morin, 2000, as cited in Villeneuve, Dobрева-Martinova, Little, & Izzo, 2000) has been modified so as to make it applicable to the military context (Villeneuve et al., 2000). The original model focused on four dimensions of organizational effectiveness (Savoie & Morin, 2000, as cited in Villeneuve et al., 2000). The first dimension, which is of primary interest in this discussion, is psychosocial. The psychosocial dimension is concerned with the worth of human resources and with human factors. The second dimension is economic and is concerned with the issue of economic efficiency. The third dimension is ecological and emphasizes the corporate responsibility of an organization. The final dimension is systemic and is concerned with the issue of durability, or in other words, the ability of an organization to survive in an ever-changing environment.

The psychosocial dimension can be further divided into four areas (Savoie & Morin, 2000, as cited in Villeneuve et al., 2000). The first area is mobilization. Mobilization is concerned with the amount of interest that employees show in their work and the organization along with the amount of effort that they expend in meeting their work and organizational objectives. The second area is staff morale. Staff morale reflects the degree to which the individuals' work experience is assessed as being positive. The third area is staff performance. Staff performance is concerned with the quality and quantity of work produced by an individual or a group of individuals. Personnel development is the fourth area. This area considers the level of skill development among employees at an organization.

Villeneuve et al. (2000) have taken this model of organizational effectiveness and have modified it so that it is more applicable to a military setting. Although this modified model is termed the "unit effectiveness model" it could more generally be considered a model of operational effectiveness. It is important to note that operational effectiveness does not simply imply operational effectiveness while in-theatre but also reflects operational effectiveness while CF members are in-garrison or training. As was the case in the original model of organizational effectiveness, the psychosocial portion of the model is of greatest interest here. In this modified model by Villeneuve et al. (2000), the term "psychosocial" is replaced by the term "readiness" in the psychosocial dimension of the model. Readiness is defined "as a psychological state resulting from mental preparation, training, equipment, support and situational forces that operate at the individual, group, or unit level" (p. 8). The readiness component of the model consists primarily of psychological factors. Based on this model, readiness should be assessed at the individual, group, and unit levels. For example, at the individual level, the motivation of individuals needs to be determined. At the group level, the potency or performance of the group needs to be determined. At the unit level, the number of individuals leaving the unit needs to be taken into account along with unit morale. This approach undoubtedly could be expanded to include the highest level of the organization, the CF.

This approach to understanding readiness in a military setting clearly demonstrates the importance of the role of psychological factors in organizational effectiveness. Although not specifically addressed in Villeneuve and Associates' model, it should be apparent that factors affecting the individual also have the potential to impact, directly or indirectly, aspects of operational effectiveness, such as turnover intentions, degree of work commitment, job performance, physical and psychological health and well being, and unit attributes such as morale, readiness, and cohesion (see for example findings by Durand, Burrell, Stetz, Castro, 2003; Weiss & MacDermid, 2003). This is why the issue of work-life conflict, or conversely, work-life balance, is an important issue for the CF. Work-life conflict has the potential to impact on various levels of operational effectiveness. As will be discussed in the performance section of this report, it has been theorized that work-life conflict may have a negative impact on an individual's job performance. As well, work-life conflict may have a negative impact on the physical and psychological health and well being of CF members and their families. Since individuals comprise groups and units in the CF, if something is impacting on an individual's performance and/or health, then it may also be impacting on the groups' or units' performance or state of readiness. Finally, a member of the CF experiencing high work-life conflict, in particular conflict with respect to work interfering with family, may decide to leave the CF and find another career where there will be less conflict. If enough people decide to leave the CF, this will create difficulties for the organization. Overall, the studies that are reviewed in this report will demonstrate that work-life conflict/work-life balance is an issue for CF members and that it is related to various indicators of operational effectiveness.

### **3 The Importance of the Work-Life Conflict/Work-Life Balance Issue for the Canadian Forces**

---

Many studies have been undertaken on quality of life issues for members of the CF. One of these quality of life issues that has been receiving increasing attention is work-family conflict/work-family balance. A consistent finding emerging from these studies is that work-family conflict/work-family balance is an important issue for CF members and their families. One early study by Patterson (2000) was designed to obtain information about the health and lifestyles of CF members in order to inform and evaluate CF policies and programs. The report was based on findings from the Canadian Forces Health and Lifestyle Information Survey (1996). Approximately 2615 CF members participated in the survey. One question in the survey asked individuals to indicate the workplace stressors they were experiencing. Almost half of the 16 most prevalent workplace stressors that individuals identified as problematic (i.e., they “strongly agreed” was a workplace stressor), pertained to work-family conflict and work-family balance issues. For instance, 15% of participants reported that it was difficult to balance work and family life while 25% indicated that because of work they have had to miss family functions.

Jefferies (2001a, 2001b) analyzed qualitative information obtained from CF members and their spouses regarding their quality of life in the Quality of Life Questionnaire (Dowden, 2001a). One common theme that emerged in both the CF member survey and the spousal survey involved the importance of family. Approximately 42% of CF members wanted deployments/tours to be reduced in order to allow them to spend more time with their family. Eleven percent reported that having more time to spend with their family was something that needed to be improved. Many wanted a reduction in their workload since some individuals reported having to extend their workdays or having to take work home with them. They also wanted involvement in choosing their postings. The results of the spouses’ quality of life survey paralleled those of the survey of CF members. Spouses of CF members were asked to indicate what could be done to improve their quality of life. One dimension identified as requiring improvements in order to enhance their quality of life was the family dimension. Approximately 46% of spouses indicated this was an area needing improvement (behind improvements to the salary and benefits of their CF partner, which was mentioned by 56% of spouses). An area needing improvement in the family dimension was the amount of time that members spent with their families, which was identified by almost 10% of spouses. Another dimension identified as needing improvement pertained to work conditions. Approximately 48% of spouses desired a reduction in the workload for their CF partner and/or an increase in the number of personnel in the CF. The deployment/tours dimension also emerged as an area needing improvement, in particular reductions in the frequency and length of deployments/tours. As was the case in the survey with CF members, many of the issues emerging within the three dimensions outlined above have to do with having more time with family, which relates to a desire for increased work-family balance.

A national study was undertaken assessing the quality of life of CF members (Dowden, 2001a). Some questions in this survey asked CF members about their perceptions regarding how the quality of life in the CF compares to the quality of life for civilians. Most notably, on average, CF members indicated that their relationship with their children, time with their children, and relationship with their partner was slightly worse in the CF compared to civilian life. They also

indicated that their current quality of life was a bit worse than their expectations regarding what their quality of life would be like at this particular time in their life.

The “Your Say” study (Dunn & Pepin, 2006) also surveyed CF regular force members regarding their quality of life and the quality of life of their family. Although not specifically addressing the issue of work-life conflict/work-life balance, some of the questions have a bearing on the issue of work-life conflict/work-life balance. More specifically, when asked about the deployment rate for single CF members, approximately 34% of single and 28% of divorced/separated members indicated that they get deployed more than individuals who are married or partnered. Also, only 47.7 % of dual military couples agreed that the CF properly takes their relationship into account when planning their deployments. Approximately 60% did not agree that the CF understood the special problems faced by dual military career couples. In the open-ended portion of the survey, some individuals called for more flexible work arrangements such as shortened work hours, having a 37.5-hour work week when not deployed, and part-time work with reduced salary. More notice prior to deployment was also suggested. Overall, all of these concerns regarding frequency, timing, and notice of deployments seem to reflect issues with balancing one’s work life with one’s personal life.

Duxbury and Higgins (2001) conducted a large-scale survey directly addressing the issue of work-life balance/work-life conflict at the Department of National Defence (DND). The three dimensions of work-life conflict considered in this research were role overload, work to family interference, and family to work interference (Duxbury & Higgins, 2002). The survey results of DND employees (consisting of 980 CF members and 555 DND civilian employees) were compared to a comparison group composed of Public Sector employees (N = 10,764), Not for Profit employees (N = 10,566), and Private Sector employees (N = 6,025)<sup>3</sup>. Forty-four percent of CF members reported that work interferes with their family as opposed to only 14% of DND civilian employees and 29% of the comparison group. Fifty-one percent of CF members reported experiencing negative spillover from their work life to their family life as opposed to 33% of DND civilian employees and 43% of the comparison group. About 50% of CF members, as opposed to 23% of DND civilian employees and 44% of the comparison group, reported that work has a negative impact on their time with their partner, time with their children, time for eldercare, their relationship with their partner and children, leisure time, and volunteer activities. When asked whether DND’s environment supports work-life balance, only 25% of the CF members surveyed agreed with this statement as opposed to 40% of DND civilian employees and 40% of non-DND Federal Public employees<sup>4</sup>. Also, only 30% of CF members indicated that DND’s policies support work-life balance compared to 50% of DND civilian employees and 50% of non-DND Federal Public employees<sup>5</sup>. Although descriptive in nature, these findings suggest that work-life conflict may be more of an issue for CF members than for employees from the Public, Not for Profit, and Private Sectors.<sup>6</sup>

---

<sup>3</sup> CF members were found to differ from DND civilian employees and the comparison groups in that they were, on average, younger than the civilians (40 vs. 47 yrs), are more likely to have children (75% vs. 60%) but less likely to have to care for elders, to live in rural areas, to earn more than \$40,000 per year (93% vs. 60%), and to indicate that they “live comfortably.”

<sup>4</sup> Comparisons were not made against Not for Profit Employees and Public Sector employees.

<sup>5</sup> Comparisons were not made against Not for Profit Employees and Public Sector employees.

<sup>6</sup> One factor not considered in this research that may explain some of the findings between the various groups is their unionized/non-unionized status.

Not only has research been conducted assessing the issue of work-life conflict/work-life balance for CF Regular Force members, but also for other specific groups within the CF. For example, research focusing on factors influencing retention of Air Force officers in the CF has been undertaken (Pelchat, 2002). Among the 904 Air Force officers studied, pilots were most likely to indicate that their job makes it difficult to be the kind of spouse or parent they would like to be (Pelchat, 2002). Air Force pilots and air navigators also agreed that operational taskings had a negative impact on the quality of their family life.

This page intentionally left blank.

## **4 Work-Life Conflict/Work-Life Balance and Operational Effectiveness**

---

### **4.1 The Issue of Attrition**

Although research has been done on several indicators of operational effectiveness, the vast majority of the work currently being done focuses on the issue of attrition. There are a few reasons for this focus. First, as a result of the downsizing efforts of the CF [i.e., the Force Reduction Program (FRP)] the size of the CF was reduced from 86,000 at the end of the 1990/1991 fiscal year to 62,000 by the end of the 1996/1997 fiscal year (Bender & Jarvis, 2005). The increased OPTEMPO over the past 10 to 15 years combined with reduced size of the CF has undoubtedly contributed to a focus on increasing the recruitment and retention rate of CF personnel (Auditor General of Canada, 2002). In fact, it is projected that the Land Combat and Sea Combat MOC groups will have releases more than four times their pre-FRP numbers and that this situation will continue until 2011 (Bender & Collin, 2002). This is more of a concern for non-commissioned members (NCMs) as opposed to officers (Bender & Collin, 2002). It is important to note that the issue of attrition is more of an issue at the beginning and near the end of an individual's military career (Bender & Jarvis, 2005). More specifically, the 2004-2005 Annual Report on Regular Force Personnel (Bender, & Jarvis, 2005) indicates that retention of CF personnel with 15 or more years of service may be an issue for the CF. Since 2001 attrition at 20 years of service is almost doubled in number compared to pre-FRP (Bender & Jarvis, 2005). Pre-FRP the attrition rate for officers and NCMs was 7.5% and 8.2%, respectively as opposed to 14.1% and 18.5% over the past 5 years (Bender & Jarvis, 2005). Also, the Auditor General's 2006 report indicated that approximately 50% of the CF's Regular Force personnel have 15 years or more of service, thus indicating that over the next 5 to 10 years a large number of these individuals will be in a position to retire. In addition to this issue, there is the continuing problem of the high attrition rate early in a member's career when they are receiving initial training and when they and their families are adjusting to the military lifestyle (Auditor General of Canada, 2006; Bender & Jarvis, 2005). The high average attrition rate for CF members early in their career is a great concern (Bender & Jarvis, 2005) because currently approximately 31% of Regular Force personnel have less than 6 years of service (Auditor General of Canada, 2006). Early attrition costs the CF in a number of ways. First, it lowers the return on their investment in training personnel. Second, high attrition both at the beginning and at the end of Regular Force careers has implications for operational effectiveness, in that it reduces the trained effective strength of the CF. In combination, these issues will continue to have an impact on retention in the CF for years to come.

In light of the above, researchers within DND have focused their energies on attempting to understand the factors that impact on members' decisions to leave the CF. Such research is an important first step in reducing attrition. One issue that has received some attention pertains to the relationship between work and personal life, and in particular, the conflict or imbalance between the two spheres. The issue has been addressed in a number of ways, as is discussed below.

One consistent finding to emerge from the many studies conducted on the factors related to attrition in the CF is that work-life conflict, and alternatively, work-life balance, is an important issue for CF members and their families. The results of such studies, to be discussed, are

indicative of findings from the broader literature. More specifically, two meta-analyses were conducted by Kossek and Ozeki (1999) and by Allen et al. (2000) assessing the relationship between work-to-family conflict and a variety of work-related outcomes. The strength of these meta-analyses is that they included individuals from a variety of occupations. In both meta-analyses higher levels of work-to-family conflict were related to lower levels of job satisfaction. In fact, the weighted mean correlation in both studies was virtually identical,  $r = -.23$  and  $r = -.24$ , respectively (cited in Allen et al., 2000). This is important since a lack of satisfaction with one's job may play a role in individuals' turnover intentions (Harrison, Newman, & Roth, 2006). The findings obtained for organizational commitment were mixed in the Kossek and Ozeki (1999) meta-analysis in that organizational commitment was related to work-to-family conflict in some studies but not in others. Kossek and Ozeki contend that these mixed results may be due to the different measures used in the various studies to measure work-to-family conflict. The weighted mean correlation between work to family conflict and organizational commitment in the Allen et al. (2000) meta-analysis was  $r = -.23$ . Finally, in both meta-analyses greater levels of work-to-family conflict were related to increased turnover intentions. In the Allen et al. (2000) study, the weighted mean correlation observed across studies for this relationship was  $r = .29$ <sup>7</sup>. The relationship between work-to-family conflict and actual turnover behaviour was not included in these meta-analyses since the vast majority of research has primarily focused on turnover intentions. For instance, Allen et al. (2000) noted that they found only one study that looked at the relationship between work-to-family conflict and its relationship to actual turnover. In this study work-to-family conflict was not related to actual turnover; however, this is the result of only one study. This focus on turnover intentions as opposed to actual turnover behaviour is also an issue for research on CF personnel. When actual turnover behaviour has been studied in the Canadian Forces Attrition Questionnaire (CFAIQ) survey response rates have been low (i.e., Jenkins, 2003a,b) causing concern regarding the generalizability of the findings.

#### **4.1.1 Research on Work-Life Conflict and Attrition in the CF**

Some initial research by Dowden (2001a) found that although overall quality of life domains had essentially no impact on the plans of CF members to remain with (or leave) the CF, three domains were found to have a impact on members' decisions to leave: partner relationship, relationship with children, and career development. Members also mentioned that the quality of life of their spouse plays a major role in their plans to remain in the CF. Although the issue of work-life conflict or work-life balance was not directly addressed in Dowden's research the findings obtained suggest that these issues would be of relevance to members' decisions to remain in the CF.

Research by Duxbury and Higgins (2001) assessing the role of work-life conflict on retention in DND employees, including CF members, indicated that employees with high work-to-family conflict (work conflicting with family) reported lower organizational commitment compared to employees with low work-to-family conflict. Employees with high work-to-family conflict also reported higher job stress than did employees with low work-to-family conflict. Furthermore, employees with high work-to-family conflict reported considerably less job satisfaction. Employees with high work-to-family conflict were also more likely to report thinking about leaving DND on a weekly basis compared to employees with low work-to-family conflict. When

---

<sup>7</sup>Kossek and Ozeki (1999) only provided the confidence intervals for the correlations being assessed in their meta-analysis.



CF members were asked what their reasons for leaving the CF would be, 50% of them indicated that they would leave in order to have more time for their family and personal life, 30% reported that they would leave in order to move closer to their family, and 33% reported that they would leave because work expectations are unrealistic (i.e., work overload).

A study of voluntary attrition was conducted by Jenkins (2003a,b) using data from the Canadian Forces Attrition Questionnaire (CFAIQ), which was administered until recently on an ongoing basis to CF Regular Force members who were voluntarily being released. The study consisted of a quantitative and a qualitative component. Data were collected for the quantitative component (Jenkins, 2003a) between August 2001 and June 2003 from 1109 members who were releasing voluntarily from the Regular Forces. Data for the qualitative portion of the survey (Jenkins, 2003b) was obtained between August 2001 to June 2002 and represents responses from 332 individuals of the 610 members who completed the CFAIQ during this timeframe. Among the reasons that survey respondents cited for leaving were that they spent too much time away from their family, there were too many deployments, and there were too many postings. These issues were more of a concern for married or partnered soldiers, in particular those with dependent children. Similar findings were obtained in the Attrition Questionnaire Revision Project (Dunn & Morrow, 2002). For this study, focus groups were conducted with 517 Regular Force members in 2001. Participants were asked about the factors causing them or would cause them to think of leaving the CF. Several issues were raised in the focus groups regarding work-life balance. Many individuals indicated that the workload (i.e., primary and secondary duties), combined with a high operational tempo (OPTEMPO)<sup>8</sup>, were causing some individuals to experience burnout or to leave the CF. In fact, research participants stated that they were being forced to choose between leaving the CF or losing their families because their families were unable to cope with the extent of their absences and overtime (Dunn & Morrow, 2002). Issues of work overload and high work-to-family conflict appeared to be issues resonating throughout these studies. One common thread throughout both of these attrition studies is the need for greater work-family balance. Being able to spend more time with one's family and having greater family stability appeared to be related to members' decisions or intentions to leave the CF.

#### *The Role of Work-Life Conflict in Specific CF Occupations*

As mentioned earlier, the impact of work on Air Force pilots' home life was found to be related to their intentions to leave the CF (Pelchat, 2002). More specifically, Pelchat's (2002) study of Air Force Officers, pilots and air navigators indicated that operational taskings had a negative impact on the quality of their family life. Further, quality of life and the effects of work on their home life were rated as the top factors that have or could have an influence on their decision to leave the CF. More than two-thirds of those responding to the item about work having an effect on their home life indicated that this effect had influenced or could influence their intentions to leave the CF to "a large extent" or to "the full extent."

Research conducted by Jenkins (2005) looked at the role of various factors in Naval Reserve members' intentions to leave the CF. Of those surveyed, 8.3% indicated that one reason they would consider leaving the Naval Reserve (i.e., intention to leave in the future) would be to have more time for friends, family, and/or leisure activities. Similarly, 14.3% of crewmembers, one

---

<sup>8</sup> Operational tempo (OPTEMPO) refers to the pace of military operations and is typically is thought of as occurring in a deployed environment (Thomas, Adler, & Castro, 2005)

specific group within the Naval Reserves, reported that they would consider leaving to allow more time for families, friends, and/or leisure activities. The higher percentage obtained for crewmembers is undoubtedly due to the fact that they were generally displeased with the amount of time they had spent away during the previous year (Jenkins, 2005). Half of them reported spending 200 or more 24-hour days away from home during the past year. Once again the issue of work-life conflict, along with a desire for a greater balance between work and personal life, is apparent from these results.

### *The Role of Work-Life Conflict in Other Militaries*

Work-life conflict has also been related to retention and other job commitment factors in United States (US) soldiers. Work-to-family conflict was assessed in the following two studies using the work-family conflict scale which focuses on the general demand and time- and strain-based aspects of the construct (Netemeyer, Boles, & McMurrian, 1996). Netemeyer et al. (1996) provide evidence as to the reliability and validity of this scale and their measure of family-to-work conflict but note that one limitation to their measures is that they do not measure each aspect of WFC separately (i.e., time demand and strain-based demand). Durand, Burrell, Stetz, and Castro (2003) found that higher levels of work-to-family conflict were related to lower levels of job satisfaction in US soldiers. Work-to-family conflict was also related to spouses' retention preference, in that the greater their work-to-family conflict, the less inclined they were for their partner to remain in the military. They were also less satisfied with their marriage, and had a more negative attitude toward the Army. This is important since spouses' attitudes regarding the military have been found to be related to the recruitment, retention, and commitment of married military members (Bourg & Segal, 1999). Similarly, higher work-to-family conflict was associated with soldiers' lower job satisfaction and greater intentions to leave the military. Furthermore, greater amounts of work-to-family conflict were associated with lower levels of job control, job satisfaction, job significance, job recognition, and military pride in a sample of 493 US soldiers stationed in Germany and Italy (Britt & Dawson, 2005). All of these negative job-related factors undoubtedly impact on soldiers' decisions to leave the military (Harrison et al., 2006).

Findings from a 2-year longitudinal study designed to assess the impact of operations and PERSTEMPO<sup>9</sup> on soldier and unit readiness suggests that one reason that active duty US Army personnel stationed in Germany left the military was due to the impact of the high workload, namely, PERSTEMPO, on soldiers' families (Huffman, Adler, Dolan, Thomas, Castro, 2001). In fact, this reason for leaving was given by 43.3% of soldiers and 55.7% of officers. In the case of officers, this was the third-highest reason given for leaving, behind pursuing other interests and work hours. These findings suggest that work overload (i.e., too much work to do in the amount of time provided) is having a negative impact on soldiers' family life and ultimately contributes to decisions to leave the military.

Research by Wilcove, Schwerin, and Wolosin (2003) used structural equation modelling to assess the factors related to reenlistment intentions in Navy personnel. Structural models were created for married personnel with children and for unmarried personnel without children. In both models

---

<sup>9</sup> PERSTEMPO refers to total demands made by the military on its members in terms of: deployment load or the tempo of military operations (OPTempo), the amount of time spent away from home lasting more than the twenty-four hours/overnight, and workload while in garrison (Sudom, Dursun, & Flemming, 2006).

personal factors and job factors were predictive of reenlistment intention. The personal factor included relationships with partner and children, standard of living, personal development, and individual's health. The work factor included professional development, life aboard ship, and global quality of life. The personal and work factors were moderately correlated. The personal factor was the best predictor of reenlistment intentions (Wilcove et al., 2003). The personal factor was directly and indirectly related to reenlistment intentions through organizational commitment. The job factor was indirectly related to reenlistment intentions through organizational commitment.

A replication of the structural equation model developed in Wilcove et al. (2003) was attempted by Hindelang, Schwerin, and Farmer (2004) in a sample of US marines. Structural models were created for married personnel with children and for unmarried personnel without children. As was the case in the Wilcove et al. study, personal factors and job factors were predictive of reenlistment intention for both groups of personnel. The results of this study indicated that the model developed with Navy personnel adequately fit the Marine Corps data. The results of the Wilcove et al. (2003) and the Hindelang et al. (2004) studies provide support for the importance of quality of life factors such as work-life balance in retention.

#### *The Relationship between Work-Life Conflict/Work-Life Balance and Attrition in Military Women*

Although the overall attrition rate has improved over the last few years, the attrition rate for females continues to exceed those of males in many military occupational areas in the CF (Ganderton, 2002). In fact, there are still about 2-3 times as many women as men leaving the Army, and twice as many women as men leaving the "hard sea" occupations (Ganderton, 2002). One possible reason for this gender difference in attrition may pertain to the issue of work-family imbalance. That is, despite the high rate of female participation in the paid labour force, women still have primary responsibility for child care. Consequently, the balance between work and family may be potentially more difficult for women in the CF than for their male counterparts (Febbraro, 2006).

The difficulties that women in the CF face in balancing their work and family life is reflected in a number of studies. One theme to emerge from an interview study with 26 women in the CF combat arms, for example, was that balancing work and family was a challenge for these women, despite the increase in certain formal family-friendly policies implemented by the CF in recent years (Febbraro, 2006). This issue may still be problematic for women because formal policies alone are insufficient for creating a family-friendly work environment; positive leadership practices regarding work-life balance are also needed to support this balance. For instance, 13.6% of CF regular force members<sup>10</sup> responding to a voluntary attrition study (Jenkins, 2003a) indicated that they had been "treated unfairly" because of family responsibilities (e.g., child or elder care, pregnancy) and that this was a factor in their decision to leave the CF. According to Jenkins (2003a), figure corresponds to more than 20% of women and thus is an important finding.

Additional international research suggests that balancing work and family life may be a common and general concern for women in the military. Research on factors influencing women's plans to stay or leave the US Air Force (Pierce, 1998), for example, indicates that women wanting to leave had a higher preference for civilian work conditions. Civilian work conditions in this study

---

<sup>10</sup> Sample consisted was 80.7% male, 15.7% female, and 4% did not indicate their gender.

reflected opportunities for leisure time with family and friends, flexible features of one's work schedule, and the ability to fulfill family responsibilities (Pierce, 1998). In fact, in the open-ended portion of the survey, in which respondents were given an opportunity to give their reasons for leaving (or reasons for leaving at the next opportunity), 11% indicated that the reason was work-family conflict. This was the second-highest reason given for leaving, behind separation from family and friends (12%).

Other research by Kelly, Hock, Bonney, Jarvis, Smith, and Gaffney (2001) indicates that among US Navy mothers, dissatisfaction with the Navy, concerns about balancing a Navy career with family responsibilities, and a higher commitment to the motherhood role were predictors of women's intentions to leave the military. Kelley et al. (2001) also found that women in their study anticipating deployment were approximately three times more likely than women in the control group to cite the difficulty of balancing motherhood and a Navy career as a reason for planning to leave the military at the end of their obligated service.

Finally, the Committee on Women in the NATO Forces, which seeks to find solutions to work-family conflict in order to ensure that women can enjoy as long and rewarding a career as possible (Bowser, Currie, Ganderton, Perron, & Syed, 2004), looked at the issue of work-life balance for women in the military. They found that balancing work and life commitments appears to be a continuing challenge for women in the military and that it has the potential to negatively impact on retention (Bowser et al., 2004).

#### *The Impact of Rank on the Relationship between Work-Life Conflict/Work-Life Balance and Attrition*

Some evidence suggests that rank may be related to work-life conflict/work-life balance. One finding that has emerged in a few studies suggests that, compared to other ranks, officers report a higher workload, greater work-to-family interference (i.e., work-life conflict), and higher burnout (Duxbury & Higgins, 2002; Huffman, Adler, Dolan, Thomas, & Castro, 2001). According to findings from the Quality of Life survey in the CF, senior officers tended to be less satisfied with the amount of time they have for their family, friends, and leisure activities than other respondents (Dowden, 2001a; Dowden, 2001b; Jefferies, 2001). In fact, as Duxbury and Higgins (2002) noted, there is a tendency for work flexibility to diminish as rank/job level increases in DND employees and CF officers. Officers perceive that they cannot refuse overtime and that they have little control over their work environment – namely, when and where they work (Duxbury & Higgins, 2002). Thus, there is a suggestion that some officers in the CF may be experiencing high work-to-life interference. These findings are important because research with US soldiers stationed in Germany found that compared to other ranks, a greater percentage of officers reported that the impact of their high workload on their family was a reason for their leaving the military (Huffman et al., 2001). In fact, it was one of the top three reasons for officers leaving the military, along with leaving to pursue other interests and leaving as a consequence of work hours (Huffman et al., 2001).

### *The Relation between Work-Life Conflict/Work-Life Balance and Attrition in Single-Parent and Dual Couple CF Families*

Compared to some of the other demographic groups, little research has been conducted on the special work-life conflict/work-life balance issues faced by either single parents or dual couple military families. However, these two groups are definitely worthy of further study. First, more than 50% of CF personnel are parents and about 10% of those are single parents (Ganderton, 2002). Second, the inclusion of greater numbers of women in the military has contributed to an increase in the diversity of family structures, including more single parents and dual military couples (Schumm, Bell, & Resnick, 2001). Third, the research that has been undertaken indicates that balancing work and family is definitely an issue faced by single parents and dual couple military families. This is evidenced in Evans' (2004) report indicating that female-headed single-parent families experience high levels of work-family conflict compared to other types of families. Also, research by Dunn and Pepin (2006) indicates that two-parent families reported enjoying military life more than single-parent families reported enjoying military life. In this same study, almost half of dual couple military families felt that that CF did not properly take their relationship into account when making decisions regarding their deployments. Approximately 60% of dual military career couples indicated that the CF did not understand the special problems that they faced. Difficulties in finding child care were noted by both single-parent and dual military couples. Thus, both of these groups seem to have special work-life challenges. In the case of dual military couples, there is some evidence indicating that work-life conflict may be one reason for one partner leaving the CF. Approximately 29% of CF members in dual military relationships indicated that as a result of being apart too much, one of them would leave the CF (Dunn & Pepin, 2006). These results indicate that the relationship between work-life conflict/work-life balance and operational effectiveness in various demographic groups is an important and necessary area of further research.

## **4.2 Work-Life Conflict/Work-Life Balance and Physical and Psychological Health and Well Being**

The research that has been done on the relationship between work-life conflict and well being consistently demonstrates that high levels of work-family conflict are related to poor physical and psychological health and well being. These findings are not unexpected since work-family conflict may create stress in the lives of individuals. For instance, findings from the meta-analyses conducted by Kossek and Ozeki (1999) and Allen et al. (2000), discussed previously, indicates that work-to-family conflict is related to a variety of stress-related outcomes. In both studies greater amounts of work-to-family conflict were related to increased job burnout, in particular to the emotional-exhaustion component of burnout. In fact, increased amounts of work-family conflict were more strongly related to job burnout (weighted mean correlation of .42) than to any other the other work-, stress-, or non-work-related outcomes studied in the Allen et al.'s meta-analysis. This is an important finding since as Kossek and Ozeki (1999) state, burned out individuals are less beneficial to their organization. Increased work-to-family conflict was also found to be associated with a number of other health-related variables. Allen et al. (2000) found that conflict was directly related to poorer general psychological health and physical symptoms or complaints (e.g., poor appetite, fatigue, nervous tension, elevations in blood pressure) (weighted average mean correlation of .29 in both instances). Increased work-to-family conflict was also related to increased depression in cross-sectional studies but not in the only longitudinal study

noted (weighted average mean correlation of .32) (Allen et al., 2000). There was also some suggestion that work-to-family conflict may be related to maladaptive coping in some individuals. A small relationship (weighted average mean correlation of .13) was obtained between work-to-family conflict and alcohol use (Allen et al., 2000). Despite the fact that this relationship is small, it persisted across time, that is, work-to-family conflict predicted future heavy alcohol use (Frone, Russell, & Cooper, 1997). Importantly, many of these relationships obtained from a wide range of studies using individuals from varying occupations (e.g., Burke, 1988; Cooke & Rousseau, 1984; Frone, Russell, & Barnes, 1996) were also obtained in the research conducted using members of the military (e.g., Durand, Burrell, Stetz; Castro, 2003; Duxbury, 2001).

#### **4.2.1 Work-Life Conflict/Work-Life Balance and Health and Well Being in the CF**

One of the earliest studies focusing on the relationship between work-life conflict and soldier health and well being was conducted by Popoff, Truscott, and Hysert (1986). The study was conducted in 1984-1985. A total of 2306 CF members and their spouses participated in this research. One finding from this study was that higher levels of dual-career stress were related to increased psychological distress in CF members. Dual-career stress refers to decisions regarding which partner's career or family roles should be given preference as well as to conflicts arising from the competing demands of work and family roles (Popoff et al., 1986).

One of the most comprehensive studies focusing on the relationship between work-life conflict and health and well being in DND employees, including CF members, was conducted by Duxbury and Higgins (2001). Findings from Duxbury and Higgins' (2001) survey on the work environment of DND employees suggests that work-to-family conflict in DND employees, both civilian and CF members, is related to a variety of psychological and physical health indicators.<sup>11</sup> DND employees with high work-to-family conflict reported more stress, burnout, and depression than did employees with low work-to-family conflict. Employees reporting high work-to-life conflict reported seeing a physician and other types of health care professionals more often than employees with low work-to-family conflict. Individuals with high work-to-family conflict reported using prescription drugs more often and spending more money on them in the past 3 months than did employees with low work-to-family conflict. High work-to-family conflict was also related to the reasons for absences. Compared to individuals with low work-to-family conflict, individuals with high work-to-family conflict were more likely to report being absent because of poor health, mental health reasons, and child-care issues. As well, employees with high work-to-family conflict were absent more days due to poor health and mental health issues than those with low work-to-family conflict.

##### *Work-Life Conflict/Work-Life Balance in Other Militaries*

Three additional studies focusing on the relationship between work-life conflict and physical and psychological health in US soldiers obtained similar results to those obtained for CF personnel. Netemeyer et al.'s measure of work-to-family conflict (1996) was used as the measure of WFC in

---

<sup>11</sup> As indicated in a previous footnote, the nature of the work done by CF members and civilians is very different and may help explain these findings

these studies. Greater amounts of work-to-family conflict were associated with lower levels of well being, and in particular, higher levels of depression, in a large sample of US Army soldiers (Tucker, Sinclair, & Thomas, 2005). Other research found that work-to-family conflict was related to the physical and mental health of US soldiers (Durand et al., 2003). In this same study, ratings of work-family conflict reported by soldiers' spouses were related to their physical health, mental health, and marital satisfaction. Additionally, research by Britt and Dawson (2005) found that work-to-family conflict was related to the psychological and physical health of soldiers stationed at US bases in Germany or Italy.

Overall, most of the research to date has focused on the relationship between work-life conflict and psychological health and well being. Far less work has been conducted on the relationship between work-life conflict and physical health. In light of the fact that work-life conflict is a particular type of stress (i.e., chronic stress) (O'Driscoll, Brough, & Kalliath, 2006), it should have a negative impact on both physical and psychological health (e.g., Allen et al., 2000; Durand et al., 2003). For example, stress, in particular chronic stress, has been found to suppress immune system functioning, making an individual more susceptible to illness (Segerstrom & Miller, 2004). Thus, the physical and psychological health and well being of an individual under chronic stress may be compromised. If an individual's health and well being is compromised, then it may have a negative impact on operational effectiveness (Britt, Adler, & Castro, 2006; Britt, Castro, Adler, 2006). It is for this reason that this issue is not only important for CF members but also for the organization as a whole.

### **4.3 Work-Life Conflict/Work-Life Balance and Unit Attributes**

The amount of research assessing the relationship between work-life conflict/work-life balance and unit attributes, such as unit morale and cohesion, is somewhat limited. The studies that have been undertaken suggest that higher levels of work-life conflict, or alternatively, work-life imbalances, are related to negative unit attributes. As referred to earlier, Popoff, Truscott, and Hysert (1986) undertook a study on work-life stress and its relationship to health and organizational morale in 2,306 CF members and their spouses. In their study a higher level of dual-career stress was related to poorer morale in CF members. As mentioned earlier, dual-career stress refers to decisions regarding which partner's career or family roles should take precedence as well as to conflicts arising from the competing demands of work and family roles (Popoff et al., 1986). Britt and Dawson (2005) looked at the interrelationships among work-family conflict, on the one hand, and unit cohesion, combat readiness, officer leadership, non-commissioned officer (NCO) leadership, and overall leadership, on the other, in 493 US soldiers stationed in Germany and Italy. A higher level of work-to-family conflict was related to poorer unit cohesion, combat readiness, morale, and unit leadership. Finally, research by Tucker, Sinclair, and Thomas (2005), focusing on the effect of organizational stressors on soldiers' well being, organizational attachment, and readiness, found that higher levels of work-to-family conflict was predictive of lower morale in 1,489 US Army soldiers working in staff sections from a large combat training brigade in the US. Overall, these findings are important because they suggest that work-to-life conflict has the potential not only to impact on individuals but also on unit effectiveness. Such findings also provide a demonstration of the utility of the organizational effectiveness model presented earlier and how work-life conflict, measured on an individual level, has the potential to impact the organizational level in a variety of ways.

## 4.4 Work-Life Conflict/Work-Life Balance and Performance

Very little research has been done examining the relationship between quality of life and job performance (Weiss & MacDermid, 2003). By job performance I am referring to employee behaviours that contribute to the goals of the organization, in this instance the CF (Campbell, 1990). The lack of research on this topic is exemplified by the fact that Kossek and Ozeki's (1999) meta-analysis found only three studies that had quantitatively measured the relationship between work-family conflict and work performance. The situation has not changed much since Kossek and Ozeki's (1999) study. Despite the lack of research that has been conducted on the link between work-life conflict and performance, these two constructs have typically been theorized to be related (Glasser, 1996, as cited in Weiss & MacDermid, 2003). However, the research that has been conducted on the relationship between work-life conflict/work-life balance and performance has primarily used non-military populations. Accordingly, the findings that are discussed in this section focus on the relationship between work-life conflict/work-life balance and performance in non-military populations. As well, a model explaining how quality of life issues such as work-life conflict can affect military-related job performance is proposed.

Some initial research (Yardley, 1996) investigating the relationship between work-family conflict and work-related outcomes found that family interference with work was related to a variety of work-related outcomes, including reduced job performance. Work interference with family, on the other hand, was related to absenteeism and turnover but not to job performance. Another study conducted with female nurses indicated that while conflict due to family interfering with work was negatively related to self-rated job performance, conflict due to work interfering with family was positively related to self-rated job performance (Bronneberg, 1996). However, neither type of conflict was related to supervisors' evaluations of an employees' job performance. Although self-reported indicators of WFC and FWC were used in both of these studies they do not appear to be multi-dimensional in nature, i.e., breaking each type of conflict down in terms of time conflict, role-strain, and so on.

One of the only comprehensive reviews to be undertaken on the relationship between work-family conflict and a variety of work-related, non-work related and stress-related outcomes was conducted by Allen et al. (2000). On average, a weak relationship was obtained between work-to-family conflict and work-related performance (average  $r = -.12$ ). Overall, work-to-family conflict was inconsistently related to performance (Allen et al., 2000; Kossek & Ozeki, 1999). They did not assess the relationship between family-to-work conflict and job performance. The findings from the meta-analysis conducted by Kossek and Ozeki (1999) indicate that there was a slight to moderate relationship between family-to-work interference and job performance (i.e., the greater the interference, the poorer the performance). However, there was a small, close to non-existent relationship between work-to-family interference and job performance (i.e., the confidence interval for the relationship between these two variables included a value of "zero").

### *Measuring Work-Family Conflict*

One possible explanation for these mixed results may have to do with the different ways in which work-family conflict was measured in the studies reviewed in the meta-analyses (Kossek & Ozeki, 1999). For instance, some research has focused on the conflict between work and specific family roles (e.g., work-to-parent conflict, work-to-spouse conflict) while others have used more



global measures of work-family conflict. A few studies have included work-to-family interference items along with family-to-work interference items in the same measure. This is problematic because when an effect is obtained it is impossible to know whether it is the work-to-family interference aspect of work-family conflict that is creating the effect or the family-to-work interference component (Kossek & Ozeki, 1999). Also, there is the issue of which component of work-family conflict was used to assess work-family conflict in a study. Specific work-family components may have different effects on performance (Kossek & Ozeki, 1999). For example, the amount of time that one spends at work versus at home may have a different effect on one's performance than, for example, the role-produced strain aspect of work-family conflict. Finally, there is the issue of using work-family measures that consist of only one or a few items, leading to problems of scale unreliability (Allen et al., 2000). With these considerations in mind, it is not surprising that the results of the few studies that have been conducted on the relationship between work-family conflict and job performance have been mixed.

### *Measuring Performance*

Another explanation for the mixed results pertains to how performance has been measured in past research. Some studies have used individuals' self-reported appraisals of their job performance while others have used supervisors' rating of employees' performance. There may be differences between individuals' evaluations of their own performance and how a supervisor might evaluate an individual's performance. For example, individuals' evaluations of their own performance are typically obtained through anonymous surveys while employees' identities are known but are protected when information is obtained through supervisor evaluations. One way of getting around this issue is through the use of more objective job performance indicators. More objective indicators of performance that could be applied to a military context include such things as the number of awards and certificates received, promotion rates, fitness scores, gunnery scores, M16/M9 (C7/C9 for the CF) qualifying scores, and so on (Thomas, Alder, & Castro, 2001).

Not only have there been differences regarding the source of the performance evaluations but also what aspects of performance have been assessed. For example, performance has been assessed by focusing on an individual's in-role performance and also with respect to the overall quality of their performance. Another issue related to the research on work-family conflict and job performance has to do with the narrow way in which performance has been conceptualized. Aside from the methodological issues outlined above, this may also help to explain the mixed research findings obtained. Perhaps work-to-family conflict may have a greater impact on other domains of performance such as organizational citizenship (Organ, 1988). Individuals with high work-to-family conflict may perform job-related tasks at an acceptable level (Allen et al., 2000). However, they may be unwilling to go "above and beyond" the call of duty for the organization and to participate in other activities beyond the scope of their job description (Allen et al., 2000). For instance, they may be unwilling to participate in mentoring relationships (Organ, 1988). These are aspects of job performance that have not typically been assessed in the research but may be areas where work-family conflict may have an impact.

### *Implications of Job Performance Findings for the CF*

The findings with respect to the impact of family-to-work interference on job performance in the general literature seem to be more consistent than the work-to-family interference findings.

Family-to-work interference appears to have a negative impact on performance. Research findings on the impact of work-to-family interference on job performance are mixed. One possible explanation for these mixed findings is that work-to-family interference may have more of an impact on family-related outcomes rather than organizational outcomes such as job performance. However, since these findings are based on only a few studies that have conceptualized performance in a narrow fashion, and since some studies have used measures of work-family conflict that may be flawed, more research on this topic is necessary. Future research on this topic using CF personnel needs to avoid these pitfalls. We need to investigate what types and which dimensions (time, role-produced strain, incompatible in-role behaviour patterns) of work-life conflict impacts on CF members' performance. We also need to study which aspects of work-life balance (time balance, involvement balance, satisfaction balance) may have a positive effect on performance. This issue of work-life conflict/work-life balance and its potential effect on performance is a fruitful area for future research.

#### *A Model of How Work-Life Conflict Can Impact on Job-Related Performance*

Weiss and MacDermid (2003) have put forth a model that can be used to explain a possible mechanism through which quality of life factors can adversely impact on the job performance of military personnel. In their model, quality of life factors such as work demands interfering with family life can create cognitive interference potentially decreasing the ability of a CF member to stay focused on-task (Weiss & MacDermid, 2003). Recall that job performance more generally refers to employee behaviours that contribute to the goals of the organization, in this instance the CF (Campbell, 1990). There is some evidence suggesting that work-life conflict may be a concern for CF members who are deployed. For example, one question that Popoff et al. (1986) asked CF personnel who completed their survey of work/life stress and its relationship to health and organizational morale was: "When you are away from home, how often do you wonder if your spouse: (a) has more work than can be handled, and (b) is having difficulties caring for children?" Twenty-five percent of participants indicated that they wondered whether their spouse had more work than can be handled "often," or "very often." Fifteen percent of CF members surveyed wondered whether their spouse was having difficulties caring for children "often," or "very often." Finally, although this is an interesting and potentially useful model to guide future research in the CF, some initial research needs to be undertaken to establish that work-life conflict is indeed related to job-related performance in the CF. A multi-dimensional measure of work-life conflict which assesses the time conflicts, role-produced strain, and incompatible in-role behaviour patterns (Greenhaus & Beutell, 1985) produced by work interfering with personal life and personal life interfering with work life needs to be employed in this research. Job-related performance needs to be measured through the use of both subjective (e.g., self-report and supervisor ratings) and more objective indicators of performance (e.g., the number of awards and certificates received, promotion rates, fitness scores, gunnery scores, C7/C9 qualifying scores, and so on (Thomas et al., 2001). Only when the relationship between work-life conflict and job performance has been established can further research be undertaken examining possible mechanisms underlying this relationship.

## 5 PERSTEMPO and Operational Effectiveness: Work-Life Conflict as a Mediating Variable

---

PERSTEMPO (personnel tempo) is a term that the military uses to refer to the work load that CF personnel are asked to maintain (Thomas, Adler, & Castro, 2005). PERSTEMPO is “defined as the sum of the demands made by military service upon individual members, in terms of deployment load or the tempo of CF operations (OPTEMPO), the time members spend away from home for more than 24 hours/overnight, and general workload (garrison load)” (Sudom et al., 2006, p. 2). There has been an ever increasing interest in the issue of PERSTEMPO because the PERSTEMPO of CF members has continued to increase over the past 10 to 15 years (Auditor General of Canada, 2002), as a consequence of the decreased size of the CF due to government cutbacks on funding to the CF (Auditor General of Canada, 2006), and because of issues of attrition, combined with the increase in domestic and international deployments. PERSTEMPO has been assessed through measuring daily workload, deployment workload, training workload, and role overload (Thomas et al., 2005). The vast majority of the research that has been conducted to date suggests that increases in PERSTEMPO have negative consequences not only for individual well being but also for the CF in that it is one factor associated with members’ decisions to leave the military (Auditor General of Canada, 2002; Castro & Adler, 2005; Dolan, Adler, Castro, Thomas, & Huffman, 2001; Huffman, Adler, Dolan, Thomas, & Castro, 2001; Jenkins, 2003a; Jenkins, 2003b).

Although more and more research centers around establishing the relationship between PERSTEMPO and a variety of individual and organizational outcomes, relatively little research has looked at possible mediating variables (Adams, Durand, Burrell, Teitelbaum, Pehrson, & Hawkins, 2005). One possible mediating variable is work-life conflict. In fact, although most of the work on PERSTEMPO has focused on its direct effects, most models in the civilian literature relating work conditions to family and organizational outcomes have theorized that work conditions have indirect effects on organizational outcomes through work-family conflict (e.g., Bedeian, Burke, & Moffett, 1988; Frone et al., 1997; Kopelman, Greenhaus, & Connolly, 1983). High levels of PERSTEMPO (i.e., long work days while in garrison, many training sessions and a high number of deployments) can increase work-life conflict, in that the work demands placed on members can create conflict and strain in their family and interpersonal lives. This conflict can have negative consequences for the member, the member’s family and friends, and the CF (e.g., Adams et al., 2005; Durnand et al., 2003).

Adams et al. (2005) conducted one of the only studies looking at the direct and indirect effects of PERSTEMPO. Active duty, non-deployed soldiers at a large Army post in the continental US, along with their spouses, were asked to complete a series of questionnaires focusing on PERSTEMPO, work-family conflict, and family-related and work-related outcomes. Netemeyer et al.’s measure (1996) of work-family conflict was used to assess work-to-family conflict. The family-related outcomes pertained to family functioning, marriage/relationship conflict, and marriage/relationship satisfaction. The work-related outcomes reflected soldiers’ and their partners’ commitment to the Army/Army way of life. Structural equation modelling was undertaken to determine whether PERSTEMPO was directly and/or indirectly related to family-related and work-related outcomes. Separate models were created for soldiers and their spouses/partners. Results showed that PERSTEMPO was directly related to commitment to the

Army for both soldiers and their spouses/partners. However, PERSTEMPO was directly and indirectly related to family-related outcomes for soldiers and their spouses/partners. In fact, the indirect relationship of PERSTEMPO to family-related outcomes through work-family conflict was much greater than the direct effect of PERSTEMPO on work commitment, particularly for soldiers' spouses/partners. Unfortunately, the relationship between family-related outcomes and work-related outcomes was not assessed in the model. This is important since there is mounting research indicating that the views of soldiers' spouses/partners may impact how soldiers feel about the military (e.g., Rosen, Moghadam, & Vaitkus, 1989). So, if soldiers' spouses/partners are not happy with the amount of time that soldiers are spending away from the family, then this may not only have negative implications for familial relationships but may also be an impetus for soldiers to leave the military. This is something that needs to be pursued in future research. It is not enough to simply determine that PERSTEMPO is related to individual, family, and organizational outcomes; more work needs to be done to determine *how* and *why* these relationships exist. Research can also help to guide quality of life policy, but first we must have a better understanding of the mechanisms through which stresses such as PERSTEMPO and work-life conflict have their impact.

## **6 Future Research Directions**

---

### **6.1 Special Demographic Populations**

#### **6.1.1 Single CF Personnel**

A focus on differences in the relationship between work-life conflict/work-life balance and operational effectiveness based on demographic factors is needed. Most of the research to date has focused on the issue of work-life conflict/work-life balance with respect to married or partnered members. This trend is also apparent in the general literature as Allen et al. (2000) indicate that many studies examining work-to-family conflict limit their sample to married individuals. It seems as though researchers assume that work-life balance issues are relevant only to married or partnered individuals, and in particular, individuals with children. However, there are increasing numbers of individuals from other demographic groups, including single individuals without children, single-parent families, and partnered individuals without children. There is thus a void in knowledge regarding the challenges that single members (and individuals from other demographic groups) face with respect to balancing their work and interpersonal life challenges and how this relates to operational effectiveness.

#### **6.1.2 Single-Parent Families in the CF**

Given the increasing number of single-parent families it is important to study this segment of the population (Allen et al., 2000). Research also suggests that single-parent families may experience greater work-life challenges compared to their two-parent family counterparts (Dunn & Pepin, 2006; Evans, 2004). Since females are likely to be the head of these single-parent families, this may well be an issue to consider when studying the challenges faced by female CF members. Considering that we as a society have been moving towards more diverse family types (Lero & Johnson, 1994; Statistics Canada, 1997), this is definitely an area that warrants future research.

#### **6.1.3 Women in the CF**

As noted previously, women may face different challenges from their male counterparts when trying to balance their work and personal life. In fact, representatives participating in a NATO committee focusing on quality of life issues for females in the military reported that work-family balance was an issue for female military members in their respective countries (Bower et al., 2004). This is undoubtedly reflected in the fact that the attrition rate of women continues to exceed those of males in many occupational areas of the CF (Ganderton, 2002). Accordingly, this issue of work-life conflict/work-life balance and operational effectiveness is an issue worthy of further research.

#### **6.1.4 Dual Member Military Couples**

Although dual member families represent a relatively small percentage of the demographic composition of the CF, they are still an important group to study. More specifically, as was noted

previously, approximately 29% of these types of couples indicated that one member of the couple would leave in order to achieve greater work-interpersonal life balance (Dunn & Pepin, 2006). As attrition has implications for organizational and operational effectiveness, attrition in dual career military couples is an important topic for future research.

### **6.1.5 Reserve Members**

Most of the research that has been conducted to date on work-life conflict/work-life balance has focused on Regular Force members. It is only recently that research has started to look at this issue in CF Reserve members. In light of the fact that they are increasingly being called upon for duty (i.e., because of increased PERSTEMPO and decreased size of the CF), it is important to look at the relationship between work-life conflict/work-life balance and operational effectiveness in the reserve population.

Gaining an understanding of the unique as well as common work-life challenges that each of these demographic groups face is important. At the same time, CF policies and leadership attitudes regarding work-life balance need to be better understood (and if necessary, changed) so as to lessen work-life conflict and increase the quality of life of all members. Increasing the quality of life of CF members, particularly work-life balance, may have positive consequences for operational effectiveness such as members' health and well being, affective commitment, retention, and performance.

## **6.2 Model Development**

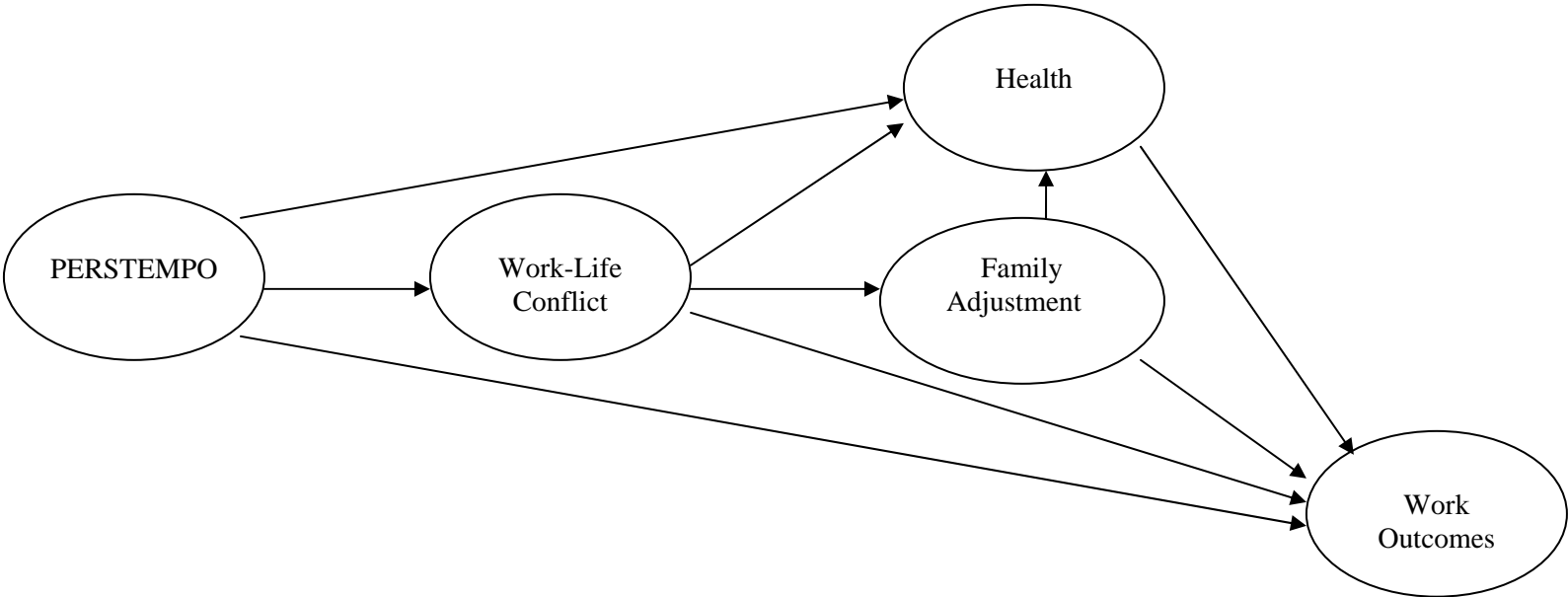
A model of how work-life conflict/work-life balance relates to various indicators of operational effectiveness is introduced. Although other models have been developed assessing the link between quality of life and operational effectiveness they primarily focus on overall quality of life (e.g., Dowden, 2000; HindedeLang, Schwerin, & Farmer, 2004; Wilcove, Schwerin, Wolosin, 2003) as opposed to one specific aspect of quality of life, i.e., work-life conflict/work-life balance. The current model (Figure 1) combines elements of a few models that have been used in the stress and strain literature and the literature on work-life conflict. First, within the stress and strain literature, increased amounts of stress are theorized to have negative consequences for the individual's physical and psychological health (Cohen, 2005; Marsland, Bachen, Cohen, Rabin & Manuck, 2002; Miller, Cohen, Ritchey, 2002; Monat & Lazarus, 1977). Second, as previously discussed, Adams and Associates (2005) have developed a model whereby PERSTEMPO has both direct and indirect effects on organizational and familial outcomes. Recognizing that PERSTEMPO and work-life conflicts are both stresses (O'Driscoll et al., 2006; Sudom et al., 2006), the stress-strain model can also be applied to the Adams and Associates model. Accordingly, the impact of PERSTEMPO and work-life conflict on the individual's physical and psychological health outcomes, organizational outcomes, and familial outcomes is incorporated in the current model.

The updated model is depicted in Figure 1. Increased rates of PERSTEMPO and work-life conflict [i.e., time conflicts, role-produced strain, and incompatible in-role behaviour patterns (Greenhaus & Beutell, 1985)] are related to greater amounts of psychological (e.g., depression, anxiety), and physical (e.g., colds, backaches, headaches, nausea) symptoms and negative organizational outcomes (e.g., sick days due to illness, poor job satisfaction and morale, decision

to leave the CF, citizenship behaviour, which is a particular aspect of job performance). Increased PERSTEMPO is indirectly related to poor family adjustment (e.g., marital discord, maladjustment of children, CF member's family satisfaction the military lifestyle) through increased work-life conflict. Additionally, poor physical and psychological health and familial maladjustment are also theorized to have a negative impact on work-related outcomes. For example, chronic stress, such as work-life conflict, may compromise an individual's immune system functioning and contribute to their having an increased number of illnesses (Cohen, 2005; Marsland et al., 2002; Miller et al., 2002). As a consequence, the individual may have to take an increased number of sick days and/or have decreased productivity due to their illness (Ramon, 2005; Toppinen-Tanner, Ojajarvi, Vaananen, Kalimo, Jappinen, 2005).

Although not included in the model, factors such amount of time in the military, martial status, and whether the partner is in the CF also need to be considered. For example, some research suggests that spouses/partners of military members who are new to the military way of life may experience greater adjustment difficulties compared to spouses/partners whose members who have been in the military longer (Rosen, Moghadam, & Vaitkus, 1989). The experiences of spouses/partners who are adjusting to the military way of life may impact on the military members' morale and perceptions of the organization (Rosen et al., 1989). This is indicated by the path from family adjustment to health in Figure 1. As is evident in this example, various factors may act as moderators, changing the nature of the relationships being considered. Once these moderators and the ways in which they act are known, they can be used to further expand on the proposed model.

Figure 1 Proposed Model of the Impact of PERSTEMPO and Work-Life Conflict on Organizational, Health, and Family Outcomes.





### 6.3 Further Instrument and Methodological Refinement

There were two main limitations to the research that has been conducted to date in the area of work-life conflict/work-life balance and operational effectiveness. First, most of the research to date has primarily focused on the link between work-life conflict/work-life balance and attrition in the CF. The second area of concern pertains to the operationalization of key constructs used in past research (i.e., using single items to measure a construct as opposed to reliable and valid instruments, accurately operationalizing a multi-dimensional construct). These limitations apply not only to the research that has been conducted using CF personnel but also more generally to the research on work-life conflict/work-life balance. As discussed previously, most of the recent research on work-life conflict/work-life balance and operational effectiveness in the CF has focused on the issue of attrition and factors related to retention. By comparison, very little research has been done on the relationship between work-life conflict/work-life balance and job performance. This needs to be rectified. Future research needs to move beyond issues of retention and attrition. We also need to focus on how work-life conflict is impacting on the health and well being of individuals who remain in the CF, as well as their performance. This means that longitudinal research designs, not only cross-sectional studies, should be used, despite the challenges they pose to researchers in military settings.

Another issue that needs to be addressed is the way in which constructs are measured in the research being undertaken. As indicated previously, the studies that have focused on job performance have typically operationalized it quite narrowly. They define job performance, as the employee behaviours that contribute to the goals of the organization (Campbell, 1990). However, as Thomas, Adler, and Castro (2005, p. 140) state in reference to job-related behaviours,

These behaviors are more than the mere competency displayed in conducting a task; they include a wide array of job behaviours—both task specific (e.g., typing skills in an administrative job) and non-task specific (developing and fostering relationships with coworkers). By expanding the concept of job performance to incorporate work-related behaviour other than job-specific task competency, many researchers have concluded that performance is best conceptualized as multidimensional.

Future research needs to not only recognize that performance is a multidimensional construct but also operationalize it as such.

Another issue that needs to be addressed in future research is the way in which work-life balance/work-life conflict is operationalized. Allen et al. (2000) indicate that although work-family conflict was initially viewed primarily as a unidimensional construct, later research suggested that it was a multidimensional construct. Work-family conflict is reciprocal in nature, in that work is able to interfere with family (WFC) and family is able to interfere with work (FWC) (Allen et al., 2000). However, despite its multidimensional nature, most of the research conducted in this area has focused on the impact of work on family (Allen et al, 2000). With this in mind, future research needs to look at both WFC and FWC, along with testing for the possibility of reciprocal causation. For example, WFC could potentially contribute to FWC, which in turn, may impact WFC. Next, if reciprocal causation is shown, then research must investigate the impact on indicators of operational effectiveness and family functioning.

Additionally, although both work-life balance and work-life conflict have been conceptualized as multidimensional constructs, this is not always evident in the military-related research. As stated previously, Greenhaus et al. (2003) have conceptualized work-family balance as consisting of three components: (a) time balance, (b) involvement balance, and (c) satisfaction balance. In each instance the individual feels content with the amount of time and involvement that they have with their work and familial roles, and are satisfied with their work and family roles. As noted earlier, work-family conflict is also theorized to consist of three components: (a) time conflicts, (b) role-produced strain, and (c) incompatible in-role behaviour patterns (Greenhaus & Beutell, 1985). Work-family conflict occurs when the time used to fulfill the requirements of one role makes it difficult to fulfill the requirements of another role, when strain from participating in one role makes it difficult to meet the requirements of another role, and when specific behaviours required in one role make it difficult to meet the requirements of another role (Greenhaus & Beutell, 1985). Thus, for example, work-to-family conflict occurs when the time demands, strain, and behaviours associated with work (e.g., having to attend an out of town meeting) interfere with an individual's ability to fulfill their family role. Further, despite the fact that work-family conflict and work-family balance are theorized to be multidimensional constructs, most of the research, both military and non-military, has focused on the issue of time. There has been less work on how satisfied someone is with their work and family roles as an indicator of work-family balance and also less research on work and family conflict as a consequence of role-produced strain. It is important to assess how the various aspects of work-life balance/work-life conflict are related to work-outcomes (see Figure 1) in order to obtain a more accurate picture of the interrelations among these constructs.

## **6.4 Conclusion**

In summary, although some research has been conducted on the relationship between work-life balance/work-life conflict and operational effectiveness in the CF, there is a need for more research in this area. Most of the research to date has focused on the link between work-life conflict/work-life balance and attrition in the CF. However, in comparison, relatively little research has been conducted on the relationship between work-life conflict/work-life balance and job performance. There is also a need to conduct research in a more systematic manner. Accordingly, a model of work-life conflict and operational effectiveness has been proposed that may be used to guide future research. Along with this, the issue of the operationalization of key constructs needs to be addressed so as to overcome past research limitations. As well, consideration of key demographic groups needs to occur when undertaking this type of research. In general, it is believed that studying how quality of life issues such as work-life conflict/work-life balance are related to operational effectiveness may be of benefit to individual CF members, their families, and the CF. Information that is obtained from this type of research can be used to guide policy and, if embraced by leadership, has the potential not only to increase the quality of life of CF members and their families, but can also increase operational effectiveness, which ultimately benefits the CF as an organization.

## References

---

- [1] Adams, G.A., Durand, D.B., Burrell, L., Teitelbaum, J.M., Pehrson, K.L., & Hawkins, J.P. (2005). Direct and indirect effects of operations tempo on outcomes for soldiers and spouses. *Military Psychology, 17*(3), 229-246.
- [2] Allen, T.D., Herst, D.E.L., Bruck, C.S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*(2), 278-308.
- [3] Auditor General of Canada. (2002). *Report of the Auditor General. Chapter 5: National Defence-Military Recruiting and Retention of Military Personnel*. Available online at: [www.oag-bvg.gc.ca/domino/reports.nsf/html/0205ce.html](http://www.oag-bvg.gc.ca/domino/reports.nsf/html/0205ce.html).
- [4] Auditor General of Canada. (2006). *Report of the Auditor General. Chapter 2: Status Report: National Defence-Military Recruiting and Retention*. Available online at: [www.oag-bvg.gc.ca/domino/reports.nsf/html/20060502ce.html](http://www.oag-bvg.gc.ca/domino/reports.nsf/html/20060502ce.html).
- [5] Bender, P., & Collin, I.A. (April, 2002). *Assessment of the potential volume of releases at the 20 years of service (YOS) point*. Briefing Note. Director of Strategic Human Resources. Available online at: [http://hr.ottawa-hull.ca/dsrathr\\_drhstrat/engraph/20YOSBN\\_e.asp](http://hr.ottawa-hull.ca/dsrathr_drhstrat/engraph/20YOSBN_e.asp).
- [6] Bender, P & Jarvis, G.E. (2005). *Annual report on Regular Force personnel: 2004-2005*. Director, Strategic Human Resources. Available online at: [http://hr.ottawa-hull.ca/dsrathr\\_drhstrat/docs/pdf/AnnualReport0405\\_e.pdf](http://hr.ottawa-hull.ca/dsrathr_drhstrat/docs/pdf/AnnualReport0405_e.pdf)
- [7] Bedeian, A.G., Burke, B.G., & Moffett, R.G. (1988). Outcomes of work-family conflict among married male and female professionals. *Journal of Management, 14*, 475-491.
- [8] Bronneberg, E.A. (May, 1996). *The interactive effects of psychological involvement and time spent on work-family conflict and the impact of work-family conflict on job performance*. Dissertation Abstracts International Section A: Humanities and Social Sciences, 56(11-A), pp. 4566. ISSN: 0419-4209.
- [9] Bourg, C., & Segal, M. (1999). The impact of family supportive policies and practices on organizational commitment to the Army. *Armed Forces & Society, 25*(4), 633-652.
- [10] Bowser, J., Currie, K., Dunn, J., Ganderton, S.L., Perron, N., & Syed, F. (2004). *Committee on Women in the NATO Forces (CWINF): Retention of Women in the NATO Forces*. Sponsor Research Report 2004-01. Ottawa: Director Human Resources Research and Evaluation.
- [11] Britt, T.W., Adler, A.B., & Castro, C.A. (2006). *Military life: The psychology of serving in peace and combat (Vol. 4): Military culture*. Westport, CT: Praeger Security International.

- [12] Britt, T.W. Castro, C.A., & Adler, A.B. (2006) *Military life: The psychology of serving in peace and combat (Vol. 1): Military performance*. Westport, CT: Praeger Security International.
- [13] Britt, T.W., & Dawson, C.R. (2005). Predicting work-family conflict from workload, job attitudes, group attributes, and health: A longitudinal study. *Military Psychology, 17*(3), 203-227.
- [14] Burke, R.J. (1988). Some antecedents and consequences of work-family conflict. *Journal of Social Behavior and Personality, 3*, 287-302.
- [15] Burke, R.J. (2004). Work and personal life integration. *International Journal of Stress Management, 11*(4), 299-304.
- [16] Cameron, K. (1981). The enigma of organizational effectiveness. In D. Baugher (Ed.), *New directions for program evaluation: Measuring effectiveness*. San Francisco: Jossey-Bass.
- [17] Campbell, J.P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M.D. Dunnette & L.M. Hough (Eds.), *Handbook of industrial and organizational psychology*. (2<sup>nd</sup> ed., Vol. 1, pp. 687-732). Palo Alto, CA: Consulting Psychologists Press.
- [18] Castro, C.A., & Adler, A.B. (2005). Preface to the Special Issue. *Military Psychology, 17*(3), 131-136.
- [19] Cohen, S. (2005). Keynote presentation at the Eight International Congress of Behavioral Medicine: The Pittsburgh Common Cold Studies: Psychosocial predictors of susceptibility to respiratory infectious illness. *International Journal of Behavioral Medicine, 12*(3), 123-131.
- [20] Connolly, T., Conlon, E.J., & Deutsch, S.J. (1980). Organizational effectiveness: A multiple constituency approach. *Academy of Management Review, 5*, 211-217.
- [21] Cooke, R.A., & Rousseau, D.M. (1984). Stress and strain from family roles and work-role expectations. *Journal of Applied Psychology, 69*, 252-260.
- [22] Dolan, C.A., Adler, A.B., Castro, C.A., Thomas, J.L., & Huffman, A.H. (August, 2001). *Pushing the limit: The impact of OPTEMPO on the health of US Soldiers*. Paper presented at the American Psychological Association Convention, San Francisco, CA, August 27, 2001.
- [23] Dowden, C. (May, 2000). *Quality of life in the Canadian Forces: Conceptualization and measurement of the QOL construct*. Sponsor Research Report 00-05. Ottawa: Director Human Resources and Evaluation.
- [24] Dowden, C. (October, 2001a). *Quality of life in the Canadian Forces: Results from the National Survey*. Sponsor Research Report 01-13. Ottawa: Director Human Resources Research and Evaluation.

- [25] Dowden, C. (October, 2001b). *Quality of life in the Canadian Forces: Satisfaction with initiatives*. Sponsor Research Report 01-05. Ottawa: Director Human Resources Research and Evaluation.
- [26] Dunn, J., & Morrow, R. (2002). *Should I stay or should I go: Attrition Questionnaire Revision Project-Phase 1 Findings*. Sponsor Research Report 2002-09. Ottawa: Director Human Resources Research and Evaluation.
- [27] Dunn, J., & Pepin, K. (January, 2006). "Your Say": *Quality of life baseline findings*. TM 2005-41. Ottawa: DRDC CORA.
- [28] Durand, D.B., Burrell, L., Stetz, M., & Castro, C.A. (April 23, 2003). *Work/family conflict issues for soldiers and families*. Available online at: <http://www.dticmil/dacowits/briefings/WorkFamilyConflict.ppt>. Silver Spring, MD: Walter Reed Army Institute of Research.
- [29] Duxbury, L., & Higgins, C. (2001). *Summary of key findings from Supportive Work Environment Survey (2001): Department of National Defence Science*. Available online at: [http://hr.ottawa-hull.mil.ca/dstrathr-drhstrat/engraph/downloads\\_e.asp?docid=10](http://hr.ottawa-hull.mil.ca/dstrathr-drhstrat/engraph/downloads_e.asp?docid=10). Ottawa: D Strat HR.
- [30] Duxbury, L., & Higgins, C. (April, 2002). *The 2001 work-life balance study: Key findings at the Department of Defence (DND)*. Contractor's Report 2002-02. Ottawa: Director Human Resources Research and Evaluation.
- [31] Etzioni, A. (1964). *Modern organizations*. Englewood, Cliffs, NJ: Prentice-Hall Inc.
- [32] Evans, C. (February, 2004). *Work-life in the Canadian Forces & Department of National Defence*. Report PR 01/2004. Ottawa: Director Strategic Human Resources.
- [33] Febbraro, A.R. (2006). *Discourses of family among women in the Canadian combat arms*. Poster presented at the American Psychological Association Convention, New Orleans, LA, August 12<sup>th</sup>, 2006.
- [34] Frone, M.R., Russell, M., & Barnes, G.M. (1996). Work-family conflict, gender, and health-related outcomes: A study of employed parents in two community samples. *Journal of Occupational Health Psychology*, 1, 57-69.
- [35] Frone, M.R., Russell, M., & Cooper, M.L. (1997). Relation of work-family conflict to health outcomes: A four-year longitudinal study of employed parents. *Journal of Occupational and Organizational Psychology*, 70, 325-335.
- [36] Ganderton, S. L. (2002). *Work-life balance: Implementing flexible initiatives to improve retention and complete integration of women in the Canadian Forces*. Canadian Forces College, CSC28.
- [37] Greenhaus, J.H., & Beutell, N.J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, 10, 76-88.

- [38] Greenhaus, J.H., Collins, K.M., & Shaw, J.D. (2003). The relation between work-family balance and quality of life. *Journal of Vocational Behavior*, 63, 510-531.
- [39] Harrison, D.A., Newman, D.A., & Roth, P.L. (2006). How important are job attitudes? Meta-analytic comparisons of integrative behavioural outcomes and time sequences. *Academy of Management Journal*, 49(2), 305-325.
- [40] Hindelang, R.L., Schwerin, M.J., & Farmer, W.L. (2004). Quality of life (QOL) in the U.S. Marine Corps: The validation of a QOL Model for predicting reenlistment intentions. *Military Psychology*, 16(2), 115-134.
- [41] Huffman, A.H., Adler, A.B., Dolan, J.L., & Castro, C.A. (November 28, 2001). *Impact of OPTEMPO on retention of US personnel in Europe*. Silver Spring, MD: Walter Reed Army Institute of Research. Presented at the American Psychological Association Annual Meeting, San Francisco, California.
- [42] Jefferies, J.E. (August, 2001a). *Quality of life in the Canadian Forces: Qualitative analysis of the QoL questionnaire for CF members*. Sponsor Research Report 01-11. Ottawa: Director Human Resources Research and Evaluation.
- [43] Jefferies, J.E. (December, 2001b). *Quality of life in the Canadian Forces: Qualitative analysis of the QoL questionnaire for CF spouses*. Sponsor Research Report 01-19. Ottawa: Director Human Resources Research and Evaluation.
- [44] Jenkins, D.A. (December, 2003a). *Voluntary attrition from the Canadian Forces: Quantitative analysis of data from the revised Canadian Forces attrition information questionnaire (CFAIQ-R)*. Sponsor Research Report 2003-14. Ottawa: Director Human Resources Research Evaluation.
- [45] Jenkins, D.A. (December, 2003b). *Voluntary attrition from the Canadian Forces: Qualitative analysis of data from the revised Canadian Forces attrition information questionnaire (CFAIQ-R)*. Sponsor Research Report 2003-15. Ottawa: Director Human Resources Research Evaluation.
- [46] Jenkins, D.A. (2005). *Naval Reserve recruiting and retention project: Phase two*. Sponsor Research Report 2005-15. Ottawa: Director Human Resources Research and Evaluation.
- [47] Katz, D. (1964). The motivational basis of organizational behaviour. *Behavioral Science*, 9, 131-133.
- [48] Keeley, M. (1978). A social justice approach to organizational evaluation. *Administrative Science Quarterly*, 22, 272-292.
- [49] Kelly, M.L., Hock, E., Jarvis, M.S., Smith, K.M., Gaffney, M.A., & Bonney, J.F. (2002). Psychological adjustment of Navy mother experiencing deployment. *Military Psychology*, 14(3), 199-216.

- [50] Kopelman, R.E., Greenhaus, J.H., & Connolly, T.F. (1983). A model of work, family, and interrole conflict: A construct validation study. *Organizational Behavior and Human Performance*, 32, 198-215.
- [51] Kossel, E.E., & Ozeki, C. (1999). Bridging the work-family policy and productivity gap: A literature review. *Community, Work, & Family*, 2(1), 7-32.
- [52] Lero, D. & Johnson, K. (1994). *Canadian statistics on work and family*. Ottawa: Canadian Advisory Council on the Status Women.
- [53] Lewis, S. (2002). Work and family issues: Old and new. In R.J. Burke & D.L. Nelson (Eds.), *Advancing women's careers* (pp. 67-82). Oxford: Blackwell Publishing.
- [54] Likert, R. (1967). *The human organization*. New York: McGraw-Hill.
- [55] Marsland, A.L., Bachen, E.A., Cohen, S., Rabin, B., & Manuck, S.B. (2002). Stress, immune reactivity and susceptibility to infectious disease. *Physiology & Behavior*, 77(4-5), 711-716.
- [56] Miller, G.E., Cohen, S., & Ritchey, A.K. (2002). Chronic psychological stress and the regulation of pro-inflammatory cytokines: A glucocorticoid-resistance model. *Health Psychology*, 21(6), 531-541.
- [57] Monat, A., & Lazarus, R.S. (Eds.) (1977). *Stress and coping: An anthology*. Oxford: Columbia University Press.
- [58] Netemeyer, R.G., Boles, J.S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology*, 81(4), 400-410.
- [59] O'Driscoll, M., Brough, P., & Kalliath, T. (2006). Work-family conflict and facilitation. In F. Jones, R.J. Burke, & M. Westman (Eds.), *Work-life balance: A psychological perspective* (pp. 117-142). New York, NY: Psychology Press.
- [60] Organ, D.W. (1988). *Organizational citizenship behaviour: The good soldier syndrome*. Lexington, MA: Lexington, Books.
- [61] Patterson, S. (1996). *Canadian Forces health and lifestyle information survey 1996*. Sponsor Research Report 00-4. Ottawa: Directorate of Strategic Human Resource Coordination.
- [62] Pelchat, D (2002). *Canadian Forces pilot retention study*. Sponsor Research Report 2002-11. Ottawa: Director Human Resources Research and Evaluation.
- [63] Pierce, P.F. (1998). Retention of Air Force serving during Desert Shield and Desert Storm. *Military Psychology*, 10(3), 195-213.

- [64] Popoff, T., Truscott, S., & Hysert, R. (1986). *Military family study: An overview life/work stress and its relationship to health and organizational morale*. ORAE Project Report No. 96730. Ottawa: Operational Research and Analysis Establishment Directorate of Social and Economic Analysis.
- [65] Price, J. (1972). The study of organizational effectiveness. *Sociological Quarterly*, 13, 3-15.
- [66] Quinn, R.E. (1988). *Beyond rational management: Mastering the paradoxes and competing demands of high performance*. San Francisco CA: Jossey-Bass Inc.
- [67] Quinn, R.E., & Rohrbaugh, J. (1981). A competing values approach to organizational effectiveness. *Public Productivity Review*, 5, 122-140
- [68] Ramon, S. (2005). Promoting mental well-being in the workplace: International perspectives. *International Review of Psychiatry*, 17(5), 315-316.
- [69] Rapoport, R., Bailyn, L., Fletcher, J.K., & Pruitt, B.H. (2002). *Beyond work-family balance*. San Francisco: Jossey-Bass.
- [70] Robbins, S.P. (1990). *Organization theory-structure, design, and applications (3<sup>rd</sup>. Ed.)*. Englewood Cliffs NJ: Prentice Hall.
- [71] Rosen, L.N., Moghadam, L.Z. & Vaitkus, M.A. (1989).The military family's influence on soldiers' personal morale: A path analytic model. *Military Psychology*, 1(4), 201-213.
- [72] Schumm, W.R., Bell, B.D., & Resnick, G. (2001). Recent research on family factors and readiness: Implications for military leaders. *Psychological Reports*, 89, 153-166.
- [73] Segal, M. (1986). The military and the family as greedy institutions. *Armed Forces & Society*, 13(1), 9-38.
- [74] Segerstrom, S.C. & Miller, G.E. (2004). Psychological stress and the human immune system: A meta-analytic study of 30 years of inquiry. *Psychological Bulletin*, 130(4), 601-630.
- [75] Statistics Canada (1997). *Characteristics of dual-earner families*. Ottawa: Statistics Canada, Catalogue 13-215-XPB.
- [76] Sudom, K., Dursun, S., & Flemming, S. (May, 2006). *Perstempo in the Canadian Forces: The role of coping and cohesion in the relationship between job and morale*. Paper presented at the NATO Research and Technology Organization, Human Factors and Medicine Panel on Human Dimensions in Military Operations: Military Leaders' Strategies for Addressing Stress and Psychological Support. MP-HFM-134-P09-SUDOM. Ottawa: Directorate of Quality of Life.
- [77] Thomas, J.L., Adler, A.B., & Castro, C.A. (2005). Measuring operations tempo and relating it to military performance. *Military Psychology*, 17(3), 137-156.



- [78] Toppinen-Tanner, S., Ojajarvi, A., Vaananen, A., Kalimo, R., & Jappinen, P. (2005). Burnout as a predictor of medically certified sick-leave absences and their diagnosed causes. *Behavioral Medicine*, 31(1), 18-27.
- [79] Tucker, J.S., Sinclair, R.R., & Thomas, J.L. (2005). The multilevel effects of occupational stressors on soldiers' well being, organizational attachment, and readiness. *Journal of Occupational Health Psychology*, 10(3), 276-299.
- [80] Villeneuve, M., Dobрева-Martinova, T., Little, G., & Izzo, N.R. (June, 2000). *Military unit effectiveness and readiness: A theoretical framework*. Paper presented at the Human in Command Conference, Breda, The Netherlands.
- [81] Weiss, H.M. & MacDermid, S.M. (September, 2003). *Quality of life, retention & readiness: APA science advocacy workshop*. Military Family Research Institute, Purdue University. Available online at: [www.cfs.purdue.edu/mfri/pages/research/McCain\\_Presentation.pdf](http://www.cfs.purdue.edu/mfri/pages/research/McCain_Presentation.pdf)
- [82] Wilcove, G.L., Schwerin, M.J., & Wolosin, D.G. (2003). An exploratory model of quality of life in the U.S. Navy. *Military Psychology*, 15(2), 133-152.
- [83] Yardley, J.K. (1995). *The relationship of work-family conflict with work outcomes: A test of a model*. Dissertation Abstracts International: Section B: The Sciences and Engineering, 55(11-B), p. 5113. ISSN: 0419-4217.
- [84] Yuchtman, E., & Seashore, S. (1967). A system approach to organizational effectiveness. *American Sociological Review*, 32, 891-903.

This page intentionally left blank.

## Distribution list

---

Document No.: DRDC Toronto TR 2006-243

LIST PART 1: Internal Distribution by Centre:  
Donna Pickering (4)

---

TOTAL LIST PART 1 = 4

LIST PART 2: External Distribution by DRDKIM  
DQOL (1)  
DPGR (1)  
D PERS AR (1)  
D MIL PERS STRAT (1)  
DG COND SVC (1)

---

TOTAL LIST PART 2 = 5

**TOTAL COPIES REQUIRED = 9**

This page intentionally left blank.

# UNCLASSIFIED

<b>DOCUMENT CONTROL DATA</b> <small>(Security classification of the title, body of abstract and indexing annotation must be entered when the overall document is classified)</small>		
<b>1. ORIGINATOR</b> (The name and address of the organization preparing the document, Organizations for whom the document was prepared, e.g. Centre sponsoring a contractor's document, or tasking agency, are entered in section 8.)  Publishing: DRDC Toronto Performing: DRDC Toronto Monitoring: Contracting:		<b>2. SECURITY CLASSIFICATION</b> <small>(Overall security classification of the document including special warning terms if applicable.)</small>  <b>UNCLASSIFIED</b>
<b>3. TITLE</b> (The complete document title as indicated on the title page. Its classification is indicated by the appropriate abbreviation (S, C, R, or U) in parenthesis at the end of the title)  <b>The Relationship between Work–Life Conflict/Work–Life Balance and Operational Effectiveness in the Canadian Forces (U)</b> <b>La relation entre le conflit/la conciliation travail–vie personnelle et l'efficacité opérationnelle dans les Forces canadiennes (U)</b>		
<b>4. AUTHORS</b> (First name, middle initial and last name. If military, show rank, e.g. Maj. John E. Doe.)  <b>Donna I. Pickering</b>		
<b>5. DATE OF PUBLICATION</b> <small>(Month and year of publication of document.)</small>  <b>December 2006</b>	<b>6a NO. OF PAGES</b> <small>(Total containing information, including Annexes, Appendices, etc.)</small>  <b>53</b>	<b>6b. NO. OF REFS</b> <small>(Total cited in document.)</small>  <b>84</b>
<b>7. DESCRIPTIVE NOTES</b> (The category of the document, e.g. technical report, technical note or memorandum. If appropriate, enter the type of document, e.g. interim, progress, summary, annual or final. Give the inclusive dates when a specific reporting period is covered.)  <b>Technical Report</b>		
<b>8. SPONSORING ACTIVITY</b> (The names of the department project office or laboratory sponsoring the research and development – include address.)  Sponsoring: Tasking:		
<b>9a. PROJECT OR GRANT NO.</b> (If appropriate, the applicable research and development project or grant under which the document was written. Please specify whether project or grant.)  <b>16kg</b>	<b>9b. CONTRACT NO.</b> (If appropriate, the applicable number under which the document was written.)	
<b>10a. ORIGINATOR'S DOCUMENT NUMBER</b> (The official document number by which the document is identified by the originating activity. This number must be unique to this document)  <b>DRDC Toronto 2006–243</b>	<b>10b. OTHER DOCUMENT NO(s).</b> (Any other numbers under which may be assigned this document either by the originator or by the sponsor.)	
<b>11. DOCUMENT AVAILABILITY</b> (Any limitations on the dissemination of the document, other than those imposed by security classification.)  <b>Unlimited distribution</b>		
<b>12. DOCUMENT ANNOUNCEMENT</b> (Any limitation to the bibliographic announcement of this document. This will normally correspond to the Document Availability (11). However, when further distribution (beyond the audience specified in (11) is possible, a wider announcement audience may be selected.)  <b>Unlimited announcement</b>		

UNCLASSIFIED

# UNCLASSIFIED

## DOCUMENT CONTROL DATA

(Security classification of the title, body of abstract and indexing annotation must be entered when the overall document is classified)

13. **ABSTRACT** (A brief and factual summary of the document. It may also appear elsewhere in the body of the document itself. It is highly desirable that the abstract of classified documents be unclassified. Each paragraph of the abstract shall begin with an indication of the security classification of the information in the paragraph (unless the document itself is unclassified) represented as (S), (C), (R), or (U). It is not necessary to include here abstracts in both official languages unless the text is bilingual.)

(U) This report reviews studies that have been conducted on work–life conflict/work–life balance and its relationship to operational effectiveness. The majority of studies that are reviewed in this report focus on this issue within the Canadian Forces (CF). Where insufficient information exists within the context of the CF, information from other militaries is discussed. Most of the research that has been conducted focuses on work–to–life interference, where work has a negative impact on an individual’s personal life, in particular on the CF member’s family. For the purpose of this report operational effectiveness refers to turnover intentions, degree of work commitment, physical and psychological health and well being, unit attributes such as morale, readiness, cohesion, and performance. Findings from the studies reviewed suggest that work–life conflict/work–life balance is related to CF members’ decisions to leave or remain in the CF, to a variety of physical and psychological health outcomes, and to certain unit attributes. However, little research has been conducted on the relationship between work–life conflict/work–life balance and performance. The research that has been done has obtained inconsistent findings, making it difficult to determine whether these constructs are interrelated as theorized. Some initial research is presented suggesting that work–life conflict may mediate the PERSTEMPO–operational effectiveness relationship. Finally, future research directions are presented.

(U) Ce document présente un examen des études qui ont été consacrées à la relation entre le conflit/la conciliation travail–vie personnelle et l’efficacité opérationnelle. La majorité des études examinées ici ont traité de cette question dans le cadre des Forces canadiennes (FC). Dans les cas où les travaux réalisés auprès de membres des FC n’étaient pas suffisamment nombreux, des renseignements ont été obtenus d’autres forces armées. La plupart des travaux faits jusqu’ici ont porté sur l’interférence travail–vie personnelle, c.–à–d. les situations dans lesquelles le travail nuit à la vie personnelle de quelqu’un, et en particulier à la vie familiale d’un membre des FC. Pour les fins de ce document, l’efficacité opérationnelle désigne les intentions de mouvement, le degré d’engagement envers le travail, la santé physique et mentale, le bien–être et des caractéristiques de l’unité comme le moral, l’état de préparation, la cohésion et le rendement. À en juger par les travaux examinés, il y aurait un lien entre le conflit/la conciliation travail–vie personnelle et la décision d’un militaire de quitter ou non les FC, divers aspects de la santé physique et mentale et certaines caractéristiques de l’unité. Peu de travaux cependant ont été consacrés à la relation entre le conflit/la conciliation travail–vie personnelle et le rendement. Comme les études faites jusqu’ici n’ont pas mené à des conclusions cohérentes, il est difficile de dire si ces concepts sont effectivement liés comme on l’a soutenu. Selon certaines études examinées, il se pourrait que le conflit travail–vie personnelle agisse sur la relation entre le rythme des affectations et l’efficacité opérationnelle. Des avenues de recherche sont enfin présentées.

14. **KEYWORDS, DESCRIPTORS or IDENTIFIERS** (Technically meaningful terms or short phrases that characterize a document and could be helpful in cataloguing the document. They should be selected so that no security classification is required. Identifiers, such as equipment model designation, trade name, military project code name, geographic location may also be included. If possible keywords should be selected from a published thesaurus, e.g. Thesaurus of Engineering and Scientific Terms (TEST) and that thesaurus identified. If it is not possible to select indexing terms which are Unclassified, the classification of each should be indicated as with the title.)

(U) Work–Life Conflict  
Work–Life Balance  
Operational Effectiveness



## **Defence R&D Canada**

Canada's Leader in Defence  
and National Security  
Science and Technology

## **R & D pour la défense Canada**

Chef de file au Canada en matière  
de science et de technologie pour  
la défense et la sécurité nationale



[www.drdc-rddc.gc.ca](http://www.drdc-rddc.gc.ca)

