



Promoting and Sustaining a Healthy and Fit Force: A Holistic Model

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Abstract

Operational readiness and effectiveness requires military personnel to not only be physically fit, but also to be functionally well in physical, psychological, social and spiritual aspects. Since 2500 B.C., physical fitness training and testing programs have been implemented in militaries to ensure military personnel achieve and maintain high levels of physical fitness in order to be both employable and deployable. Under the influence of the health promotion and wellness movements of the 1990s, militaries have also started to implement various health promotion programs to enable military personnel to achieve and improve their health in physical, mental, emotional, social and spiritual aspects. However, physical fitness training and testing programs as well as health promotion programs have typically been implemented independently.

On 31 March 2008, the Canadian Forces (CF) launched a new Health and Physical Fitness Strategy to promote and sustain a healthy and physically fit force. This strategy attempts to integrate physical fitness training and testing programs with health promotion programs. Although this integration of programs is currently taking place within the CF, little research has been done concerning the theoretical foundation of this initiative.

This paper reviews the recent CF Health and Physical Fitness Strategy and discusses its limitations. In addition, a holistic model for promoting and sustaining a healthy and fit force is proposed and interventions are recommended.

Résumé

L'état de préparation opérationnelle et l'efficacité exigent que le personnel militaire soit non seulement en bonne forme physique, mais également fonctionnel sur le plan physique, psychologique, social et spirituel. Depuis 2 500 ans av. J.-C., les programmes de conditionnement physique et d'évaluation de la bonne forme ont été mis en œuvre chez les militaires pour s'assurer que le personnel atteint et conserve une excellente condition physique pour être employable et déployable. Sous l'influence des mouvements de promotion de la santé et du bien-être des années 1990, les militaires ont également commencé à mettre en place différents programmes de promotion de la santé afin que leur personnel améliore sa santé aux plans physique, mental, émotionnel, social et spirituel. Cependant, les programmes de conditionnement physique et d'évaluation de celle-ci de même que les programmes de promotion de la santé ont généralement été mis en œuvre indépendamment les uns des autres.

Le 31 mars 2008, les Forces canadiennes (FC) ont lancé une stratégie de la condition physique visant à promouvoir et à maintenir un effectif en santé et en bonne condition physique. Cette stratégie cherche à intégrer les programmes de conditionnement et d'évaluation de la condition physique aux programmes de promotion de la santé. Bien que cette intégration des programmes soit actuellement en cours au sein des FC, peu de recherches ont été faites concernant le fondement théorique de cette initiative.

Ce document examine la récente Stratégie sur la santé et la condition physique des FC et traite de ses limites. De plus, un modèle global pour promouvoir et maintenir une force en santé et en bonne condition physique est proposé, et des interventions sont recommandées.

Executive summary

Promoting and Sustaining a Healthy and Fit Force: A Holistic Model:

Zhigang Wang; Jason Dunn; DGMPRA TM 2009-002; Defence R&D Canada – DGMPRA; May 2009.

Background: Operational readiness and effectiveness requires military personnel to not only be physically fit, but also to be functionally well in physical, psychological, social and spiritual aspects. Typically, however, physical fitness training and testing programs as well as health promotion programs have been implemented independently. On 31 March 2008, the Canadian Forces (CF) launched a new *Health and Physical Fitness Strategy* to promote and sustain a healthy and physically fit force. While the *Strategy* attempts to integrate physical fitness training and testing programs with health promotion programs, little research has been done concerning the theoretical foundation of such an initiative. Building upon previous CF health and lifestyle research, this paper proposes a holistic model for promoting and sustaining a healthy and fit force in the CF.

This paper is the second in a series of three aimed at discussing how to promote and sustain a healthy and physically fit military force. The first paper discussed the historical and theoretical background of health promotion and its effects on the CF (see Wang, 2008). The final paper, anticipated in 2009, will explore a cultural approach to promoting and sustaining a healthy and physically fit military force.

Discussion and Recommendations: Recently, the CF have been attempting to integrate physical fitness training and testing into its health promotion programs. While the *Strategy* provides strategic guides for promoting health and physical fitness in the CF, it does not completely integrate physical fitness into health promotion programs. In addition, the *Strategy* has not followed a holistic approach to promoting health. For example, the *Strategy* includes a framework for creating a CF culture of health, but excludes spiritual wellness. The proposed holistic model contained in this paper describes how individual (e.g., biological, psychological, social and spiritual factors) and environmental factors (general and specific) influence a CF member's health and physical fitness. This holistic model could guide the CF in ensuring that military personnel, to the fullest extent possible:

- a. are free of disease/illness;
- b. achieve and maintain a high level of well-being; and,
- c. meet the health and physical fitness requirements of military operations and are therefore employable and deployable.

Based on the holistic model for promoting health and physical fitness presented in this paper, the following interventions at the organizational and individual levels are recommended:

- a. **Organization** – Improve policies on health and physical fitness requirements; develop and promote a military culture that values both health and physical fitness; provide more resources for health and physical fitness; shift health and physical fitness services from a provider-client relationship to a partner relationship; and support more research on military health and physical fitness; and,
- b. **Individual** – Launch awareness programs to ensure military personnel understand their individual responsibilities for their health and physical fitness; and deliver education programs to military personnel and their families about health, well-being, and physical fitness.

Sommaire

Promoting and Sustaining a Healthy and Fit Force: A Holistic Model:

Zhigang Wang; Jason Dunn; DGMPRA TM 2009-002; R & D pour la défense Canada – DRASPM; Mai 2009.

Contexte: L'état de préparation opérationnelle et l'efficacité exigent que le personnel militaire soit non seulement en bonne forme physique, mais également fonctionnel sur le plan physique, psychologique, social et spirituel. De façon générale toutefois, les programmes de conditionnement physique et d'évaluation de la condition physique ainsi que les programmes de promotion de la santé ont été mis en œuvre indépendamment les uns des autres. Le 31 mars 2008, les Forces canadiennes (FC) ont lancé une stratégie sur la santé et la condition physique visant à promouvoir et à maintenir un effectif en santé et en bonne condition physique. Bien que cette stratégie cherche à intégrer les programmes de conditionnement physique et d'évaluation de la condition physique aux programmes de promotion de la santé, peu de recherches ont été faites concernant le fondement théorique de cette initiative. Ce document s'appuie sur la recherche antérieure menée sur le mode de vie et la santé dans les FC et propose un modèle global de promotion et de maintien en santé et en bonne condition physique des FC.

Ce document est le deuxième d'une série de trois et porte sur la façon de promouvoir et de maintenir un effectif en bonne santé et en bonne condition physique. Le premier document exposait l'historique et le contexte théorique de la promotion de la santé et de ses répercussions sur les FC (voir Wang, 2008). Dans le dernier document, prévu en 2009, on analysera l'esprit dans lequel parvenir à cet effectif en santé et en bonne condition physique.

Examen de la question et recommandations : Récemment, les FC ont tenté d'intégrer le conditionnement physique et l'évaluation de la condition physique dans ses programmes de promotion de la santé. Bien que la stratégie fournisse des guides stratégiques pour la promotion de la santé et de la bonne condition physique dans les FC, elle n'intègre pas complètement la condition physique dans les programmes de promotion de la santé. De plus, la stratégie n'a pas suivi une approche globale pour promouvoir la santé. Par exemple, la stratégie comprend un cadre pour inscrire la santé dans les moeurs des FC, mais exclut le bien-être spirituel. Le modèle global proposé contenu dans ce document décrit comment les facteurs individuels (p. ex., biologiques, psychologiques, sociaux et spirituels) et environnementaux (généraux et particuliers) influencent la santé et la condition physique d'un militaire. Le modèle global pourrait guider les FC de telle sorte que le personnel militaire, dans la plus large mesure possible :

- a. n'ait pas de maladie;
- b. atteigne et maintienne un niveau élevé de bien-être;
- c. satisfasse aux exigences de santé et de condition physique des opérations militaires et, par conséquent, soit employable et déployable.

D'après le modèle global de la promotion de la santé et de la condition physique présenté dans ce document, les interventions ci-dessous sont recommandées aux niveaux organisationnel et individuel.

- a. **Organisation** – Améliorer les politiques sur les exigences en matière de santé et de condition physique; élaborer et promouvoir une culture militaire qui valorise à la fois la santé et la condition physique; fournir plus de ressources pour la santé et la condition physique; réorienter les services de santé et de condition physique depuis une relation fournisseur-client à une relation de partenaire et soutenir davantage de recherches sur la santé et la condition physique des militaires.

Individuel – Lancer des programmes de sensibilisation pour s'assurer que le personnel militaire comprend ses responsabilités individuelles en matière de santé et de condition physique; et offrir des programmes d'éducation aux militaires et à leur famille en matière de santé, de bien-être et de condition physique.

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1 Introduction

1.1 Background

Operational readiness and effectiveness requires military personnel to not only be physically fit, but to also be functionally well in physical, psychological, social and spiritual aspects. Since 2500 B.C., physical fitness training and testing programs have been implemented in militaries to ensure military personnel achieve and maintain high levels of physical fitness in order to be both employable and deployable (Dalleck & Kravitz, 2002). Under the influence of the health promotion and wellness movements of the 1990s, militaries have also started to implement various health promotion programs to enable military personnel to achieve and improve their health in physical, mental, emotional, social and spiritual aspects. Typically, however, physical fitness and health promotion programs have been implemented independently in militaries. By implementing them independently, military personnel could treat physical fitness standards as simply being job-related requirements, while viewing optimal health as simply being a personal choice. This is problematic given that operational readiness and effectiveness requires military personnel to achieve and maintain a high level of physical fitness as well as a high level of psychological, social and spiritual wellness. Therefore, the Canadian Forces (CF) would likely realize a more comprehensive outcome through the promotion of physical fitness and health by means of a holistic approach. This view is supported by previous CF research on health and physical fitness.

1.2 Aim

On 31 March 2008, the CF launched a new *Health and Physical Fitness Strategy* to promote and sustain a healthy and physically fit force. While this strategy attempts to integrate physical fitness training and testing programs with health promotion programs, little research has been done concerning the theoretical foundation of such an initiative. This paper reviews the *Strategy* and discusses its theoretical limitations. In addition, a holistic model for promoting and sustaining a healthy and fit force is proposed and interventions are recommended.

This paper is the second in a series of three aimed at discussing how to promote and sustain a healthy and physically fit military force. The first paper discussed the historical and theoretical background of health promotion and its impact on the CF (see Wang, 2008). The final paper, anticipated in 2009, will explore a cultural approach to promoting and sustaining a healthy and physically fit military force.

2 CF Physical Fitness and Health Promotion

2.1 History of the CF Health and Physical Fitness Programs

2.1.1 CF Physical Fitness Training/Testing

Given the importance of universality of service¹, the CF have been committed to providing the ways and means for CF members to attain and maintain their physical fitness. For example, the CF recently implemented a 90-day Recruit Fitness Training (RFT) Program to assist new enrollees in attaining an acceptable level of physical fitness. In addition, all CF members must take an annual fitness test (CF EXPRES Test or Battle Fitness Test) to ensure that they are physically capable of performing basic military duties. CF members who fail the fitness test are considered non-deployable.

The CF also consider environmental, occupational, and other special operational requirements when establishing physical fitness standards². The Director General Personnel and Family Support Services (DGPFSS – previously the Canadian Forces Personnel Support Agency) has conducted numerous studies to obtain consistent, measurable and scientifically validated fitness standards that are appropriate for operational requirements at the individual, trade, unit and environmental level (e.g., *Physical Fitness Standards for CF Diving Personnel*).

2.1.2 CF Health Promotion

In order to promote health among CF members, the CF have developed health promotion programs under the title *Strengthening the Forces (StF)*³. These programs have been influenced by the health promotion movement in Canada (see Wang, 2008 for further details). The *StF* is designed to assist CF members in increasing control over and improving their overall health and well-being. The core programs of the *StF* include: addiction awareness and prevention (alcohol, drugs, gambling, tobacco); injury prevention and active living; nutritional wellness (healthy eating, weight wellness); and social wellness (suicide prevention, anger management, stress management, health relationships, and family violence)⁴.

¹ Universality of Service as defined in *Defence Administrative Orders and Directive (DAOD) 5023-0*, states that: “The principle of universality of service or ‘soldier first’ principle holds that CF members are liable to perform general military duties and common defence and security duties, not just the duties of their military occupation or occupational specification. This may include, but is not limited to, the requirement to be physically fit, employable and deployable for general operational duties.”

² Aeschliman (2002) argues that some unique military units also have specific job requirements, which demand a higher level of physical fitness than others.

³ See http://www.forces.gc.ca/health/Services/Engraph/health_promotion_home_e.asp.

⁴ See the programs at http://www.forces.gc.ca/health/services/health_promotion/engraph/Programs_toc_e.asp?Lev1=1&Lev2=11&Lev3=2.

2.1.3 CF Health and Physical Fitness Strategy

2.1.3.1 The Strategy

Prior to 31 March 2008, the CF implemented physical fitness programs and health promotion programs independently. While the *StF* included “active living” as a core program, it emphasized the benefits of regular physical activity and promoted health-enhancing physical fitness rather than the physical fitness required for military operations.

On 31 March 2008, the CF launched a new *Health and Physical Fitness Strategy*, the principle theme being “Health and Fitness for Life”. In this new *Strategy*, physical activity appears as one of the four pillars. The other three pillars include healthy nutrition, healthy weight and addiction-free living. As a result, the *Strategy* not only suggests that all CF members should engage in regular physical fitness activity, but also revises current CF physical fitness testing policies⁵. For example, physical fitness results are now to be formally considered by CF selection and merit boards starting in 2009. Thus, there will no longer be posting location exemptions from annual physical fitness testing, given that all CF personnel posted within Canada and outside Canada are subject to annual testing⁶. Through this *Strategy*, it is evident that the CF are attempting to integrate physical fitness programs with health promotion programs.

2.1.3.2 Strategic Frameworks

The CF *Health and Physical Fitness Strategy* includes two strategic frameworks for promoting health and physical fitness: a framework for creating a CF culture of health (Figure 1) and a framework for creating a CF culture of physical fitness (Figure 2).

⁵ For more details, see the *Strategy* at http://www.forces.gc.ca/hr/docs/hrmil-docs/pdf/CF_Health_Fitness_e.pdf.

⁶ See DAOD 5023-2, Physical Fitness Program.

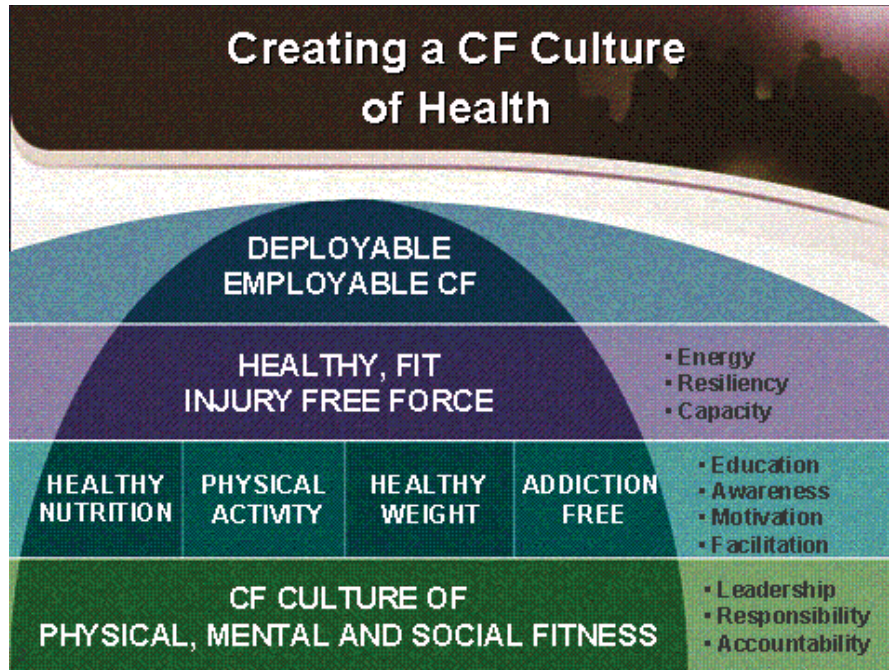


Figure 1: A Model of Creating a CF Culture of Health
(CF Health and Physical Fitness Strategy, 2008)

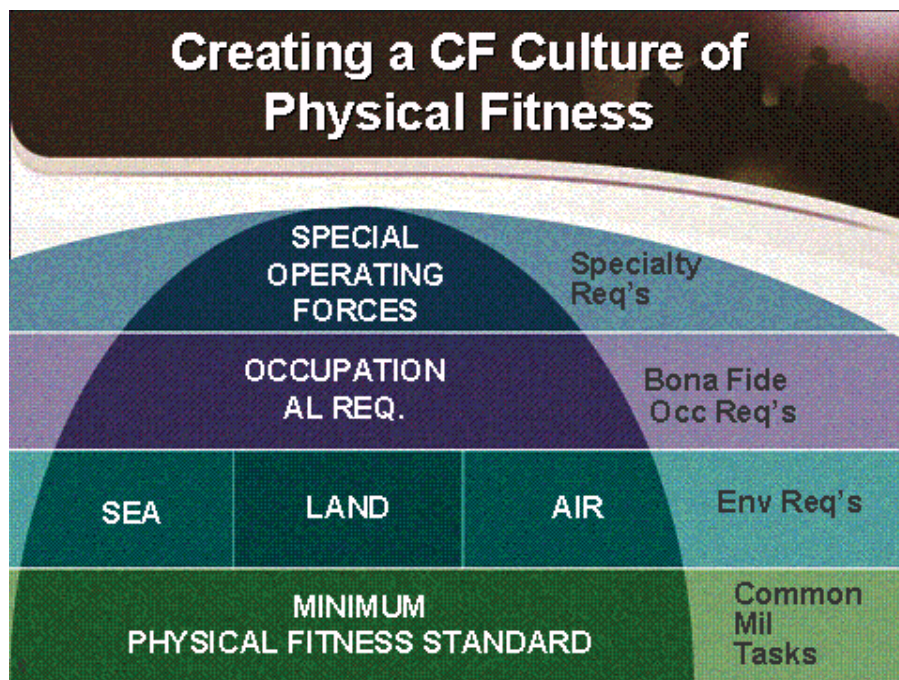


Figure 2: A Model of Creating a CF Culture of Physical Fitness
(CF Health and Physical Fitness Strategy, 2008)

In relation to creating a CF culture of health (Figure 1), the *CF Health and Physical Fitness Strategy* states (p. 30-31):

The "Creating a CF Culture of Health" framework demonstrates factors affecting achievement of the ultimate goal of the Health and Physical Fitness strategy (peak of the model), which is maximizing operational strength (a deployable and employable force) by ensuring optimal health and fitness of CF personnel. A fundamental requirement for mission success is creating a culture of physical, mental and social fitness as shown at the bottom of the model.

This culture change requires responsibility and accountability from CF leaders to "lead by example" and fully support policies and programs aimed at improving the health and fitness of personnel. Resting on this culture of health and fitness are four pillars which are key to achieving a healthy, fit and injury free force - healthy nutrition, physical activity, healthy weight and an addiction free lifestyle. Investing in new and improved health policies and programs along with increasing levels of knowledge (education) and awareness about healthy lifestyles will strengthen the pillars of this model. This framework proposes strategic directions upon which the CF leadership and personnel can collaborate in order to achieve a healthy, and fit deployable force.

In terms of creating a CF culture of physical fitness (Figure 2), the *Strategy* states (p. 31-32):

The "Creating a CF Culture of Physical Fitness" framework is based on the need for CF personnel to be physically able to perform their duties, be employable and deployable. Those duties may depend on the type of work being accomplished or the environment in which they are being executed. The framework depicts the hierarchical structure of CF physical fitness requirements.

The foundation of the framework is the Minimal Physical Fitness Standard required for all CF personnel and is based on tasks that every sailor, soldier, airman and airwoman should be able to complete if required. As those tasks are logistically difficult to administer to the entire CF population, a predictive test, the CF Express, is utilized as the basic physical fitness evaluation. The second level represents the environmental physical fitness requirement based on operational needs of the Navy, Army and Air Force. These requirements are being re-examined to ensure operational readiness is achieved and/or maintained in all environments.

The third level includes specific occupational requirements for various military occupations such as Firefighters, Search and Rescue Technicians and Divers. At the top of the framework, our Special Operations Forces constitute the most physically demanding job of all.

Every level of the framework is scientifically researched and validated to ensure that men and women serving in various capacities in the CF are physically ready to face the challenges of their work and contribute to the success of every mission in which they participate.

Despite efforts to integrate physical fitness and health promotion programs, the *CF Health and Physical Fitness Strategy* has shortcomings.

2.2 Limitations of the CF Health and Physical Fitness Strategy

2.2.1 Problematic Strategic Frameworks

The intent of the *Strategy* is to integrate the previous independent programs of health promotion and physical fitness. The *Strategy* does so in its implementation plans (i.e., seven lines of operation including shared ownership, lifelong lifestyle commitment, regular physical activity, healthy nutrition, healthy weight, addiction free lifestyle, and effective governance). However, the *Strategy* does not integrate health promotion and physical fitness programs when proposing the strategic frameworks for creating a CF culture of health and a CF culture of physical fitness.

By providing two strategic frameworks for creating CF cultures of health and physical fitness, confusion arises when one examines physical activity in the context of these two cultures. The framework for creating a CF culture of health enhances health-related physical fitness, while the framework for creating a CF culture of physical fitness promotes job-related physical fitness. As a result, the *Strategy* does not clearly address the relation between these two kinds of physical fitness. The practical implication of this confusion is that military personnel are likely to treat physical fitness standards as simply being job-related requirements, while viewing optimal health as simply being a personal choice. Given that there is no fusion of the two kinds of physical activity, the CF need to reconsider how to integrate health promotion and physical fitness programs at strategic and theoretical levels.

By providing two strategic frameworks for creating CF cultures of health and physical fitness, a question arises as to why the CF would attempt to create two cultures instead of a unified culture of promoting health and physical fitness. Furthermore, the two frameworks for creating CF cultures of health and physical fitness do not discuss how to change the current CF cultures on health and physical fitness. Rousseau (1990) argued that, to change organizational culture, an organization should change the fundamental assumptions shared by organization members. As it stands, this *Strategy* does not address the fundamental assumptions about health and physical fitness held by CF members. Additionally, the *Strategy* does not address the reasons for changing the current CF cultures of health and physical fitness, which is extremely important in order to garner support from CF members. Thus, the CF need to further expand its approach in order for the *Strategy* to be properly understood and implemented.

2.2.2 Incomplete Approach to Promoting Health

It is widely accepted that health has four components: biological, psychological, social and spiritual aspects. However, the model for creating a CF culture of health only includes “physical, mental, and social fitness” (see Figure 1) – it excludes spiritual wellness. In addition, the *Strategy* includes programs on lifelong lifestyle commitment, regular physical fitness activity, healthy nutrition, healthy weight, and addiction free lifestyle, but excludes mental, social and

spiritual wellness programs⁷. By excluding mental, social and spiritual wellness programs, the *CF Health and Physical Fitness Strategy* does not provide a complete approach to promoting health in the CF. Thus, the CF should expand its model for creating a CF culture of health and health promotion programs by including all four components of health.

2.2.3 Problematic Theoretical Foundation

In order to promote health in the CF, the *Strategy* highlights professionally based interventions (e.g., education programs, awareness campaigns) as well as individual responsibility. It also states that its goal is to “facilitate the ‘adoption of a healthy lifestyle’”⁸. Based on its emphasis, its goal, and its pillars, the *Strategy* seems to follow the health field model, which appeared in the early stage of the health promotion movement in Canada. The health field model was introduced in the internationally acclaimed document *A New Perspective on the Health of Canadians* (1974), more commonly known as the *Lalonde Report*. Through exploring how factors contribute to the health of the Canadian population, the model viewed health as a product of human biology, environment, lifestyle, and health care systems. Of these four elements, attention initially focused on the influence of lifestyle. The health field model, however, was shown to underestimate the impacts of social and economic determinants of health, and is no longer endorsed by bodies such as the World Health Organization (WHO).

In addition, it is problematic that the *Strategy* follows the health field model because the CF adopted the *population health framework* for its health promotion practice⁹. This framework was proposed in 1990, 16 years after the health field model was introduced (Wang, 2008). The population health framework emphasizes the impacts of five main categories of health determinants: personal health practices; individual capacity and coping skills; social and economic environment; physical environment; and health services. Ideally, the *Strategy* should be following the population health framework rather than the outdated health field model.

That said, it is not theoretically sound for the CF to adopt the population health framework for the integrated programs of physical fitness and health promotion, given that this framework also has its limitations. For example, the concept of population health is based on the absence of disease as the definition of health. This definition of health, however, is biased and has been updated to include optimal health (see Wang 2008 for a detailed interpretation and critique of the population health framework). The population health framework and the health field model have been replaced by other comprehensive models/frameworks that are now endorsed by the health promotion movement today (Wang, 2008).

⁷ The *StrF*, however, includes mental and social wellness programs.

⁸ *CF Health and Physical Fitness Strategy*, page 28.

⁹ According to one of the key documents on CF health promotion, *An Evaluation Framework for “Strengthening the Forces” (StF)* (2005), the CF adopted the population health framework to guide their health promotion practices.

Finally, it is problematic for the CF to adopt an existing theoretical framework in the health promotion movement to integrate both physical fitness and health promotion programs. This is because the aim of any health promotion framework is to promote health-enhancing rather than job-related physical fitness. To achieve its goals of promoting and sustaining a healthy and fit force, the CF should therefore create a new conceptual model to support its initiative of integrating health and physical fitness. A proposed model is discussed in the next chapter.

3 A Conceptual Model for Promoting Health and Physical Fitness in the CF

To overcome the limitations of the *CF Health and Physical Fitness Strategy*, a holistic model (Figure 3) is proposed to support the CF initiative of integrating health promotion and physical fitness programs.

3.1 A Holistic Model

The holistic model (Figure 3) is built upon a worldwide accepted definition of health. The WHO defines health as a dynamic state of complete physical, mental, spiritual and social well-being and not merely the absence of disease and infirmity (WHO, 1986). This definition may be applied to individual factors and environmental factors that influence a military member's health and physical fitness.

3.1.1 Definition of A Military Member's Health and Physical Fitness

In the holistic model, a military member's health and physical fitness has four components: physical well-being, psychological well-being, social well-being and spiritual well-being. Unlike the framework of creating a CF culture of health in the *Strategy*, this holistic model includes all components of health.

In addition, these four components of a military member's health and physical fitness are operationally based and are thus tied to the CF mission and mandate. For example, a military personnel's physical well-being will be defined and measured by both the CF minimum physical fitness standards (e.g., EXPRES test) and other general physical fitness indicators (e.g., active lifestyle, healthy weight). Therefore, this holistic model for promoting health and physical fitness is one that encourages, promotes, and places the onus on the individual CF member to be healthy and physically fit in order to meet organizational objectives within one unified CF culture of health and physical fitness.

3.1.2 Individual and Environmental Factors

The individual factors in the holistic model include:

- a. biological factors (e.g., genetic, physiology),
- b. psychological factors (e.g., attitudes, motivation),
- c. social factors (e.g., potential social resources that one can access), and,
- d. spiritual factors (e.g., belief and/or religion).

The environmental factors in the model include:

- a. **General Environmental Factors.** These factors include physical environment factors (e.g., battlefield conditions), social and cultural factors (e.g., social trends regarding a healthy lifestyle), as well as political and economic factors (e.g., compensation to military personnel); and,
- b. **Specific Environmental Factors.** These factors are related to the specific environment that a military member is in (e.g., Army, Navy, and Air Force), and include:
 - (1) **Organizational Factors.** These factors include leadership, facilities, policies and programs (e.g., education and awareness programs on health promotion), and organizational culture; and,
 - (2) **Factors Related to Family and one's Social Relationships.** For example, military personnel may receive positive or negative influences on healthy lifestyles from family members and peers.

The model overcomes the limitations of the CF health promotion framework by incorporating important themes of the different health promotion frameworks found in the literature, specifically noting that:

- a. environmental factors and individual factors both influence one's health and physical fitness; and,
- b. the impact of environmental factors on one's health and physical fitness is moderated by individual factors (e.g., beliefs, motivations, and attitudes).

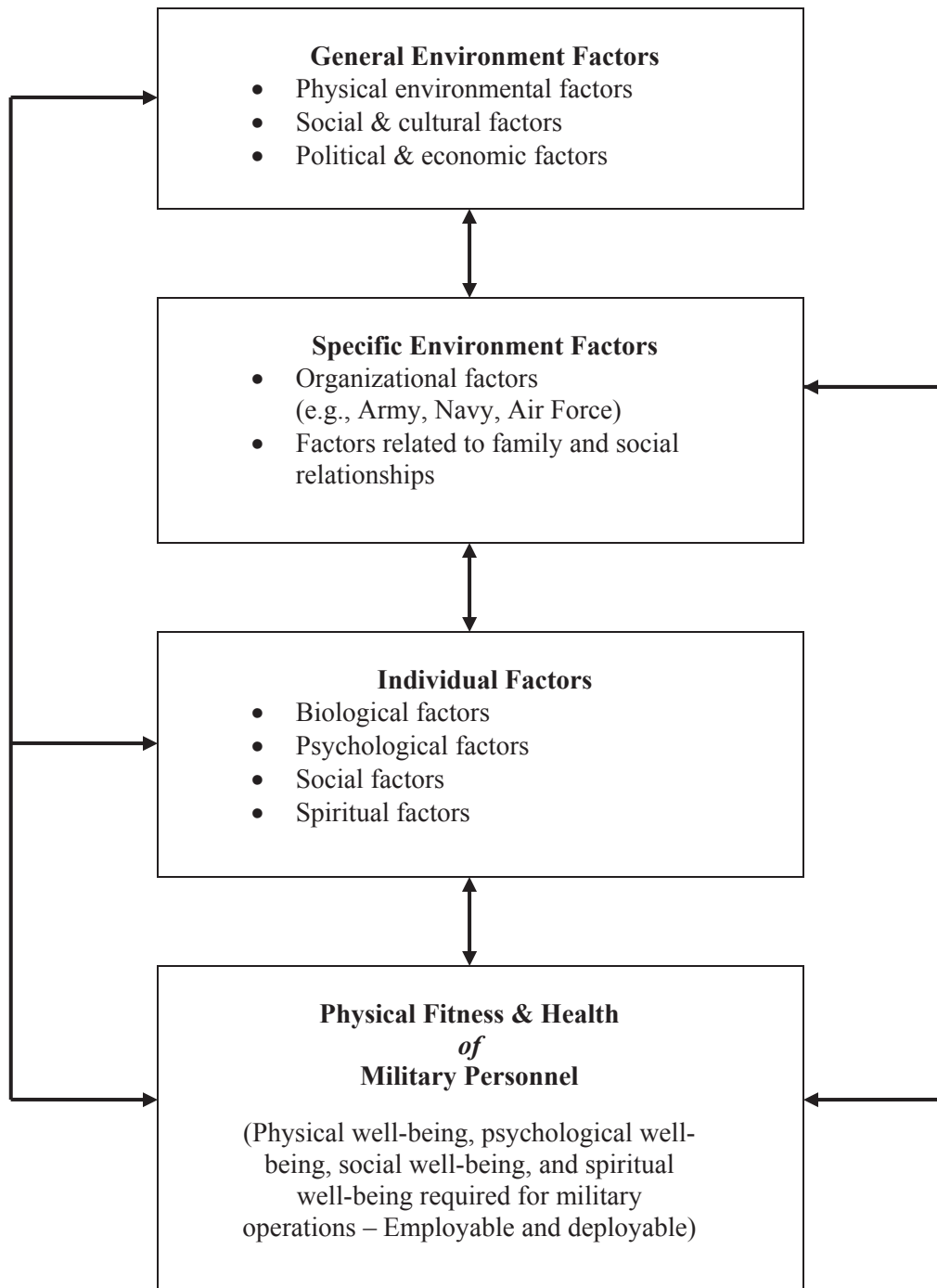


Figure 3: A Holistic Model for Promoting Health and Physical Fitness in the CF

3.2 Supported by Previous Research

The use of a holistic model is supported by the main findings of another study on military physical fitness. According to Lee (2007), strategic physical fitness initiatives must include three key ingredients to be successful – leadership, motivation, and facilitation. Among these three ingredients, leadership and facilitation reflect the social influences from the organization (e.g., leadership, policy), while motivation reflects an individual factor.

The use of a holistic model also addresses the main conclusion of the 2004 *CF Health and Lifestyle Information Survey* (HLIS)¹⁰ – it is problematic to implement physical fitness and health promotion programs independently. The consequence of implementing health promotion and physical fitness programs independently is that CF members are likely to treat their health as a personal choice rather than a job requirement. For example, the HLIS results show that “only 1/3 of CF members are always careful about what they eat when in local restaurants while on deployment” (p. 34); “2/3 of them eat less than the recommended minimum five servings of fruit or vegetables a day” (p. 55); the proportion of military personnel who were physically active declined from 48% in 2000 to 43% in 2004; the proportion of personnel who were overweight remained stable at 51% from 2000 to 2004; obesity increased within the Regular Force, from 19% in 2000 to 21% in 2004. The impact of this “personal choice” on military operations is that, while the vast majority of CF members (96%) who take the *EXPRES* test pass it, a significant proportion of CF members (14%) indicated that their health conditions would limit their deployability. Therefore, to ensure operational readiness, physical fitness and health promotion should be promoted by following a holistic approach.

The results of the HLIS also indicate that in 2000 only 9% of CF members had heard of *StF*; in 2004 it was much higher at 37% (p. 32); most awareness of the *StF* has come through pamphlets, brochures, or posters rather than through the chain of command (see Table 1). The results of the *Survey* further demonstrate that the biggest obstacles for CF members in relation to health promotion are not having enough time and having too many other demands (see Table 2). These obstacles reflect the impacts of the environmental and individual factors (in the holistic model) on CF members’ health. For example, “The problem isn’t serious, there’s no rush”, “Not sure that I can do it”, and “It’s too hard” reflects the negative impact of personal attitudes and motivation on achieving and maintaining a high level of well-being; “Too many other demands” and “No support from CF” reflects the impacts of organizational factors on promoting optimal health in the CF; “No support from family or friends” reflects the influence from CF member’s family and peers on health promotion; “Not enough money” reflects the impact of political and economic factors (e.g., compensation to military personnel) on health promotion in the CF. Therefore, adopting the holistic model for promoting military personnel’s health and physical fitness would strategically guide the CF to overcome these obstacles in relation to health promotion.

¹⁰ Directorate of Force Health Protection CF Health Services Group. *Canadian Forces Health and Lifestyle Information Survey 2004 Regular Force Report* (September 2005). A-MD-015-FHP/AF-001.

Table 1: Means of Awareness of StF¹¹

Medium	Percentage
Pamphlets, brochures and/or posters	28
Base newspaper or other CF publications	14
Webpage	5
Word of mouth	6
CF presentation and/or workshops	6
Other	2

Table 2: Obstacles to Health Promotion¹²

Obstacle to making Change ¹³	Percentage
Not enough time	32
Too many other demands	28
The problem isn't serious, there's no rush	26
Not motivated	24
Not enough money	17
Not enough energy	14
No support from CF	12
Too much stress	7
I don't know how to get started	7
Not sure that I can do it	5
No support from family or friends	3
I don't know where to go for help	2
It's too hard	2
Other reasons	11
I don't know	9

¹¹ Cited in *Canadian Forces Health and Lifestyle Information Survey 2004 Regular Force Report*. Directorate of Force Health Protection CF Health Services Group (September 2005). A-MD-015-FHP/AF-001, page 32.

¹² Cited in *Canadian Forces Health and Lifestyle Information Survey 2004 Regular Force Report*. Directorate of Force Health Protection CF Health Services Group (September 2005). A-MD-015-FHP/AF-001, page 31.

¹³ A respondent may present more than one obstacle.

3.3 Link to the CF *Strategy*

The intent of the *CF Health and Physical Fitness Strategy* is to integrate the previously independent programs of health promotion and physical fitness. However, by proposing two strategic frameworks that tend to create two separate cultures of health and physical fitness, the *Strategy* may create confusion. By not integrating the two independent frameworks, the *Strategy* is likely to give military personnel an impression that physical fitness standards are job-related requirements, while optimal health is a personal choice. The proposed holistic model links a military member's health and physical fitness (physical, psychological, social and spiritual well-being) to military operational readiness and effectiveness within one unified CF culture of health and physical fitness.

Furthermore, the holistic model allows for the merging of organizational elements and individual aspects into one entity. Thus, the advantage of using a holistic model is that instead of having a CF strategy that aims to create two cultures, it lends to the emergence of one unified culture for promoting health and physical fitness in the CF.

In summary, the holistic model presented supports the CF initiative of integrating health promotion and physical fitness programs. More importantly, it can guide the CF in ensuring that military personnel, to the fullest extent possible:

- a. are free of disease/illness;
- b. achieve and maintain a high level of well-being; and,
- c. meet the health and physical fitness requirements of military operations and are therefore employable and deployable.

4 Conclusion and Recommendations

4.1 Conclusion

The CF have been integrating physical fitness training and testing into their health promotion programs. While the CF Health and Physical Fitness Strategy provides strategic guidance for promoting health and physical fitness in the CF, it does not theoretically integrate physical fitness into health promotion programs. This paper has proposed a conceptual model for promoting both health and physical fitness in the CF. The model describes how individual (e.g., biological, psychological, social and spiritual factors) and environmental factors (general and specific) influence an individual's state of health and physical fitness. The proposed conceptual model could guide the CF in ensuring that military personnel, to the fullest extent possible:

- a. are free of disease/illness;
- b. achieve and maintain a high level of well-being; and,
- c. meet the health and physical fitness requirements of military operations and are therefore employable and deployable.

4.2 Recommendations

Based on the holistic model for promoting health and physical fitness presented in this paper, the following interventions at the organizational and individual levels are recommended.

The organizational interventions that aim at promoting and sustaining a healthy and fit force are:

- a. improve policies on health and physical fitness requirements (e.g., make daily physical fitness activities readily available, accessible and mandatory; include health indicators, such as the Body Mass Index (BMI), in health and fitness measures and standards);
- b. develop and promote a military culture that values both health and physical fitness;
- c. provide more resources for health and physical fitness;
- d. shift health and physical fitness services from a provider-client relationship to a partner relationship; and,
- e. support more research on military health and physical fitness.

The individual interventions that aim at changing military personnel's beliefs and commitment toward health and physical fitness are:

- a. launch awareness programs to ensure military personnel understand their individual responsibilities for their health and physical fitness; and,
- b. deliver education programs to military personnel and their families about health, well-being, and physical fitness.

4.3 Future Research

In the *Health and Physical Fitness Strategy*, the CF expressed the desire to create a culture of health and physical fitness. Changing organizational culture is the most difficult part of any organizational change. To achieve this goal, future studies should focus on developing and sustaining a CF culture that fosters both health and physical fitness, i.e., how to change the CF organizational culture at different levels.

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List of symbols/abbreviations/acronyms/initialisms

BMI	Body Mass Index
CF	Canadian Forces
DGPFSS	Director General Personnel and Family Support Services
HLIS	Health and Lifestyle Information Survey
RFT	Recruit Fitness Training
StF	Strengthening the Forces
WHO	World Health Organization

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Operational readiness and effectiveness requires military personnel to not only be physically fit, but also to be functionally well in physical, psychological, social and spiritual aspects. Since 2500 B.C., physical fitness training and testing programs have been implemented in militaries to ensure military personnel achieve and maintain high levels of physical fitness in order to be both employable and deployable. Under the influence of the health promotion and wellness movements of the 1990s, militaries have also started to implement various health promotion programs to enable military personnel to achieve and improve their health in physical, mental, emotional, social and spiritual aspects. However, physical fitness training and testing programs as well as health promotion programs have typically been implemented independently.

On 31 March 2008, the Canadian Forces (CF) launched a new Health and Physical Fitness Strategy to promote and sustain a healthy and physically fit force. This strategy attempts to integrate physical fitness training and testing programs with health promotion programs. Although this integration of programs is currently taking place within the CF, little research has been done concerning the theoretical foundation of this initiative.

This paper reviews the recent CF Health and Physical Fitness Strategy and discusses its limitations. In addition, a holistic model for promoting and sustaining a healthy and fit force is proposed and interventions are recommended.

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Health; Physical Fitness; Health Promotion



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