

Canadian
Forces
College

Collège
des
Forces
Canadiennes



Physical Fitness and Resilience: Building Canadian Readiness

Major James Anderson

JCSP 48

Exercise Solo Flight

Disclaimer

Opinions expressed remain those of the author and do not represent Department of National Defence or Canadian Forces policy. This paper may not be used without written permission.

© Her Majesty the Queen in Right of Canada, as represented by the Minister of National Defence, 2022

PCEMI 48

Exercice Solo Flight

Avertissement

Les opinions exprimées n'engagent que leurs auteurs et ne reflètent aucunement des politiques du Ministère de la Défense nationale ou des Forces canadiennes. Ce papier ne peut être reproduit sans autorisation écrite.

© Sa Majesté la Reine du Chef du Canada, représentée par le ministre de la Défense nationale, 2022

CANADIAN FORCES COLLEGE – COLLÈGE DES FORCES CANADIENNES

JCSP 48 – PCEMI 48

2021 – 2022

Exercise Solo Flight – Exercice Solo Flight

Physical Fitness and Resilience: Building Canadian Readiness

Major James Anderson

“This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions, which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied, except with the express permission of the Canadian Department of National Defence.”

“La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.”

Physical Fitness and Resilience: Building Canadian Readiness

Lack of activity destroys the good condition of every human being, while movement and methodical physical exercise save it and preserve it.

— Plato¹

Introduction

Readiness in the Canadian Armed Forces (CAF) relies upon physically fit and mentally resilient members to perform designated tasks. Exercise can contribute to this state of readiness by increasing our physical fitness, working in a competitive team environment, and learning to thrive in adversity. Improving the level of physical fitness in the CAF can lead to an increase in mental resilience, and by extension, operational readiness. This viewpoint is supported in 2018's *Balance*, the CAF's most recent document on fitness and performance, which states that the "physical performance of our sailors, soldiers, airmen and airwomen is an essential and critical component to operational readiness."² This was not the first effort from the CAF in trying to better understand and promote fitness, but the result of an iterative process and past attempts trying to improve the operational readiness and capability of the CAF. A healthy military begins with healthy individuals, and this priority is clearly shared by the highest echelons of our organization.

Modern efforts to improve physical fitness within the CAF began in 2008 with the start of the Canadian Forces Health and Physical Fitness Strategy.³ This program came at a time when the CAF was heavily involved in counter-insurgency operations in Afghanistan, and one of the key lessons learned was that fitness played an important role in soldier readiness. This realization

¹ Ernie Bray. "Plato on Exercise." Last modified 28 November 2018. <https://www.erniebray.com/blog/2018/11/25/plato-on-exercise>.

² Government of Canada Publication. *Balance: The Canadian Armed Forces Physical Performance Strategy*. (N.p.: Department Of National Defence, 2018), 11.

³ *Ibid*, 17.

allowed the CAF to adopt a few key lessons moving forward: Namely, to better define the baseline and desired outcomes; improved accountability, especially for supervisors; increase decentralized execution; and secure steady funding to ensure program longevity with support to policy and infrastructure.⁴

Pan-CAF Fitness Initiatives

In addition to past efforts, there are also concurrent strategies that have been incorporated into *Balance*. With the introduction of the Surgeon General's Integrated Health Strategy (IHS) in 2017, the CAF saw an increased focus on wellness beyond mere physical fitness. While obviously important, the IHS introduced the concepts of including nutrition, injury prevention, and morale as being important to health.⁵ Strong, Secure, Engaged (SSE), also released in 2017, is a keystone document regarding the CAF's operations and funding. In support of updating the next version of SSE, the CAF is currently developing the Total Health and Wellness Strategy.⁶

Balance is the most up to date document that clearly outlines the CAFs fitness strategy, examining the relationship between physical fitness and other environmental factors. Physical performance is viewed as a summary between physical activity, performance nutrition, injury prevention, and sleep or rest. The goal of striking this balance is to “enhance the culture of fitness in the CAF and improve physical performance of our members leading to an increase to the collective operational effectiveness of the CAF.”⁷

The Canadian Army (CA) has been developing its own fitness initiatives, such as the Canadian Army Integrated Performance Strategy (CAIPS), which was announced in 2015.⁸

⁴ Ibid, 17.

⁵ Ibid, 19.

⁶ Ibid, 18.

⁷ Ibid, 12.

⁸ Mishall Rehman, “Canadian Army Launches New Program to Increase Resilience and Well-Being of Soldiers and Loved Ones,” *Canadian Military Family Magazine*, 7 December 2015.

CAIPS aimed to improve the resilience of both soldiers and their families, through establishing a website that consolidated a host of useful information for family members, ranging from helping spouses find employment at a new location, to mental health resources for children. Another facet of CAIPS was the focus “on improving resilience through performance, health and fitness training packages, guidance and tools...[including] performance triad training guides that give guidance on improving sleep, nutrition and exercise.”⁹ Furthermore, CAIPS included a supplement for leaders that provided additional resources for how to mentor more senior members. While developed by the CA, the intent was for this pilot project to eventually be utilized by the rest of the CAF. Much like other programs, CAIPS established a relationship between various health factors that formed a common theme, namely exercise, nutrition, rest, mental wellness, and support to military families.¹⁰ CAF leadership recognizes these factors as critical components to overall health and wellness, and are a recurring point of focus for any fitness initiative.

Within this framework, fitness can be further divided into operational and health-related fitness. “Operational fitness is generally defined as the physical capability of an individual or unit/formation to perform required missions or functions.”¹¹ Health-related fitness is a more general concept to overall wellness and fitness, referring to endurance, strength, flexibility, and body composition.¹² The vehicle the CAF uses to measure these factors is the FORCE test, consisting of a series of stands of timed exercises that measure speed, coordination, strength, and

https://www.cmfmag.ca/progs_services/canadian-army-launches-new-program-to-increase-resilience-and-well-being-of-soldiers-and-loved-ones/.

⁹ Ibid.

¹⁰ Ibid.

¹¹ Government of Canada Publication. *Balance: The Canadian Armed Forces Physical Performance Strategy*. (N.p.: Department Of National Defence, 2018), 21.

¹² Ibid, 21.

endurance, as well as a waist circumference measurement to assess risk and lifestyle factors.¹³ Although the test is relatively easy to pass, it is difficult to score very high, and only the most physically fit individuals will attain the highest levels on the test.

Fitness is certainly highly valued already within the senior leadership of the CAF. According to the Commander (Comd) of Canadian Special Operations Forces Command, “fitness is a component of the weapon system that is the [Canadian Special Operations Forces] member, enabling their performance under a wide range of geographical and environmental conditions and ability to cope with the stresses of sustained and complex operations.”¹⁴ The Comd CA highlights the importance of injury prevention and equates fitness to resilience, promoting CAIPS as the method to support operational readiness.¹⁵ Regardless of the specifics of each environment, each component recognizes the importance of fitness and how it relates to overall health, resilience, and operational readiness.

Modern Approach to Fitness

Recent efforts towards improving the fitness of the CAF have moved away from a more traditional approach, which focused only on physical exercise and group workouts, towards more holistic approaches. Any attempts to improve fitness and wellness will need this style of thinking, with a scientific approach, in order to work towards lasting change and will prevent future initiatives from becoming yet another well-meaning, but ultimately unsuccessful, program. Physical activity, while important, and perhaps the most important factor, is not the only element to consider. At least as important is diet, nutrition, and hydration. With a growing portion of the Canadian population becoming overweight, even at an earlier age, the CAF must

¹³ Ibid, 21.

¹⁴ Ibid, 73.

¹⁵ Ibid, 66.

provide healthy food to fuel its members. Following the Canadian Food Guide to provide the right portions and balance of proteins, carbohydrates, and fats, as well as the vitamins and minerals that come with fruits and vegetables, will play a critical role in improving the health of CAF members.¹⁶

With physical activity comes the risk of injury, so leaders will need to consider this when building any exercise program. A more deliberate approach is required for junior leaders to develop full body exercise regimes beyond the group runs that were the norm of days past. If a member is injured then they are not able to deploy, and by definition, this reduces the operational readiness of the CAF. If a member does become injured, then it is imperative to ensure the proper support, specialists, and time are all available to aid in the rapid recovery of the injured member.¹⁷

The final aspect of the holistic approach to health is sleep and recovery. While getting enough sleep may not always be possible due to operational tempo, it is incumbent upon junior leaders to monitor the personnel entrusted to their charge, and ensure a proper work-rest cycle is achieved. Outside of extremely high intensity deployed operations, there should be no reason not to balance organizational work requirements against individuals' rest requirements. "A chronic lack of sleep is linked to obesity and long term health impairments."¹⁸ With the decreased performance and short-term memory loss of personnel suffering from lack of sleep, it is in the best interest of the organization to have their members well rested, even more so since "insufficient sleep impairs the brain's ability to function efficiently, which cannot be overcome

¹⁶ Ibid, 23.

¹⁷ Ibid, 24.

¹⁸ Ibid, 25.

by motivation, initiative, willpower, or caffeine.”¹⁹ Sedentary jobs increase this risk, so establishing a good balance between work requirements, fitness, nutrition, and rest is key.

The CAF can take advantage of the current culture change efforts to also apply these changes in the attitude towards fitness. While the CAF has generally supported the idea of physical fitness in the past, there must be a personal sense of responsibility for one’s own health. There is simply no practical way for the CAF to control every factor related to health in the lives of the individuals that make up the military. Instead, it will be far more effective to encourage individuals to take ownership of their own health, properly supported by time, infrastructure, leadership, and good policy.²⁰ While strong leadership can provide good personal examples and time during the workday and the institution can provide the required infrastructure and policy, ultimately the work must be done by the individual. This is especially true in regards to nutrition and rest during normal garrison routine.

An important way to understand progress is being able to measure the effectiveness of a program. Setting short, medium, and long term goals is an important way to gauge whether or not a program is progressing in the desired manner. While this is important for the individual, there will need to be a reporting mechanism both up and down the chain of command.²¹ There is a requirement for a consolidated reporting mechanism, with a designated person or organization who will be responsible for collecting the information, and providing updates and recommendations to units and leaders coordinating Physical Training (PT), as well as institutional leaders responsible for assigning resources to develop infrastructure and specialist network support, and setting and adjusting policy.

¹⁹ Ibid, 25.

²⁰ Ibid, 31.

²¹ Ibid, 34.

National Trends

The decline of physical fitness is not a problem relegated solely to the CAF. The Canadian population has seen an increase in obesity and obesity related health complications over the last several decades.²² In fact, the rates of obesity have skyrocketed among Canadian adults since 1985, as demonstrated in the graph below.

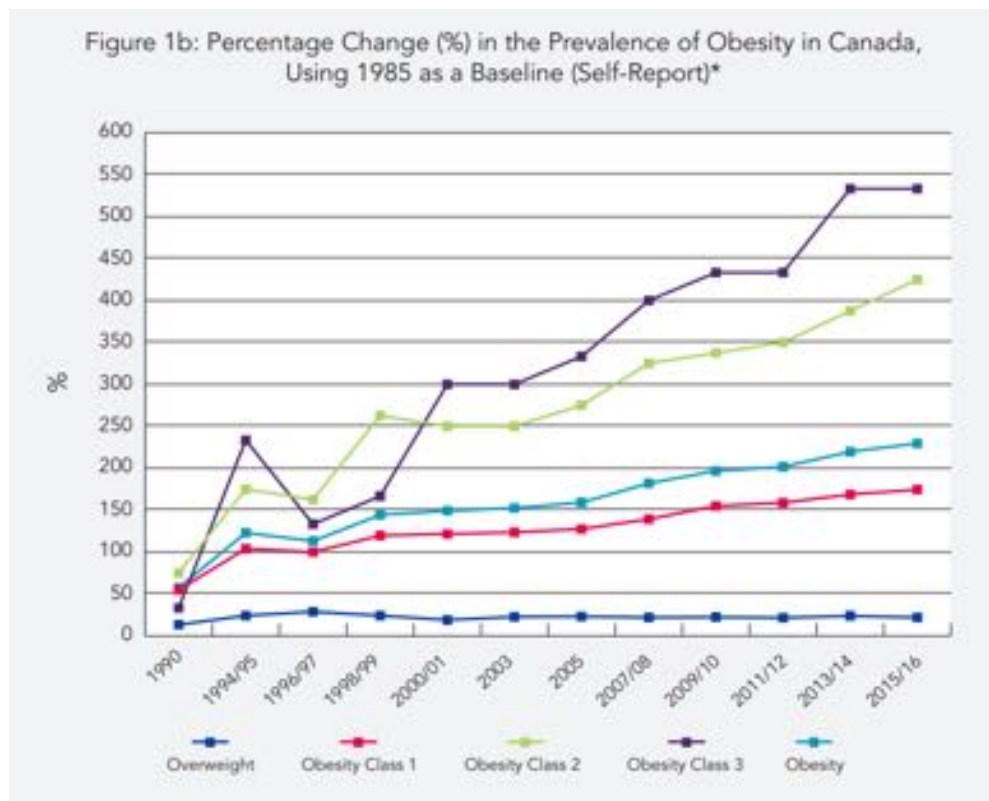


Figure 1 – Percentage Change in the Prevalence of Obesity in Canada

Source: Twells, Janssen, and Kuk, *Epidemiology of Adult Obesity*, 3.

This presents a unique challenge to the CAF not present elsewhere in Canadian society. The CAF has a responsibility to provide professional military forces to conduct domestic and international operations in support of the government of Canada at a moment's notice, and it

²² L.K. Twells, I. Janssen, and J.L. Kuk. The Canadian Association of Bariatric Physicians and Surgeons, "Epidemiology of Adult Obesity," last accessed 22 April 2022. <https://obesitycanada.ca/wp-content/uploads/2021/05/2-Epidemiology-of-Adult-Obesity-5-with-links.pdf>.

must be physically capable of doing so. Because the CAF is representative of Canadian society, and draws its membership from the civilian population, it is in the interest of the CAF to promote fitness within the country overall, and not just within its own ranks.

According to a Health and Lifestyle Information Survey (HLIS) done in 2013/2014, the CAF is facing a number of health issues. The Surgeon General addressed the HLIS in a 2017 report regarding better integration of the medical system with the military chain of command, in order to promote health and wellness across the CAF. The survey revealed that 25% of CAF members were obese (up from 20.4% in 2004), 23.5% fall within the risk category for alcohol consumption, 32.3% experienced repetitive strain injuries (up from 22.6% in 2004), and were twice as likely to suffer depression as a Canadian civilian.²³ This is a trend that CAF leadership must endeavour to reverse.

This concern is not limited to Canadian society. United States (US) Army Lieutenant-General (LTG) Mark Hertling described the obesity epidemic as a national security issue.²⁴ While he was in charge of the US Army Centre for Initial Military Training establishment in 2009, approximately 70% of the 160,000 applicants were too obese to join the Army. This was a startling realization given the demographic of the potential recruits was overwhelmingly males between the ages of 17 and 24, who normally would be expected to be in good enough shape to meet the minimum standard. Of those who made it to basic training, about 60% of them failed their first fitness test.²⁵ Part of the issue is that there is a lack of fitness across American youth in general, and when they reach adulthood, they do not have the knowledge or experience to

²³ Government of Canada Publication. *Surgeon General's Integrated Health Strategy – 2017: Integration for Better Health*. N.p.: Department of National Defence, 2017. <https://www.cmp-cpm.forces.gc.ca/hs/docs/sg-integrated-health-strategy.pdf>, 15.

²⁴ "Obesity is a National Security Issue," YouTube video, 16:07, posted by "TEDx Talk," 6 December 2012, <https://www.youtube.com/watch?v=sWN13pKVp9s>.

²⁵ Ibid.

develop a fitness regime. Physical Education (PE) is often one of the first items cut from schools when budgets are reduced, and this is having a lasting effect on the American population. Only 5 of 50 states had mandatory PE classes as of 2012.²⁶ This lack of PE instruction and increase in the use of electronic devices has led to far less physical activity and playtime for youth. Dietary changes have contributed to a lack of fitness as well. Meals can be ‘super-sized’ leading to an increase in portions, especially in fat-rich foods and processed sugars commonly associated with fast food, which has risen in popularity due to the convenience and relatively lower cost. This has led to Americans, on average, consuming 30% more calories than they did in 1983.²⁷

The aspiring soldiers undergoing their basic training were more prone to injury, and there was an increase in Femoral Neck Injuries (FNI) for these recruits. A FNI is a bone stress fracture that occurs due to the increased stress of moving through obstacle courses, ruck marching with a weighted backpack, and jumping.²⁸ These activities were not designed to injure candidates, but more and more recruits were being injured, and required specialist services and recovery times. This quickly became an economic issue, as each injured recruit costs between \$100,000 and \$300,000 USD, leading to an overhaul of how soldiers were trained with a focus on injury prevention and recovery, as well as improving nutritional intake at the mess. The new program was very successful at improving fitness and reducing injury, resulting in a savings of approximately \$30 million USD, and improved the bone health of the candidates.²⁹ With the US military only being 1% of the population, LTG Hertling raised the concern about the health of the remaining 99%, with the US Department of Health spending between \$150 billion and 200 billion USD a year trying reduce child obesity. This means that the pool of potential recruits is

²⁶ Ibid.

²⁷ Ibid.

²⁸ Ibid.

²⁹ Ibid.

rapidly depleting, which can quickly become a national security issue, as well as an economic one.³⁰ This problem is not one that the US Army can solve on its own, or even the US government, but will require a holistic approach across multiple departments and individual ownership in setting a better example for our children.

Challenges

The CAF, like most militaries, can be resistant to change. While recent efforts have been made towards developing the right policies and framework to improve the health of the military in terms of physical and mental fitness, there is still room to improve. One of the challenges is the difficulty in communicating the information on the various initiatives coming from multiple organizations within the CAF. Participant buy-in will be a critical aspect of improving CAF fitness, especially as the emphasis must be placed on the member for daily healthy choices like nutrition and individual fitness regimens. The culture of fitness is also different across the various branches and organizations in the CAF. Operational tempo, priority tasks, shift work, injuries, and other reasons may prevent individuals and units from being able to adopt the desired level of fitness, or at least contribute to resistance to change.

Attracting physically fit people who wish to join the CAF will undoubtedly continue to be difficult amongst Canadian youth,³¹ especially as the CAF undergoes culture change to be more inclusive. With body positivity becoming more common, the CAF will need to carefully balance how it maintains a fitness standard with the needs of its current and future members. The primary means of motivating CAF members must not be based on shame, but on encouragement backed up with a proven, scientific approach. Personnel shortages will also cause friction, especially in

³⁰ Ibid.

³¹ J. Lee, K. Sudom, K. Watkins, and K. Hachey. "Physical Activity Trends in Canadian Youth and Implications for the Canadian Armed Forces" in *Fitness, Sports, and the Canadian Armed Forces*, eds. LCol Stouffer, Jeff, and Cdr Woychesin, Dave. Winnipeg: 17 Wing Publishing Office, 2017, 3.

specialties like physiotherapists and physical trainers. The same amount of work will need to be done but by a smaller group of people, which can lead to burn-out and injury. Fortunately, there are many tools the CAF can take advantage of to improve this.

Relationship Between Fitness and Mental Health

High levels of physical fitness are demonstrably related to good mental health, as well as other health benefits. The opposite is also true, in that a lack of exercise can cause or exacerbate health problems. Physical activity provides resistance to stress, both in the near and long term in regards to an individual's health. People with good physical fitness also tend to have fewer indicators of anxiety and depression.³² Consistent physical activity and exercise is greatly beneficial regardless of age or level of fitness, and being fit will harden an individual against stress, and help them recover faster from stressors. Physical activity, and not just physical fitness, also benefits the individual in resisting stress. The minimum amount of activity required has been found to be 30-60 minutes at least 5 days a week.³³

Healthier people tend to be more resistant to injury and illness as well: "More active men and women have lower rates of all-cause mortality, coronary heart disease, high blood pressure, stroke, type 2 diabetes, metabolic syndrome, colon cancer, breast cancer, and depression."³⁴ Even those considered overweight or obese will still benefit from physical activity. Additionally, there was no significant difference between gender, ethnicity, or race. Though there are some risks associated with starting an exercise program, namely over training, injury, lack of

³² Sean Robson. *Physical Fitness and Resilience: A Review of Relevant Constructs, Measures, and Links to Well-Being*. USA: RAND Corporation, 2013. https://www.rand.org/pubs/research_reports/RR104.html, 13.

³³ Ibid, 14.

³⁴ Ibid, 13.

motivation, and even depression or anxiety if their exercise program needs to stop, these are far outweighed by the many positive benefits.³⁵

Building Resilience

The CAF is not alone in wanting to improve resiliency in its members, and the US Army has already made great efforts in this regard. The Master Resiliency Trainer (MRT) program is a ‘train the trainer’ approach to develop resiliency across the US Army. The MRT provides the skills that leaders will need to teach their own soldiers the fundamentals of resilience.³⁶ The CAF should adopt a similar model, as it has proven to be effective, and is aligned with the decentralized execution approach outlined in *Balance*. Resilience is a teachable skill, and a 10-day course for junior leaders has been an excellent investment for the US Army. The MRT is divided into several modules: resilience, building mental toughness, identifying character strengths, strengthening relationships, and MRT sustainment and enhancement.³⁷ The CAF could leverage the experience of the MRT program from the US Army, and adopt a similar model to train its soldiers and leaders on how to teach and model resilience.

The lack of physical activity in our day to day lives, the increased reliance on technology, and poor diets have negative effects on our bodies beyond gaining weight. Canadian society is very similar to American society, and 65% of Americans are overweight or obese, and 10% have type 2 diabetes, a preventable disease that has a dramatic effect on a person’s quality of life.³⁸ Fortunately these trends can be reversed. For example, there was an initiative in Illinois at Naperville Central High School called Zero Hour Physical Education. This class was comprised

³⁵ Ibid, 14.

³⁶ Karen J. Revich, Martin E.P. Seligman, and Shannon McBride. Master Resilience Training in the US Army. January 2011, *American Psychologist*, Vol 66, No. 1, 25-34, American Psychological Association, 25.

³⁷ Ibid, 27-32.

³⁸ John Ratey. *Spark: The Revolutionary New Science of Exercise and the Brain*. New York: Little, Brown, and Company, 2008, 7.

of student volunteers that would run several miles before morning class started, and tracked their heart rate in order to measure effort, versus raw performance. The hypothesis was essentially whether or not exercising before class would boost student's ability in reading and studying their other subjects.³⁹ The test group was extremely successful, with the Naperville School District becoming the most physically fit group of students in the country. Marks also improved, with the participants showing a 17% improvement in their grades. The experiment was so successful the rest of the school district adopted it, as students would take the more challenging PE class right before their hardest subject, improving grades across the school board. The Naperville School District still consistently scores in the top ten in the state, despite having a smaller budget than many other schools.⁴⁰ While this program only started in 2008, there was a clear improvement in academic performance with an increase in physical activity.

Being physically fit and maintaining regular physical activity can also help deal with stress. Exercise offers a way to help control stress, and restore a sense of control over one's circumstances.⁴¹ This implies that this skill can be learned, and practiced, to improve our ability to control stress. "Exercise controls the emotional and physical feelings of stress, and it also works at the cellular level...the brain activity caused by exercise generates molecular by-products that can damage cells, but...repair mechanisms leave cells hardier for future challenges."⁴² This appears to work the same way as the body's muscles react to strenuous exercise, with the muscles repairing themselves and becoming even stronger to meet the new demand. Similarly, exercise also helps combat depression. It may even be more effective than

³⁹ Ibid, 12.

⁴⁰ Ibid, 15.

⁴¹ Ibid, 56.

⁴² Ibid, 57.

costly pharmaceuticals at reducing symptoms of depression, and it is now the primary treatment prescribed by doctors in the United Kingdom for this illness.⁴³

Another way of expressing resilience, especially in military terms, is in the continuity of operations.⁴⁴ The way the military is structured incorporates resilience: Commanders have Deputies, there are redundancies built in with equipment and the way it is grouped, interchangeable expertise, standardised planning processes, and anticipation.⁴⁵ The CAF's next step is to link PT to Professional Development (PD). This would show a clear line of support for the development of fitness within the CAF by relating it to the CAF development system and potentially even modifying the Personnel Evaluation Report (PER). By linking fitness in a more tangible way to PD and promotion, the CAF can build a culture of prioritizing fitness within the military.

Linking fitness to PD would promote buy-in. In the United States Marine Corps (USMC), martial arts are part of every training course, and feature regularly in unit PT. Proficiency is rewarded based on a traditional belt system, with different colour belts being awarded as a Marine progresses in skill, and is authorized to wear them in uniform.⁴⁶ This displays the skill of the bearer to others and appears to be a motivating factor for the members of the USMC, who are renowned for their fitness. The CAF could adopt a similar model, expanding on the Close Quarter Combat (CQC) program to build beyond the Basic and Instructor level, growing to multiple layers of skill.

⁴³ Ibid, 104-105.

⁴⁴ Louise Comfort, Arjen Boin, and Chris Demchak. *Designing Resilience: Preparing For Extreme Events*. Pittsburgh: University of Pittsburgh, 2010, 63.

⁴⁵ Ibid, 64.

⁴⁶ Department of the Navy. *Marine Corps Martial Arts Program*. Marine Corps Order 1500.59A. Washington, D.C.: Department of the Navy, 23 September 2019, <https://www.fitness.marines.mil/Portals/211/documents/MCO%201500.59A.pdf>, 5.

Grit, or hardiness, is another valued trait in the military. Hardiness increases resistance to stress, and is the by-product of challenging training and experiences. This implies that hardiness can also be learned, and it would behoove the CAF to develop a program with the aim of improving this trait: “In the past 25 years, hardiness has emerged as a set of personal characteristics that help people turn stressful circumstances from potential disasters into opportunities for enhanced performance, leadership, conduct, health, and psychological growth.”⁴⁷ Any such program would have the desired effect of reducing the number of CAF members who suffer from Post-Traumatic Stress, and build a culture of resilience and growth.

Adorning the walls of gyms across the CAF are pictures of high-level athletes from years past, including champion boxers and wrestlers. Although fallen out of favour in recent years within the CAF officially, martial arts have long been a part of life for many militaries, and for good reason. It encourages personal fitness, technical skill, teamwork, respect, and discipline, all highly desirable traits within a professional military force. The CQC program is a fine example of the martial spirit and skill extant in the CAF, but it is limited to only infantry for mandatory training, and there is currently not enough capacity to rely on the CQC program for promulgation throughout the rest of the CAF.

A more realistic option would be to leverage a popular martial art that would be an appropriate fit for the CAFs needs. Brazilian Jiu Jitsu (BJJ) is a good potential candidate for this role. A non-striking martial art, there are very few injuries in BJJ as opposed to boxing or other striking martial arts involving punches and kicks, which may also injure the one throwing the strikes if done so incorrectly. BJJ, like most grappling, also offers more control when applying techniques, as there is more contact between opponents, and thus movements can either be

⁴⁷ Ricardo Love, “Psychological Resilience: Preparing our Soldiers for War” (Masters of Strategic Studies Strategic Research Project, US Army War College, 2011). <https://apps.dtic.mil/sti/pdfs/ADA543395.pdf>, 17.

explosive or progress more slowly. More control means fewer force escalations, and less likelihood of injuring your opponent or yourself. BJJ is also renowned for its ability to level the playing field, in that skill and proper leverage are more important than raw strength. This makes BJJ a good martial art for women and those of smaller stature who, after training, are able to control a much larger and stronger opponent.⁴⁸

Exercise in general will normally have a positive effect on an individual's mood. Martial arts also have an influence on positive emotions. A martial arts practitioner can experience positive emotions when they learn a new movement, engage within a like-minded community, develop relationships with other martial artists and coaches, find meaning through discipline and consistency, and possess a sense of accomplishment when they win a competition.⁴⁹

Additionally, martial arts have helped people through the COVID-19 pandemic. The strong social bonds motivated people to try to sustain some level of participation, and many martial arts schools transitioned to online training classes.⁵⁰ Martial arts may provide a palatable alternative to more traditional mental health treatments. Whereas some military members may still be reticent to seek formal mental health support, martial arts provide a good substitute, as they “may be an efficacious sports-based mental health intervention that potentially provides an inexpensive alternative to psychological therapy.”⁵¹ While this is not an ideal or permanent replacement,

⁴⁸ Tony Blomqvist Mickelsson. “Brazilian jiu jitsu as social and psychological therapy: a systemic review.” *Journal of Physical Education and Sport*, Vol 21, no. 3 (May 2021): 1545, <https://efsupit.ro/images/stories/mai2021/Art%20196.pdf>.

⁴⁹ Adam Croom, “Embodying martial arts for mental health: cultivating psychological well-being in with martial arts practice,” *Archives of Budo Science of Martial Arts and Extreme Sports*, Vol 10 (September 2014): 60, <https://philpapers.org/archive/CROEMA-6.pdf>.

⁵⁰ Lorenzo Pedrini, and George Jennings. “Cultivating Health in Martial Arts and Combat Sports Pedagogies: A Theoretical Framework on the Care of the Self.” *Frontiers in Sociology*, Vol 6 (March 2021), <https://www.frontiersin.org/articles/10.3389/fsoc.2021.601058/full>.

⁵¹ Brian Moore, Dean Dudley, and Stuart Woodcock. “The effects of martial arts participation on mental and psychosocial health outcomes: a randomized controlled trial of a secondary school-based mental health promotion program.” *BMC Psychology*, Vol 7, no. 1 (September 2019), https://www.researchgate.net/publication/335752304_The_effects_of_martial_arts_participation_on_mental_and_ps

there are likely advantages to using sports-based therapy style approaches such as martial arts to augment existing mental health initiatives.

Building Readiness

Building a resilient organization made up of healthy and resilient individuals is a strong foundation for maintaining and improving readiness. These abilities can be grouped as the seven skills, which build towards understanding yourself or improving yourself.⁵² Self-awareness is a key component to resilience. The three skills associated with self-awareness are “learning your ABCs [Adversity, Beliefs, and emotional and behavioural Consequences], avoiding thinking traps, and detecting icebergs.”⁵³ Self-awareness helps the individual with understanding where they currently are, and potentially to even identify where they want to go. Intentions are never enough, and change must be thought out and deliberate if it is to be both lasting and meaningful. The change skills are challenging beliefs (about what one thinks about adversity), putting it into perspective (to determine future outcomes), calming and focusing (to reduce negative thoughts and emotions), and real-time resilience (practical application during times of adversity).⁵⁴

Building a culture of wellness in the CAF is an effective strategy to increase readiness. Going beyond physical health and even mental health, wellness ensures that there is a balance between the needs of institution and the needs of the individual (especially important to remember, as the institution is comprised of individuals). Managing operational tempo may mean doing less work, especially as the number of CAF members shrinks and the same amount of work needs to be done by a smaller group of people. A healthier force means members are

ychosocial_health_outcomes_a_randomised_controlled_trial_of_a_secondary_school-based_mental_health_promotion_program, 1.

⁵² Karen Reivich. *The Resilience Factor: 7 Keys to Finding Your Inner Strength and Overcoming Life's Hurdles*. USA: Broadway Books, 2002, 77.

⁵³ Ibid, 77.

⁵⁴ Ibid, 172.

less prone to injury and illness, and will recover faster, resulting in fewer days missed from work. This also reduces the burden on the medical care system, and decreases costs of medical care both during and post military career. The appropriate policies must be in place and communicated effectively to ensure members know that they will be cared for in the event of injury. Injury prevention strategies will also build towards this sense of security and mental well-being.

Operationally, this also means that members who are more physically and mentally fit will remain alert through longer shifts, and are less susceptible to environmental factors such as fatigue, heat, cold, stress, hunger, thirst, and fear. In other words, fitness is a force multiplier, and besides the financial cost of fitness infrastructure and wages for exercise specialists, there are no real downsides, only overwhelmingly positive gains for the CAF.

Conclusion

The CAF is in the business of improving fitness. It must continually strive to balance the needs of the organization against the needs of the individual, and when the balance is successful, operational readiness is achieved. Physical fitness helps strengthen mental resilience, and in a military context, these factors improve operational readiness. Part of the CAF's responsibility is to provide physically fit, combat capable forces to conduct operations assigned to it by the Canadian government in all conditions anywhere in the world. The CAF then has a vested interest in remaining as fit as possible, both physically and mentally, in order to maintain the highest levels of readiness. By striving towards these goals, the CAF can set an excellent example to the rest of Canadian society in regards to total fitness and overall wellness. This will also set a good example for our allies, lending operational credibility when working alongside other nations' militaries.

The most efficient way to build resiliency is to focus on activities that build both physical and mental fitness. This will save money and time, both of which are carefully guarded resources within the CAF. Martial arts fit this role extremely well, and BJJ is the best vehicle to encourage fitness and teamwork, increase self-esteem and self-confidence, and prevent injury. It is also helpful that it is one of the fastest growing martial arts in the world, and will be present at most places where there are already CAF bases.

The CAF FORCE test has been an iterative measure of physical fitness. The scores for attaining higher levels have been increased in recent years to reflect the desired percentage points of personnel that attain the highest rankings of platinum and gold levels. This can be seen as an indicator that CAF members are taking their health more seriously, and are becoming more fit overall. The CAF should continue to build on this success, and expand fitness to incorporate other areas, like providing higher quality food in dining facilities, reducing screen time, balancing a work-rest cycle depending on operational tempo and environmental factors, and improving access to mental health. Members who are fit tend to be less stressed, are less prone to injury and illness, and therefore miss fewer days of work. A healthier lifestyle means they are less likely to require medical related expenses when they retire and are able to stay in the CAF longer.

Adopting an initiative like the US Army MRT would be a positive change, and encourage user buy-in by having junior leaders being part of the process of improving CAF members' fitness and overall wellness. Since junior leaders are already entrusted to lead small unit PT, there is no reason that with some investment in training, they could not also lead a PD initiative in improving mental fitness as well. Mental health is just as good an investment to keep members healthy and in uniform longer, improving the CAF's operational readiness.

BIBLIOGRAPHY

- Blomqvist Mickelsson, Tony. "Brazilian jiu jitsu as social and psychological therapy: a systemic review." *Journal of Physical Education and Sport*, Vol 21, no. 3 (May 2021): 1544-1552, <https://efsupit.ro/images/stories/mai2021/Art%20196.pdf>.
- Bray, Ernie. "Plato on Exercise." Last modified 28 November 2018. <https://www.erniebray.com/blog/2018/11/25/plato-on-exercise>.
- Comfort, Louise K, Boin, Arjen, and Demchak, Chris C. *Designing Resilience: Preparing For Extreme Events*. Pittsburgh: University of Pittsburgh, 2010.
- Croom, Adam. "Embodying martial arts for mental health: cultivating psychological well-being in with martial arts practice." *Archives of Budo Science of Martial Arts and Extreme Sports*, Vol 10 (September 2014): 59-70, <https://philpapers.org/archive/CROEMA-6.pdf>.
- Government of Canada Publication. *Balance: The Canadian Armed Forces Physical Performance Strategy*. N.p.: Department Of National Defence, 2018.
- Government of Canada Publication. *Surgeon General's Integrated Health Strategy – 2017: Integration for Better Health*. N.p.: Department of National Defence, 2017. <https://www.cmp-cpm.forces.gc.ca/hs/docs/sg-integrated-health-strategy.pdf>.
- Lee, J., K. Sudom, K. Watkins, and K. Hachey. "Physical Activity Trends in Canadian Youth and Implications for the Canadian Armed Forces" in *Fitness, Sports, and the Canadian Armed Forces*, eds. LCol Stouffer, Jeff, and Cdr Woychesin, Dave. Winnipeg: 17 Wing Publishing Office, 2017.
- Love, Ricardo. "Psychological Resilience: Preparing our Soldiers for War." Masters of Strategic Studies Strategic Research Project, US Army War College, 2011. <https://apps.dtic.mil/sti/pdfs/ADA543395.pdf>.
- Moore, Brian, Dudley, Dean, and Woodcock, Stuart. "The effects of martial arts participation on mental and psychosocial health outcomes: a randomized controlled trial of a secondary school-based mental health promotion program." *BMC Psychology*, Vol 7, no. 1 (September 2019), https://www.researchgate.net/publication/335752304_The_effects_of_martial_arts_participation_on_mental_and_psychosocial_health_outcomes_a_randomised_controlled_trial_of_a_secondary_school-based_mental_health_promotion_program.
- "Obesity is a National Security Issue," YouTube video, 16:07, posted by "TEDx Talk," 6 December 2012, <https://www.youtube.com/watch?v=sWN13pKVp9s>.
- Pedrini, Lorenzo, and Jennings, George. "Cultivating Health in Martial Arts and Combat Sports Pedagogies: A Theoretical Framework on the Care of the Self." *Frontiers in Sociology*, Vol 6 (March 2021), <https://www.frontiersin.org/articles/10.3389/fsoc.2021.601058/full>.

- Ratey, John. *Spark: The Revolutionary New Science of Exercise and the Brain*. New York: Little, Brown, and Company, 2008.
- Rehman, Mishall, “Canadian Army Launches New Program to Increase Resilience and Well-Being of Soldiers and Loved Ones,” *Canadian Military Family Magazine*, 7 December 2015. https://www.cmfmag.ca/progs_services/canadian-army-launches-new-program-to-increase-resilience-and-well-being-of-soldiers-and-loved-ones/.
- Reivich, Karen J. *The Resilience Factor: 7 Keys to Finding Your Inner Strength and Overcoming Life’s Hurdles*. USA: Broadway Books, 2002.
- Revich, Karen J., Seligman, Martin E.P., and McBride, Shannon. “Master Resilience Training in the US Army.” *American Psychologist*, Vol 66, no. 1 (January 2011): 25-34.
- Robson, Sean. *Physical Fitness and Resilience: A Review of Relevant Constructs, Measures, and Links to Well-Being*. USA: RAND Corporation, 2013. https://www.rand.org/pubs/research_reports/RR104.html.
- Twells, L.K., Janssen, I., and Kuk, J.L. The Canadian Association of Bariatric Physicians and Surgeons, “Epidemiology of Adult Obesity,” last accessed 22 April 2022. <https://obesitycanada.ca/wp-content/uploads/2021/05/2-Epidemiology-of-Adult-Obesity-5-with-links.pdf>.
- United States. Department of the Navy. *Marine Corps Martial Arts Program*. Marine Corps Order 1500.59A. Washington, D.C.: Department of the Navy, 23 September 2019, <https://www.fitness.marines.mil/Portals/211/documents/MCO%201500.59A.pdf>.