RESILIENCE: PERFORMANCE ENHANCER OR REDUCER?

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LT. COL. (RT) DR. JACQUES J. GOUWS, MMM, C.PSYCH.
Human and System Interface Consulting Inc.
137 Westmount Road, Guelph, Ontario, N1H 5J3, Canada.
DrGouws@nas.net
This presentation shares some original work created by standing on the shoulders of the giants that came before us.

Questions at the end.

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SCOPE

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INTRODUCTION

Noah (2014): the cult of resilience:
“Resilience” has become the word of the moment. Suddenly we’re all resilient – or trying desperately to be.

Hanfling (2014): what is resilience?
In answering the question posed at the outset of this piece – what do we mean when we say “resilience” – Boston’s own Dr. Leonard Marcus, in his extensive work on the role leadership plays in emergency preparedness and response, notes the causality linking “bad leadership” to becoming a “public health risk factor”. If we agree with this assumption, then it stands to reason that good leadership builds resilience.
Military: It is the individual soldier’s responsibility to Build Resilience to Maximize Mission Readiness:

The ability to adapt to adversity and overcome barriers is critical to a warrior’s strength. This skill – resilience – can characterize both physical and psychological strength. But while every warrior is trained how to develop physical resilience, it’s also critical to learn how to develop psychological resilience.

https://www.realwarriors.net/active/treatment/resilience
Emphasis Contrast: the role of leadership v. the role of the individual in building resilience.

Military context: to “build” both physical and psychological resilience in soldiers.

Both approaches: resilience is constructed by external force or influence, regardless of individual or leader input.

Resilience: IMTA conference presentations from 1960 to 2017: Word resilience in presentation title: 42

http://www.imta.info/PastConferences/Presentations_v2.aspx
IMTA Resilience Presentations

- 2005: 1
- 2006: 1
- 2007: 1
- 2008: 4
- 2009: 1
- 2010: 0
- 2011: 1
- 2012: 5
- 2013: 4
- 2014: 11
- 2015: 2
- 2016: 5
- 2017: 6
Resilience is not psychological construct: The term “resilience” owes its origin to Latin word resilio, which means to restore a bent or a stretched object to its original shape. While “resilience” made its first appearance in physics in 1858 when Scottish engineer William Rankine used it in the context of mechanics to describe the strength and ductility of steel beams (Alexander, 2013).


SOME HISTORICAL PERSPECTIVE
(CONTINUED)
Resilience is: the quality of materials to endure when placed under strain.

A material’s resilience: the ratio of its yield strength to its elastic modulus in components such as the main wing spar and ribs.

The dangers of exceeding the G-force limits when flying an aircraft, but:

Regardless of strain, all components will eventually fail due to metal fatigue.
Psychology says different: Singh et. al.:

Rutter (1987): Resilience is an interactive concept in which the presence of resilience has to be inferred from individual variations in outcome among individuals who have experienced significant major stress or adversity.

Abrams (2001): Resilience is the ability to readily recover from illness, depression, and adversity.

Emmy Werner: Kauai Longitudinal Study studied the entire population of 698 infants born in 1955 on the Hawaiian Island of Kauai. Werner defined her observations of the dynamic processes that lead to positive adaptation despite significant adversity as resilience.

Military application value: 20 years later: it appeared as if, despite adversity, most of the children, even those who were vulnerable, had been able to show positive change in personal growth through resiliency.
Emmy Werner stated in the study that:
As a corollary, “hard work and persistence” were the assets most frequently mentioned in the clinical interviews by the youths with serious childhood behavior problems who had later improved.


Military Application: resilience, as a “bounce back” response is the consequence of hard work and persistence, in other words, perseverance in the face of adversity and challenge.
Some Historical Perspective (continued)

https://samilhistory.com/tag/saaf/page/5/
Caveat: large individual differences among “high-risk” individuals in their responses to adversity as well as to the opening up of naturally occurring opportunities that applies to the military as well in that, whatever programs are designed to improve resilience, there would likely be variable effects, some at least that one would want to avoid at all cost.

Werner, Emmy. Resilience and Recovery: Findings from the Kauai Longitudinal Study. FOCAL POiNT Research, Policy, and Practice in Children’s Mental Health (Summer 2005). 19,1. 11-14.

Conclusion: in some cases resilience could be a performance enhancer, while in other cases it could be a performance reducer.
Literature on Measuring Resilience: Hawkins et. al. 2005 on Singapore Society & Armed Forces: *tough enough?*

Minister of Defense: “To keep Singapore safe we need the involvement of all Singaporeans….all of us. Each one of us must have the resolve, resilience and commitment.”


Eidelson (2012): “flawed resilience training”


Eckhart (2014), for some military & their families: *resilience is a dirty word.*

Eckhart, Jacey. “‘Resilience’ is a Dirty Word, Lady,” *Spousebuzz.* (27 May 2014).
https://www.military.com/spousebuzz/blog/2014/05/resilience-dirty-word-lady.html
Tortorello et. al. (2013): NO relationship between suicide and a loss of resilience in the US Marines; instead, other factors were identified at the core of these suicides: What’s causing rises and falls in suicide, PTSD, and other socially negative outcomes for U.S. service members? The results…suggest that the issue is not so much medical as social, cultural, and personal. Typical explanations of stress…suggest broken biology (defective genes or an IED blast) or compromised psychology (a psychological disposition or traumatic event). But this study found instead crises of meaning...

Resilience in the Military
(continued)

This is NOT NEW: Noy (1991): In the combat situation soldiers fight for each other not a nebulous political ideal. This collective functioning combined with acquired individual skills serve to develop and maintain strong unit cohesion amongst soldiers. With a sense of a loss of support individual soldiers become overwhelmed by the challenges faced in combat.

The combination of cohesion, resilience and resourcefulness enables unit members to cope with adversity. Its loss also brings a loss of sense of meaning (Gouws 2017) BECAUSE:


The optimal integration of resilience and resourcefulness, in addition to the role played by vertical and horizontal cohesion factors, stems from the sense of coherence soldiers experience when they function as a unit.

Aaron Antonovsky (1987) defined the concept “sense of coherence” as:

...a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli deriving from one’s internal and external environments in the course of living are structured, predictable and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement (meaningful).

Antonovsky’s three components: comprehensibility, manageability, meaningfulness: of primary importance in the military context.

This gives soldiers motivation and strength to face deployment and war stressors AND to maintain a sense of well-being instead of being overwhelmed by the stressors.

The third component, meaningfulness, is even more vital after deployment: Meaningfulness, or the loss thereof determines the mental health well-being of soldiers once they had returned to their families and communities.
Resilience in the Military

(continued)

Resourcefulness is important during deployment, but it is imperative that soldiers, once they return to their society, are able to apply their learned resourcefulness skills from the deployment when adjusting back to society.

Michael Rosenbaum (1989): Successful coping with stressful events involves self-regulation...three kinds of self-regulatory process:

The first occurs automatically and unconsciously in order to maintain the homeostasis of a person's physiological functions; the other two are under the person's cognitive and voluntary control.
Resilience in the Military (continued)

- Redressive self-control is aimed at resuming normal functions that have been disrupted;
- Reformative self-control is directed at breaking habits in order to adopt new and more effective behaviors.
- Coping with acute stress requires redressive self-control; the adoption of new behaviors such as health related behaviors requires reformative self-control.
- Learned resourcefulness refers to the behavioral repertoire necessary for both redressive self-control and reformative self-control.

In the military: exceptional human behaviour particularly in adverse circumstances (sometimes described as heroism or courage) is relatively common compared to the civilian setting.

Some social psychology theories attribute exceptional human behaviour or the lack thereof in times of crisis to individual personality traits or characteristics BUT:

it is also a function of how a person perceives the roles of others in that specific situation, as much as they may stem from learned skills that have been collectively acquired and individually exercised. In the soldier’s world these skills, combined with certain personality traits, are deemed the golden keys to success in operations.
Returning soldiers’ transition must include transference of acquired resilience and resourcefulness skills to life after deployment so they do not lose their *sense of coherence* - especially if society does not provide an environment supportive of the meaningfulness soldiers subjectively assigned to their deployment and combat experiences at the individual level.


Military trainers know as long as a few crucial support and motivating factors are present soldiers are able to withstand impossible odds and even in the eye of certain death will follow through to complete their allotted tasks.
RESILIENCE IN THE MILITARY
(CONTINUED)

https://samilhistory.com/tag/saaf/page/5/
RESILIENCE IN THE MILITARY
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Resilience: Are soldiers who succumb to stress reactions during combat and deployment not as resilient as those who do not?

Answer: NO: Aviation vs Soldiers: combat experience: an extreme strain load added to pre-existing strain loads: when the stress loads exceed the ratio of its yield strength to its elastic modulus, the soldier will break.

It is not a lack of resilience, but an excessive strain load beyond what the component, in this case the soldier, can sustain.

If the performance expected of the individual soldier causes an extreme strain load, something will break, and all performance will be lost. The inevitable outcome: the soldier decompensates.
It should be obvious that resilience only refers to one aspect in humans: the capacity to endure a strain load until it reaches breaking point, or becomes fatigued and fails because of the cumulative effects of continuous and unremitting strain loads.

Failure will inevitably result unless a significant change is brought about to extend the individual capacity to endure a particular strain load.

In terms of the aviation metaphor: the breaking point can be avoided if the wing spar is replaced well in advance of its expected failure.
Two aviation principles: “safe life” and “failsafe”

- “safe life” philosophy: a built-in reserve.
- “failsafe” philosophy: redundancy.

- Directly challenge: psychological construct resilience vs. resilience as a mechanical construct.

- The meaning of the term resilience borrowed from physics must be applied to resilience building programs as well as in the search for “the cure” to assist those who appear to have run out of resilience.
Resilience is created and developed in soldiers through various means BUT:
- It is NOT a design to prevent soldiers from failing
- It is a technique or method to establish a “safe life” and a “failsafe” system to prevent the inevitable failure that arises from the constant exposure to excessive extreme strain loads in a crisis.

Aviation science predicts with certainty the resilience required from an aircraft component when utilised in a specific (i.e., appropriate) configuration on a particular aircraft, including failsafe, safe life and maintenance.
Similar principles apply to soldiers during training, deployment, combat, and after they return to base to prepare for the next tour of duty.

Without understanding the constitution of soldiers as human beings, there can be no understanding of the philosophies that should support the construct of the limits of resilience as both a physical and psychological measure of a soldier’s readiness and, in the final analysis, the ability to perform at an optimal level during crisis, whether combat or otherwise.
Factors Contributing to Resilience & Performance Failure

Resilience in the military refers to the capacity of an individual to withstand the stressors involved in military service.

It is extremely important that various stressors and their potential as factors leading to resilience-failure should be identified in time in order to prevent an over-strain to individual capacity to withstand the challenges of military service, regardless of whether this is in training or deployment and combat.

Psychological stressors best describe these factors but their physiological effects are not always understood or assessed.
Physiological effects of stress: Hans Selye, the “father of stress” and “general adaptation syndrome” or GAS.

Selye’s research showed that if an organism is severely damaged by what he termed “acute non-specific nocuous agents” (such as exposure to cold, surgery, excessive muscular exercise, etc.), a typical syndrome results with symptoms that are independent of the damaging agent, but the illness is a response to the damage caused by the non-specific nocuous agent. Selye (1936) referred to these responses as “diseases of adaptation.”

These diseases are by-products of abnormal adaptive reactions to stress.

The “adaptation” approach to health and illness not unique: Crookshank (1923) postulated that adaptation to external challenges was an important factor in health or disease: successful adaptation to the environment resulted in health but disease was deemed:

...a dissociation of functional unity, or, maladjustment due to failure or incompleteness of adaptive response.


It is this maladjustment that is vitally important in understanding what can be called resilience-failure in soldiers.
Military Expectations: work diligently to complete training AND discharge duties with determination, intention, purpose, perseverance, persistence and aspiration.

These are some of the factors underlying the concept of resilience when applied in the military milieu.

Overarching all of these expectations: a message of meaningfulness through the contribution one makes to the preservation of the ideals of the society in whose military one serves.

The loss of this meaning is a vital factor that undermines and destroys resilience and diminishes or destroys performance.
Selye’s GAS model + Meaningfulness esp. in deployment.
Soldiers assign their own subjective meaning to their experiences; hence their reactions are always personal.
Simultaneously, others observe and judge an individual soldier’s reactions collectively within the same unit.
Judgement reflects both individual and collective meanings observers attach to their experiences of the same event(s), and may contradict the observed soldier’s subjective meaning.
Hence the individual soldier’s eventual assigned subjective meaning to personally-experienced stress-related reactions is a mixture of individual and collective meanings.
The eventual subjectively assigned meaning impacts upon the psychological, moral, social, philosophical, spiritual, and physical constitution of the soldier.

The constitutional alteration from this impact ultimately determines the individual soldier’s capacity to cope or not cope with challenging, stressful deployment events and their sequelae in both the short- and long-terms.

This in turn, once again would either positively or negatively affect performance.

Especially in combat soldiers develop a psychological alliance with each other that transcends all other alliances they may have had up to that point in their life.
This alliance defines the limits of resilience, what would break the bond existing between soldiers, and what would cause difficulty readjusting to society after deployment.

With loss of meaning comes loss of resilience, followed by a state of learned helplessness and an incapacity to perform expected duties up to the required standard.

Against this background learned helplessness (Seligman, 1972) and the loss of meaning become the antithesis of resilience, even to the point of causing a constitutional meltdown.

Soldiers’ perspective on how they experienced themselves during the performance of their training, deployment, and subsequent roles may create a sense of being both the “victim” and “perpetrator” of the combat actions they were engaged in.

Once back in society some soldiers often experience the negative aspects of their deployment more intensely. This may cause inner turmoil (shame, guilt, and self-criticism) that can be quite devastating to the soldier. Unless this personal and internal conflict is resolved promptly, it may erode the well-being of the individual soldier to the point of causing mental health concerns.
The decades-long focus on resilience is a construct designed to support soldiers in the execution of their military tasks. Resilience is measured by the degree to which soldiers perform their tasks successfully, while managing the extreme challenges that they face during their deployments. Large individual differences in how individuals respond to adversity mean that programs designed to improve resilience would likely have variable effects. Hence, in some cases resilience could be a performance enhancer, while in other cases it would be a performance reducer.
Soldiers as individual humans react differently to the same programs designed to develop and maintain resilience as a performance enhancer in training, deployment, and combat.

Resilience must be understood in the context of its original meaning, viz., that it provides a measure of the limits of endurance before a component or particular material would succumb to the stress load placed on it.

When applied to people, resilience therefore is not solely the capacity to endure and bounce back, but it also sets out the limits of what should be considered normal function, abnormal function, and extreme function.
CONCLUSION (CONTINUED)

- Soldiers are normal human beings engaged in the performance of abnormally challenging tasks.
- It should be expected that resilience-failure can occur, often unexpectedly, unless the necessary checks and balances are in place to prevent that from happening.
- There is a requirement for military leadership, recruiters, trainers, and in particular military psychologists, to fully comprehend the complexity of stressors in modern warfare.
- Always remember: Military deployment is a political action ordering ordinary people to engage in certain abnormal actions (i.e., killing others in combat) with no other aim but to achieve certain political goals, but politics change over time.
Centuries of warfare demonstrated soldiers’ extraordinary resilience to cope with extreme stress – that is what makes them successful warriors.

It is imperative to enhance soldiers’ ability to manage psychological stress reactions by a coherent and honest rationale in the deployment message they receive from political and military leadership.

There also has to be the political willingness and courage to carefully consider all options before committing armed forces to combat or peacekeeping deployments, because there will be a cost to rehabilitate those soldiers who had fallen victim to the pathology of war operations.
Resilience in the military is the skill or motivation that enables soldiers to maintain stability and that enhances continuity regardless of the situation they are in. Resourcefulness, on the other hand, triggers the creative response to cope with novel and challenging situations. These two constructs, resilience and resourcefulness are the building blocks that enable the military organism to function as a collective entity (often referred to as the coherence and cohesion that bind the unit together) that draws on all of the individual and collective skills of its various parts to ensure optimal performance during military operations.
However, all of these skills fail when meaningfulness, one of the components of a positive sense of coherence, is lost.

Soldiers want to know and be reassured that what they had done in executing their duties on and off the battlefield was worth it and therefore meaningful.

If not, the loss of meaningfulness becomes disillusionment that destroys the sense of coherence and learned resourcefulness that had carried soldiers through their deployment.

This causes soldiers to fall victim to the pathology of war operations, and overall military performance suffers.
Questions?

Thank you for your attention.
This presentation is available as a conference paper that may be obtained from the conference organisers, the IAMPS website, or the presenter.

Contact Information:
Lt. Col. (Rt) Dr. Jacques J. Gouws, MMM, C.Psych.
Human and System Interface Consulting Inc.
137 Westmount Road, Guelph, Ontario, N1H 5J3, Canada.
E-Mail: DrGouws@nas.net