



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

MBA PROFESSIONAL REPORT

Theoretical Dimensions of Small Unit Resilience

By: John F. Lopes
December 2010

Advisors: Edward H. Powley,
Gail F. Thomas

Approved for public release; distribution is unlimited

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE December 2010	3. REPORT TYPE AND DATES COVERED MBA Professional Report	
4. TITLE AND SUBTITLE Theoretical Dimensions of Small Unit Resilience			5. FUNDING NUMBERS	
6. AUTHOR(S) John F. Lopes				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol Number: N/A.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release: distribution is unlimited			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) When Soldiers deploy into any theater of operation, they encounter a sustained series of stressors unlike any they would encounter at home station. To mitigate the cumulative effect of these stressors on their units and individual Soldiers, leaders must be able to assist service members in learning strategies to effectively cope with stress under the most arduous of conditions. These strategies can improve the effectiveness and sustainability of our Soldiers in combat. The central purpose of this project is to identify how leaders can build, foster, and sustain resiliency in their organizations at the unit level. Researchers Sutcliffe and Vogus define resilience is defined as “the capacity for adaptability, positive functioning, or competence following chronic stress or prolonged trauma.” Put simply, it allows an individual or organization to draw on internal and external resources to positively adjust to current adversities and strengthens their ability to cope with future adversities. Building resilience is critical to mission accomplishment, longevity and sustainability of Soldiers in combat. However, in order for units to properly do so for the long-term, they must contain the following characteristics of resilience: <i>concerted leadership, adequate resources, enhancement of organizational learning, flexibility/adaptability in the face of adversity, and goal oriented.</i>				
14. SUBJECT TERMS Resilience, Leadership, Post-traumatic Stress Disorder (PTSD), Suicide			15. NUMBER OF PAGES 67	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited

THEORETICAL DIMENSIONS OF SMALL UNIT RESILIENCE

John F. Lopes, Major, United States Army

Submitted in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

from the

**NAVAL POSTGRADUATE SCHOOL
December 2010**

Author:

John F. Lopes

Approved by:

Edward H. Powley, Lead Advisor

Gail F. Thomas, Support Advisor

William R. Gates, Dean
Graduate School of Business and Public Policy

THIS PAGE INTENTIONALLY LEFT BLANK

THEORETICAL DIMENSIONS SMALL UNIT RESILIENCE

ABSTRACT

When Soldiers deploy into any theater of operation, they encounter a sustained series of stressors unlike any they would encounter at home station. To mitigate the cumulative effect of these stressors on their units and individual Soldiers, leaders must be able to assist service members in learning strategies to effectively cope with stress under the most arduous of conditions. These strategies can improve the effectiveness and sustainability of our Soldiers in combat. The central purpose of this project is to identify how leaders can build, foster, and sustain resiliency in their organizations at the unit level. Researchers Sutcliffe and Vogus define resilience as “the capacity for adaptability, positive functioning, or competence following chronic stress or prolonged trauma.” Put simply, it allows an individual or organization to draw on internal and external resources to positively adjust to current adversities and strengthens their ability to cope with future adversities. Building resilience is critical to mission accomplishment, longevity and sustainability of Soldiers in combat. However, in order for units to properly do so for the long-term, they must contain the following characteristics of resilience: *concerted leadership, adequate resources, enhancement of organizational learning, flexibility/adaptability in the face of adversity, and goal oriented.*

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	BACKGROUND	1
B.	PURPOSE.....	4
C.	BENEFITS OF RESEARCH.....	4
II.	LITERATURE REVIEW	5
A.	OVERVIEW.....	5
B.	MILITARY COMBAT OPERATIONAL STRESSORS.....	5
1.	Reactions To and Coping With Stress	9
C.	ARMY MODELS AND PROGRAMS FOR COMBAT STRESS	11
1.	Combat and Operational Stress Effect Model	11
2.	Soldier Combat and Well-Being Model	13
3.	Battlemind Training	14
4.	Comprehensive Soldier Fitness (Csf) Program.....	15
D.	RESILIENCE.....	17
1.	Overview	17
2.	Defining Resilience.....	18
3.	Individual Resilience.....	20
4.	Group Resilience	21
5.	Organizational Resilience.....	22
6.	Characteristics of Resilience	23
III.	ASSESSMENT TOOL DIMENSIONS.....	25
A.	OVERVIEW	25
B.	GUIDELINES FOR ASSESSING RESILIENCE	25
C.	THE FIVE DIMENSIONS OF RESILIENCE.....	26
1.	Concerted Leadership	26
2.	Adequate Resources.....	28
3.	Organizational Learning.....	28
4.	Flexibility/Adaptability.....	29
5.	Goal Oriented.....	29
IV.	IMPLICATIONS AND CONCLUSION.....	31
A.	OVERVIEW	31
B.	LEADERSHIP	31
1.	Pentathlete Leadership Model.....	33
2.	Problems With Army Leadership Models.....	34
3.	Leadership and Resilience.....	35
C.	CONCLUSION AND RECOMMENDED FURTHER RESEARCH.....	37
	APPENDIX.....	39
A.	SAMPLE SURVEY QUESTIONS	39
	LIST OF REFERENCES.....	41
	INITIAL DISTRIBUTION LIST	47

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

Figure 1.	Service Suicide Rates (From Department of the Army, 2010, p. 16).....	2
Figure 2.	Military Suicides by Year (1980-2009) (From Congressional Research Service, Graphic by the Chicago Tribune, 2010).	3
Figure 3.	A General Model for Combat Stress (After Whetten & Cameron, General Model for Stress, 2002, p.107).....	10
Figure 4.	Combat and Operational Stress Effect Model (From Department of the Army, 2009, p. 1-5).....	13
Figure 5.	Soldier Combat and Well-Being Model (From Office of the Surgeon General, 2009a, 2009b, p. 12).....	14
Figure 6.	Behaviors Related to Success and Failure in Organizations (From Behaviors that Matter, Pearman, 2000, p. 1).	27
Figure 7.	Army Leadership Requirements Model: (From Department of the Army, 2006 p. 2-4).	32
Figure 8.	Army Pentathlete Leadership Model (From Carl, 2006, p. 4).	34

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF TABLES

Table 1.	Army Suicides by Year (From McClatchy Washington Bureau, 2010).....	2
Table 2.	Primary Stressor Dimensions in Modern Military Operations (From Bartone, 2006, p. S134)	6
Table 3.	Five Dimensions of Strength (From Department of the Army, n.d., p. 1).....	16
Table 4.	Group/Organizational Resilience Characteristics	24
Table 5.	Sample Resilience Survey Questions.....	40

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF ACRONYMS AND ABBREVIATIONS

ARI	Army Research Institute
ATLDP	Army Training and Leader Development Panel
AWC	Army War College
BH	Behavioral Health
BHS	Behavioral Health System
CAL	Center for Army Leadership
CALL	Center for Army Lessons Learned
COE	Contemporary Operating Environment
COSB	Combat Operational Stress Behaviors
COSR	Combat Operational Stress Responses
CSF	Comprehensive Soldier Fitness
FM	Field Manual
FRG	Family Readiness Group
FY	Fiscal Year
HMMWV	Highly Mobile Multi-Wheeled Vehicle
IAW	In Accordance With
IED	Improvised Explosive Device
MBA	Master of Business Administration
MHS	Military Health System
NCOES	Non-Commissioned Officer Education System
OEF	Operation Enduring Freedom
OES	Officer Education System
OIF	Operation Iraqi Freedom
OPTEMPO	Operations Tempo
PTE	Potentially Traumatic Event
PTG	Post-traumatic Growth
PTSD	Post-traumatic Stress Disorder
SSTRO	Security Stabilization Transition and Reconstruction Operations
UBHNAS	Unit Behavioral Health Needs Assessment Survey
US	United States
USAR	United States Army Reserve
WRAIR	Walter Reed Army Institute of Research

THIS PAGE INTENTIONALLY LEFT BLANK

ACKNOWLEDGMENTS

To God, my almighty father, and Jesus Christ his only son, my Lord and savior through whom all things are possible, and through whom all good things come. Thank you for your unconditional love, support and for the blessings you shower upon me daily. May I one day be worthy of the love and favor you have shown me.

To my loving and beautiful wife, Amanda. You are my very best friend and you make me better than I ever could have imagined. Thank you for your love and support through the years and thank you for being the wonderful mother you are to our children, and my partner in life.

To Dr. Powley, whose quiet patience and confidence inspired my hard work and diligence. I never wanted to let you down, and will forever regard you as a very special teacher, coach, mentor and friend. May God bless you and your family, and thank you for all you have done for me.

To Dr. Thomas, thank you for teaching me that it is not what you say, or what you write, but what the reader understands that is at the heart of communication. The lessons you taught me in your course will be with me for the rest of my life.

To my children, may this paper inspire you to always do your very best and stress upon you all the importance of a good education. It is every parents wish that their child's be better than their own. I wish each of you, Alexander-James, Joseph, and Anna all of the love, happiness, and success this world has to offer. Education is a never-ending process and everyday and every experience offers a new education. Keep learning and keep moving forward.

To my brother and sister Soldiers in the United States Army, who serve daily on freedom's frontier, and bear the sacrifices inherent to the profession of arms. Stay vigilant, stay strong and be safe. America needs each and every one of you.

Lastly, to my father, who wanted me to get a quality education. Thank you.

Ephesians 6, 10-20

THIS PAGE INTENTIONALLY LEFT BLANK

INSPIRATION FOR THIS STUDY

In Bagram, Afghanistan, there is a ceremony to honor the fallen, in which the flag-draped coffins of those who have paid the ultimate sacrifice are driven down Disney Drive (the longest road on the base) in a HMMWV en-route to a waiting aircraft and a flight back home to the states. When the ceremony is announced, all Soldiers and civilians gather on the side of the road, (whether in the day or the darkness of night) and salute the flag-draped casket of the fallen hero to pay homage to those who have given their lives in defense of our nation. During those ceremonies, the silence is deafening, broken only by the sobs of the closest friends and comrades of the fallen, who travel on the back of the HMMWV with the casket containing the lifeless remains of the person they once knew.

It was a solemn ceremony whose bitterness reminded us all of the stark realities of war and the shadow of death in which we all stood. More importantly, it served to give our departed brother or sister a final salute to thank them for their service and sacrifice, before their body traveled home to the United States, and onward to its final resting place.

In the combat zone there were others—those who took their own lives, the suicides. I am told that they were not given the same hero's farewell. There was no pomp; there was no fallen heroes' ceremony, and there was no final salute. These Soldiers were processed, and their caskets were driven unceremoniously down a back road to the flight line where they were loaded on an aircraft and sent home. Yet, there were still others, those with post-traumatic stress disorder (PTSD). Soldiers who were changed by their experiences and unable to reasonably cope with a myriad number of stressors that they had encountered during combat, and subsequently, were forever changed. Whether they buckled under the pressure of their personal lives, the stress of a combat deployment, or died by their own hand was of no consequence. They, too, were someone's father, someone's son, someone's mother, daughter, sister, brother, or friend. Their suicides were tragedies that negatively affected their families, friends and the military units with which they served.

I have often wondered if more could have been done to safeguard the lives and mental state of these Soldiers. This is the inspiration for this paper. This paper is dedicated to the loving memory of all of the Soldiers who have buckled under the pressures of their personal problems and have taken their own lives, and to those heroes who suffer from PTSD daily. It is my sincere hope, that although amateurly written, this paper serves as a catalyst for change. However, if it merely sparks some debate, encourages or inspires further research, or finds its way to an individual that is in the position to spark change, then I as an author will consider it wildly successful. God bless us all, and God bless the United States of America.

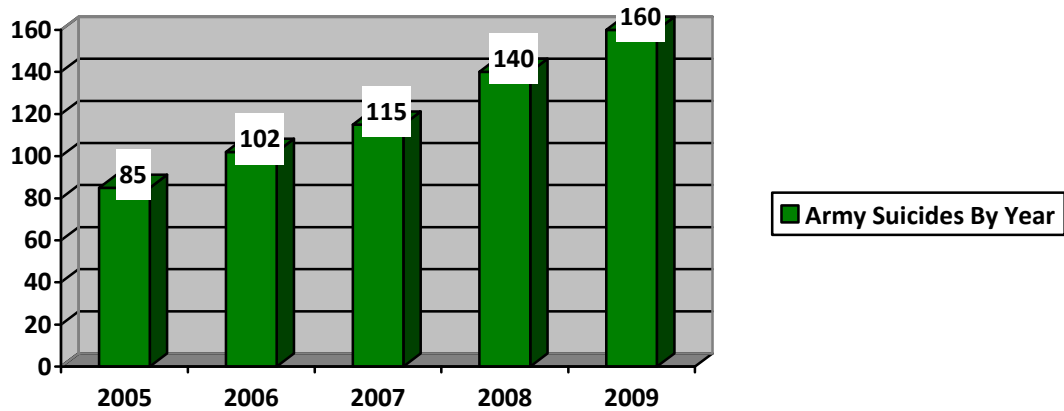
I. INTRODUCTION

A. BACKGROUND

Individual Soldiers and military units vary in their ability to handle and cope with stress. The rate of Active Duty Soldiers committing suicide or developing post-traumatic stress disorder (PTSD) has increased dramatically since the onset of the wars in Iraq and Afghanistan. According to Hannah Fischer of the Congressional Research Service (2009), the Military Health System (MHS) has “recorded 39,365 service members who have been diagnosed with post-traumatic stress disorder (PTSD)” from 2003 to 2007 (p. 2). Additionally, according to the Defense Manpower Data Center (2010a,b), as of September 04, 2010, 260 service members serving in Iraq and Afghanistan have died of “self-inflicted wounds” (p. 1). Of these deaths, 82.3%, or 214, of these suicides were committed by Army Soldiers in the combat zone.

According to the Department of the Army (2010), “while on average only 9.1% of the suicide deaths between 2005 and 2009 had been diagnosed with PTSD, this percentage has steadily increased from 4.6% in 2005 to 14.1% in 2009” (p. 26). Historically, Army suicide rates have also been below the national average; however, by 2008 “the suicide rate in the Army exceeded the age adjusted rate in the civilian population (20.2 per 100,000 vs. 19.2)” (Department of the Army, 2010, p. 14). Additionally, in “Fiscal Year (FY) 2009, 160 Active Duty Soldiers took their own lives, making suicide the third leading cause of death among the Army population” (Department of the Army, 2010, pp. 11, 14).

Table 1. Army Suicides by Year (From McClatchy Washington Bureau, 2010)



Comparing the Army suicide rates to those of the other services also shows dramatic increases over the last five years in both the Army and Marine corps. This is most likely attributed to the fact that these two services have borne the brunt of the fighting in the two wars (Department of the Army, 2010, p. 16).

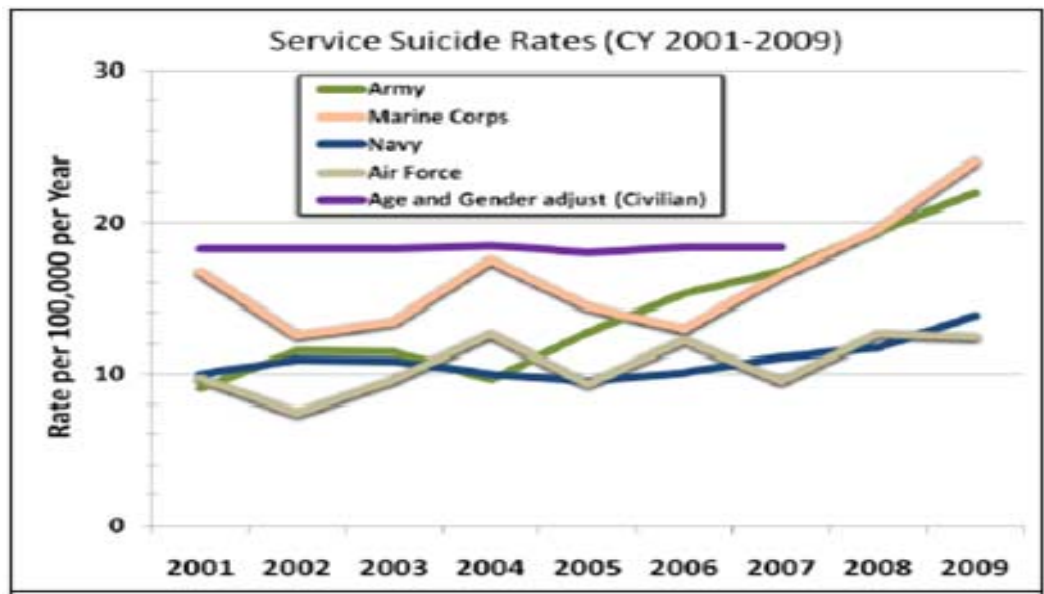
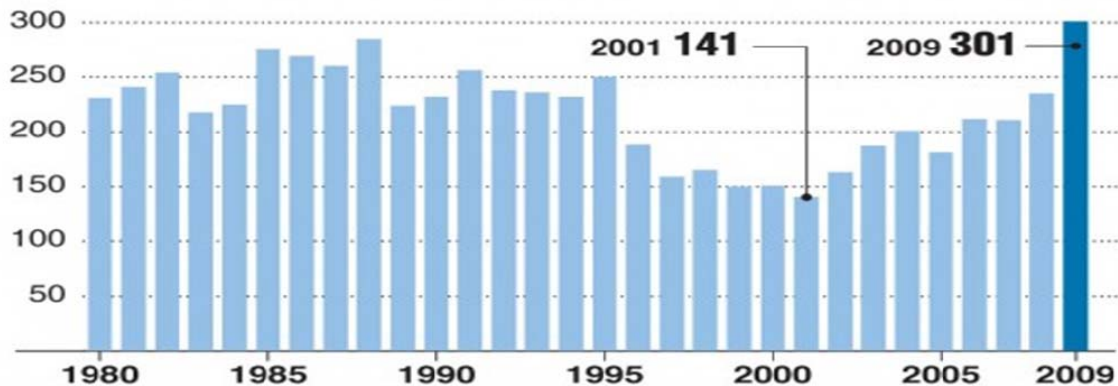


Figure 1. Service Suicide Rates (From Department of the Army, 2010, p. 16).

However staggering these statistics may be, the reality is that until 2009, the total number of deaths by suicide across all four branches of service (both at home station and deployed) each year has far outpaced the total number of casualties in the Afghan war.

Military suicides

The 301 suicides among active-duty military in 2009 is the most since the government began collecting data in 1980.



NOTE: Some cases from 2003-2009 are pending

Source: Congressional Research Service

Graphic: Chicago Tribune

© 2010 MCT

Figure 2. Military Suicides by Year (1980-2009) (From Congressional Research Service, Graphic by the Chicago Tribune, 2010).

According to Robert H. Pietrzak (2010), “epidemiological surveys on Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) veterans have found high rates of post-traumatic stress disorder (PTSD), depression, and related conditions” (p. 188). Resilience, a concept that “refers to the maintenance of a positive adjustment under challenging conditions,” offers a framework for addressing suicides and post-traumatic stress disorder (PTSD) (Sutcliffe & Vogus, 2003, p. 95). Scant research has been done to discern if introducing a resilience framework at the unit level can reduce or eliminate altogether the number of suicides or cases of post-traumatic stress disorder (PTSD) in the deployed population. According to the Department of the Army (2009), “prior to the war in Iraq, there were no empirically validated strategies to build resilience or methods to prevent combat related Behavioral Health (BH) problems” in deployed Soldiers or in those returning from combat deployments (p. 3–8).

B. PURPOSE

The central purpose of this MBA professional report is to identify how leaders can build, foster, and sustain resiliency in their organizations at the unit level. This report is organized into four sections to answer four research questions. This report begins by introducing information on military operational stressors and describes the physiological and psychological affects and consequences they have on deployed Soldiers. Then through a literature review on resilience and leadership in the United States Army, the report builds a conceptual framework as a foundation for unit resilience, to propose recommendations on how leaders can improve the resilience, combat effectiveness and sustainability of Soldiers and units in combat.

The four research questions that are answered in the literature review are:

1. What is resilience?
2. How is it that some individuals and units positively respond to adversity, while others do not?
3. Why is it important for individuals and small units to be resilient?
4. How can leaders build, foster, and sustain resiliency in their organizations?

C. BENEFITS OF RESEARCH

This research provides a conceptual foundation on what resilience is, a framework on how to build resiliency, and assessment tool dimensions to measure the current state of resilience is in small military units. Additionally it serves as a basis for future quantitative and analytical research on the benefits of resilience and how to quantitatively measure resilience in deployed combat units.

II. LITERATURE REVIEW

A. OVERVIEW

This literature review emphasizes two subjects: resilience and leadership. The overall purpose of this literature review is to provide the reader with a basic understanding of the differences between individual, group, and organizational resilience, the characteristics of each, and how organizations can build and sustain resilience for the long-term. Additionally, the report examined literature on leadership in the United States Army to determine the links between leadership and resilience to ascertain if leadership influences the level of resilience in organizations.

B. MILITARY COMBAT OPERATIONAL STRESSORS

When Soldiers deploy into any theater of operation, they encounter a sustained series of stressors unlike any they would encounter at home station (Bartone, 2006, p. S133). “These stressors can lead to a variety of negative health consequences, both physical and mental, for exposed individuals” (Bartone, 2006, pp. S132-S133). To reduce the cases of PTSD and suicides in the combat zone, leaders must have a keen understanding of physiological and psychological effects of sustained stress on deployed Soldiers. According to Bartone (2006):

Extensive research with U.S. military units deployed to Croatia, Bosnia, Kuwait, and Saudi Arabia from 1993 to 1996, including interviews, observations, and survey data aimed to identify the primary sources of stress for Soldiers on operations...(found that)...there are five primary psychological stress dimensions in modern military operations. (pp. S133-S134)

These psychological stressors, coupled with the increase frequency and length deployments due to lower troop levels and higher troop commitments, ultimately combine to create a sixth dimension called “workload” as depicted in Table 2. (Bartone, 2006, p. S134). According to the Department of the Army (2010), “increasing awareness of potential risk factors affecting Soldiers will assist leaders and program/service providers to make timely and effective interventions” (p. 26).

Table 2. Primary Stressor Dimensions in Modern Military Operations (From Bartone, 2006, p. S134)

Stressor	Characteristics
1. Isolation	Remote location Foreign culture and language Distant from family and friends Unreliable communication tools Newly configured units, do not know your coworkers
2. Ambiguity	Unclear mission or changing mission Unclear rules of engagement Unclear command or leadership structure Role confusion (what is my job?) Unclear norms or standards of behavior (what is acceptable here and what is not?)
3. Powerlessness	Movement restrictions Rules of engagement constraints and response options Policies preventing intervening, providing help Forced separation from local culture, people, events and places Unresponsive supply chain – trouble getting needed supplies and repair parts Differing standards of pay, movement, behavior, etc., for different units in the area Indeterminate deployment length – do not know when we are going home Do not know or cannot influence what is happening with family back home
4. Boredom (Alienation)	Long periods of repetitive work activities without variety Lack of work that can be construed as meaningful or important Overall mission or purpose not understood as worthwhile or important Few options for play and entertainment
5. Danger (Threat)	Real risk of serious injury or death, from: Enemy fire, bullets, mortars, mines, explosive devices, etc. Accidents including “friendly fire” Disease, infection, toxins in the environment. Chemical, biological, or nuclear material used as weapons
6. Workload	High frequency, duration, and pace of deployments Long work hours and/or days during the deployments Long work hours and/or days in periods before and after deployments

Due to “operational and security concerns,” deployed Soldiers have more restrictions than choices (Bartone, 2006, p. S135). Restrictions on dress, behavior, communication, movement, and interaction with the indigenous population can add to a Soldier’s feeling of powerlessness (Bartone, 2006, p. S135). Additionally, differing standards on length of deployments (4 months to 15 months) between the services, isolation from family and friends, ambiguity of individual roles or unit missions, and boredom associated with operational routines can all add to the stress of deployments for Soldiers and units (Bartone, 2006, p. S135). According to Barnes (2010), “U.S. Army data also shows (that) the suicide rate is higher on forward-operating bases where Soldiers have easy access to phones and computers with which to call home, and lower in more primitive outposts” (p. A3). Because of this easy access to stressors of home, Soldiers must not only deal with the separate stressors of deployment, but must also deal with the family, financial, children, and or personal relationship problems back home with which they have no ability to influence (Barnes, 2010, p. A3).

Soldiers deployed in support of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF), too, experience danger and the potential for random acts of terror as part of an occupational safety hazard on a daily basis. Acts such as Improvised Explosive Device (IED) attacks, suicide bombings, and sniper and mortar attacks all have a potential for physical and psychological damage that disrupts the routine operation and lessens the combat effectiveness of individual Soldiers and units. According to Schouten, Callahan, and Bryant (2004), “violence, regardless of fatalities” can produce fear and expectant reactions predictive of “psychological and somatic symptoms” as well as other negative effects such as “decreased productivity, job neglect, decreased performance and job dissatisfaction” (p. 230). According to Schouten et al. (2004), there is “especially compelling evidence that people who have witnessed intentionally violent deaths, as well as colleagues of the victims, experienced intense, prolonged symptomatology (anxiety, depression, and PTSD)” (p. 230).

The increased frequency, length, and high Operations Tempo (OPTEMPO) of deployments that individual Soldiers and military units experience, too, can have a negative effect on health. According to Bartone (2006), “increased deployments entail

other stressful changes in military units as well, such as an increased number (and intensity) of training exercises, planning sessions, and equipment inspections, all of which increase the workload and pace of operations” (p. S133). Furthermore, he states that “more frequent deployments also involve more family separations, a recognized stressor for Soldiers” (p. S133). This stressor is not only while deployed, but Soldiers experience this separation in Garrison as well during train up for deployments and after deployments as Soldiers “work overtime to assure all vehicles and equipment are properly cleaned, maintained, and accounted for” (Bartone, 2006, p. S135). These stressors paired with the overall increased pace can cause Soldiers to burn out and suffer from “work related sleep deprivation” if not properly managed by leaders (Bartone, 2006, p. S136). While all of the major stressors outlined in Table 1, are spoken of individually, the truth is that each of these stressors interact and overlap one another and leaders must be concerned with the cumulative effect of the multiple stressors on their Soldiers and units.

Along with these psychological stressors, deployed Soldiers also must deal with the physiological effects of sustained stress on both their physical and mental health. According to an article published in the American Journal of Public Health (2010), for Soldiers returning from Iraq and Afghanistan “studies report rates of post-traumatic stress disorder (PTSD)...ranging from 4% to 31% and rates of depression ranging from 3% to 25%” (Kline et al., 2010, p. 276). Additionally, according to Kline et al., (2010), the Office of the Army Surgeon General reports:

Mental health problems in 11.9% of those (Soldiers) with 1 deployment, 18.5% with 2 deployments, and 27.2% with 3 or 4 deployments. National Guard and Reserve troops are more vulnerable than active-duty troops, with 35.5% of Guard troops at mental health risk 6 months after deployment compared with 27.1% of active duty Soldiers. (p. 276)

Furthermore, Kline et al. (2010) state that the physical effects of deployments range from wounds suffered in combat (39,885 service members wounded as of September 4, 2010 according to the Defense Manpower Data Center, 2010a,b) to “orthopedic injuries” with pain being the most commonly reported symptom (p. 276).

While individuals deal almost exclusively with stressors, groups and organizations collectively deal with environmental changes that cause stress on the organization. Examples of this in a business context could be the reactions of organizations to changing market conditions. In a military operational context, this could be referred to as a units' reaction to changes in the operational and tactical environments. In this context, however, the stressors of individual members cannot be marginalized or ignored since the pejorative affects of stress on individual performance will ultimately affect the collective performance, competence, and capability of the group. The question then becomes, what tools, strategies, or theories can be applied to assist individual Soldiers and military units in building resilience in an effort to effectively cope with stress (Bartone, 2006, p. S136)?

1. Reactions To and Coping With Stress

Resilience is defined as “the capacity for adaptability, positive functioning, or competence following chronic stress or prolonged trauma” (Sutcliffe & Vogus, 2003, p. 96). While some people are predisposed to react negatively to stressful situations:

For others, stress is experienced more favorably. Their physical condition, personality characteristics, and social support mechanisms mediate the effects of stress and produce resiliency, or the capacity to cope effectively with stress. (Whetten and Cameron, 2002, p. 107)

For those individuals that react positively in stressful situations, their resilience in essence shields them from the negative physiological and psychological effects of the stressors that they encounter (Whetten & Cameron, 2002, p. 108).

According to Whetten and Cameron (2002), strategies to eliminate or mitigate stress fall into three major categories called enactive, proactive and reactive (p. 108). Enactive strategies seek to “create, or enact a new environment for the individual that does not contain the stressors” (p. 108). This may be the very best situation for Soldiers who are immediately at risk for harming themselves or others, but the realities of political, tactical and strategic necessity may not allow for the vast majority of Soldiers under stress, to be removed from the stressful conditions and situations experienced in the combat zone. In his research, British psychiatrist Michael Rutter, stated that “the

promotion of resilience does not lie in the avoidance of stress, but rather in encountering stress at a time and in a way that allows self-confidence and social competence to increase through mastery and appropriate responsibility” (Almedom, 2005, p. 259).

The “next best alternative, therefore, is to develop a greater capacity to withstand the negative effects of stress and to mobilize the energy generated by stressors” (Whetten & Cameron, 2002, p. 109). This is where proactive strategies come in. Proactive strategies are designed to allow individuals to “enhance their overall capacity to handle stress by increasing their personal resiliency” (p. 108). This in turn provides individuals with greater internal reserves allowing them to effectively resist the negative physiological and psychological effects of stress (pp. 108–109).

The last types of strategy to eliminate or mitigate stress are called reactive strategies. According to Whetten and Cameron (2002), reactive strategies are immediate or “on the spot remedies to reduce temporarily the effects of stress” (p. 108). The problem with reactive strategies, however, is that the effects on reducing stress are short lived, and need to continually repeated, can be “habit forming,” and can create a “vicious cycle” (pp. 108-109).

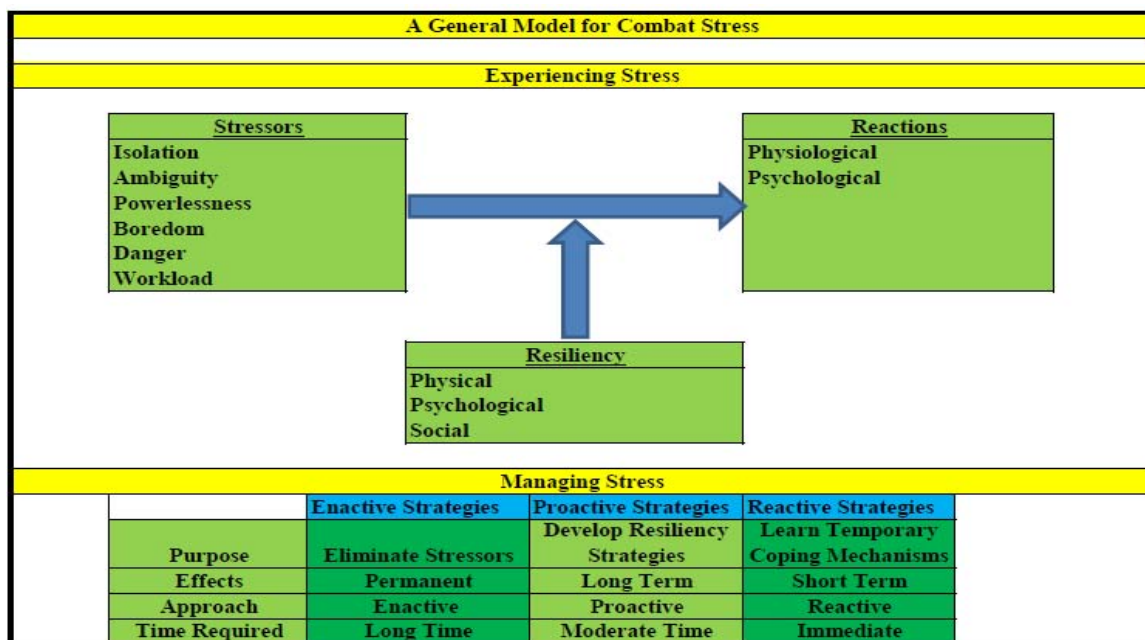


Figure 3. A General Model for Combat Stress (After Whetten & Cameron, General Model for Stress, 2002, p.107).

However, effectively dealing with stressors alone is not resilience, but merely one of the desired components of resilience. According to Robert H. Pietrzak (2010),

An understanding of associations between resilience, social support, PTSD and depressive symptoms, and functioning in OEF/OIF veterans is important, as it may help guide the development of interventions to enhance resilience and support, and promote successful readjustment to civilian life after deployment. (p. 189)

For Soldiers deploying to, engaged in, and returning from combat operations, enactive and reactive strategies to reduce stressors are not sufficient to build long-term resilience and sustainability for Soldiers and units in combat. This is because under enactive strategies, operational conditions may not always permit for Soldiers under duress to be removed from the combat zone (i.e., away from the stressor) and reactive strategies only provide temporary relief from stress. Therefore, units must strive to mitigate stressors through proactive strategies that develop coping mechanisms, build resilience, and enhance the long-term capacity of individual Soldiers and military units to deal with future stressors.

C. ARMY MODELS AND PROGRAMS FOR COMBAT STRESS

1. Combat and Operational Stress Effect Model

In their article, “Building Psychological Resiliency and Mitigating Risks of Combat and Deployed Stressors Faced by Soldiers,” Castro and Hoge (2005), of the Walter Reed Army Institute of Research, state that “combat is arguably the most mentally, physically, and emotionally demanding enterprise that a Soldier engages in” (p. 13-1). This is because a Soldier in combat could potential face a myriad number of combat stressors and potentially traumatic events (PTE) that can “significantly impact the unit or the Soldiers experiencing them” (Department of the Army, 2009, p. 1-2). The Department of the Army (2009), defines a PTE as “an event which causes an individual or group to experience intense feelings of terror, horror, helplessness, and or hopelessness” (p. 1-3).

From a military perspective, units that deploy to combat are exposed to a military specific set of stressors that are experienced before, during, and after combat operations.

(Department of the Army, 2009, p. 1-3). Combat stressors, and PTEs can combine to induce combat operational stress behaviors (COSB) or behavioral reactions that can be either positive adaptive stress reactions which “enhance individual and unit performance” or negative combat operational stress responses (COSR) which are easily discernible reactions experienced immediately following a traumatic event (Department of the Army, 2009, pp. 1-3–1-5). Examples of COSRs include “panic,” “anxiety,” and or “depression” (Department of the Army, 2009, p. 1-4).

Postcombat and operational stress describes a robust range of stress reactions that “may be experienced weeks or even years after combat and operational stress exposure” (Department of the Army, 2009, p. 1-4). These reactions range from positive outcomes or post-traumatic growth (PTG) as a result of stress exposure (Department of the Army, 2009, p. 1-4). Examples of PTG include “improved relationships,” and an “enhanced sense of personal strength, and spiritual growth (Department of the Army, 2009, p. 1-5). They too, however, may result in negative outcomes ranging from “mild COSR” to “more severe symptoms associated with PTSD” (Department of the Army, 2009, p. 1-5).

The Combat and Operations Stress Effects Model, depicted in Figure 4, looks at how combat and operational stressors and PTEs result in positive adaptive reactions or PTG or negative reactions associated with COSR and or PTSD (Department of the Army, 2009, p. 1-5).

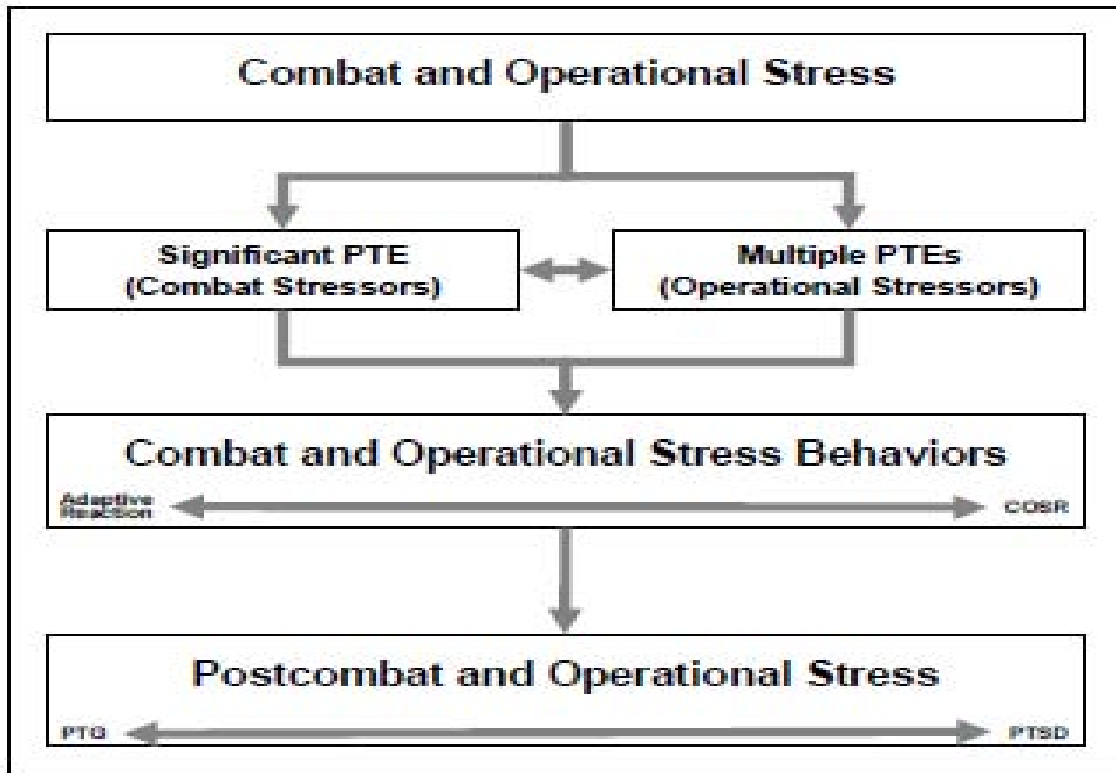


Figure 4. Combat and Operational Stress Effect Model (From Department of the Army, 2009, p. 1-5).

2. Soldier Combat and Well-Being Model

Appearing in the 2009 Mental Health Advisory Team VI reports on both Iraq and Afghanistan, the Soldier Combat and Well Being Model depicted in Figure 5 contains the elements identified in the Soldier Well Being Survey which was adapted from the Land Combat Study conducted by Walter Reed Army Institute of Research (WRAIR) (Office of the Surgeon General, 2009a, 2009b, p. 12). The concept behind the model is that “Behavioral Health (BH) rates are driven by risk factors” that can be broken down into three major categories (Office of the Surgeon General, 2009a, 2009b, p. 12). These factors are then subsequently potentially reduced by identified resilience factors and the outcome is either an observable increase or decrease in the Behavioral Health (BH) category. This model is similar to the General Model for Combat Stress identified in Figure 3. However, it fails to identify the type and length of available strategies and coping mechanisms.

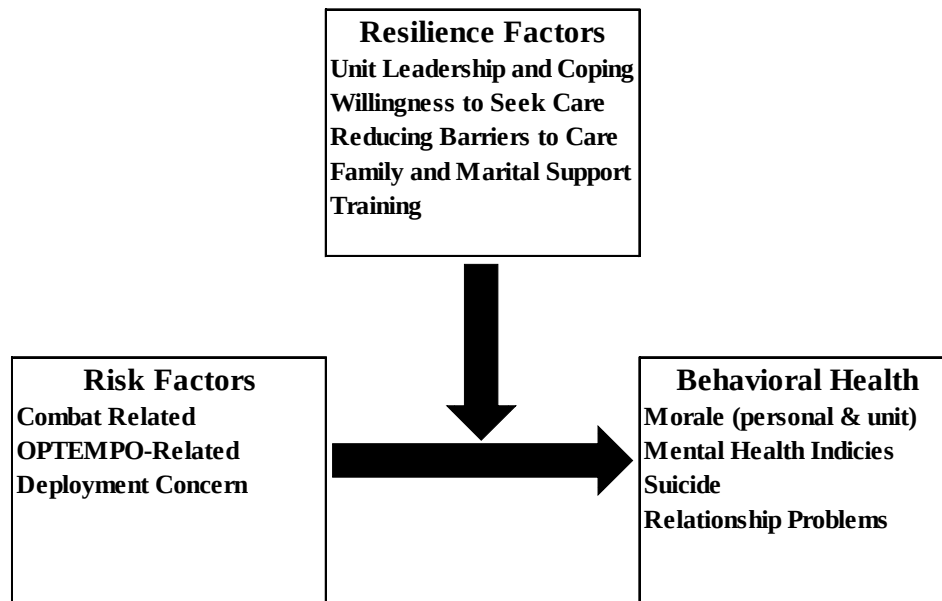


Figure 5. Soldier Combat and Well-Being Model (From Office of the Surgeon General, 2009a, 2009b, p. 12).

3. Battlemind Training

The Department of the Army, too, has recognized the need to build resiliency in both individual Soldiers and combat units in an effort to improve the mental health and sustainability of Soldiers and units in combat. In order to do so, the U.S. Army implemented a “psychological resiliency building program” called Battlemind in 2007 (Department of the Army, 2009, p. 3-8 and Addler, 2009, p. 1). According to the Department of the Army (2010), “programs and services that promote resiliency are key to decreasing suicidal and high risk behavior and ensuring personnel readiness” (p. 3).

Battlemind, is a term that “describes the Soldier’s inner strength and courage to face fear and adversity during combat and speaks to resiliency skills that are developed to survive” (Department of the Army, 2009, p. 3-8). When the term Battlemind is used as an acronym, it identifies the following 10 combat skills:

Buddies (Cohesion)

Accountability

Targeted Aggression

Tactical Awareness

Lethally Armed

Emotional Control

Mission Operational Security

Individual Responsibility

Non-defensive Combat Driving

Discipline and Ordering (Department of the Army, 2009, p. 3-9)

According to the Department of the Army (2009), “Battlemind training is designed to prevent or reduce the severity of combat related BH problems through a strength based approach” rather than focusing on the “negative effects of combat” (p.3-8). This is because “individuals experiencing positive emotions, compared to neutral emotions,” recover more “rapidly from a negative emotional state” (Rhee, n.d., p. 1).

The training itself, is a module based training program for “Soldiers, leaders and United States Army Reserve (USAR) Soldiers” administered both pre and post deployment (Department of the Army, 2009, p. 3-8). Pre-deployment Battlemind training is focused on building “self-confidence and mental toughness” while simultaneously identifying individual and leader actions necessary to combat stress (Department of the Army, 2009, pp. 3-8–3-9). Post deployment training conversely focuses on transitioning the Soldier back to the Garrison elements of civilian life through training on “safety, relationships” and “common reactions and symptoms from combat” as well as “addressing barriers which prevent Soldiers from seeking help” (Department of the Army, 2009, p. 3-9).

4. Comprehensive Soldier Fitness (Csf) Program

The Army, too, has continued to spend significant time and resources in research and programs to prevent suicide, PTSD and potentially fatal risk behaviors that often result in “equivocal deaths” (Department of the Army, 2010, p. 1). This research has led to a “holistic and multi-disciplinary approach” to address these risks not only for deployed Soldiers, but Soldiers in Garrison as well (Department of the Army, 2010, p. i).

In an effort to improve upon the Battlemind training system, the Department of the Army established the Directorate of Comprehensive Soldier Fitness (CSF) as part of the Army G3/5/7 in October of 2008.

The leading effort in this new campaign, that focuses on the mental fitness of Soldiers and how the Army addresses “cumulative stress on the force,” is the “Comprehensive Soldier Fitness” (CSF) program (Department of the Army, 2010, p. iii). According to the Department of the Army (2010), “the overarching goal of this concerted effort is to increase the resiliency in our Soldiers and Families who continue to serve under high operational tempo” daily (Department of the Army, 2010, p. iii). The program itself, takes a lifelong learning approach to resilience, by recognizing that resilience is not built on a single class, event, or experience, but must be developed continuously over time (Department of the Army, 2010, p. 32). The program focuses on “five dimensions of strength” as depicted in Table 3 (physical, emotional, social, spiritual, and family) and utilizes “individual assessments, tailored with virtual training, classroom training, and embedded resilience experts” in order to provide Soldiers with the tools and training necessary to face the “physical and psychological demands of sustained combat operations” (Department of the Army, n.d., p. 1).

Table 3. Five Dimensions of Strength (From Department of the Army, n.d., p. 1).

Dimension	Goal
Physical	Performing and excelling in physical activities that require aerobic fitness, endurance, strength, healthy body composition and flexibility derived through exercise, nutrition and training.
Emotional	Approaching life’s challenges in a positive, optimistic way by demonstrating self-control, stamina and good character with choices and actions.
Social	Developing and maintaining trusted, valued relationships and friendships that are personally fulfilling and foster good communication including a comfortable exchange of ideas, views and experiences.
Spiritual	Strengthening a set of beliefs, principles or values that sustain a person beyond family, institutional and societal sources of strength.
Family	Being part of a family unit that is safe, supportive and loving and provides the resources needed for all members to live in a healthy and secure environment.

Although there is a program in place in the Army to instill resilience in Soldiers and combat units, the steady rise in both suicides, PTSD and mental health problems coupled with the decrease in unit morale since the onset of the wars in Iraq and Afghanistan, warrants an additional look how to build resiliency in Soldiers and units (Office of the Surgeon General, 2009a, b). Additionally, while the five dimensions described in the CSF program describes some of the components desirable for personal resilience, dimensions for units and organizations are non-existent. Furthermore, from this perspective, what is lacking for military units is an assessment tool that allows leaders to evaluate the level of resilience in their units (at the group and organizational level) before, during, and after operational (combat) deployments.

D. RESILIENCE

1. Overview

A review of the literature on resilience, offers several different views on what resilience is, and how it is ultimately defined. These conflicting views on resilience lay largely in how different academic, social science, and psychology fields define how individuals, groups, and organizations react to and deal with stressors as well as an apparent discrepancy between if resilience is a process or a personality trait (Sutcliffe & Vogus, 2003, pp. 94–110). Furthermore, while the prevailing literature on resilience at the organizational level is based upon studies related to business and organizational theory, even the studies of resilience above the individual level cannot agree upon what it is, and what its characteristics are. According to Altman-Dautoff (2001), although studies on organizational resilience have been going on for decades, researchers have not reached a consensus on the following:

1. An agreed-upon definition of organizational resilience
2. The key characteristics that must be present in order for an organization or an individual team to adapt to change in a resilient manner (p. 4)

There are numerous theories about what characteristics, conditions and or attributes are necessary for resilience to thrive and grow in individuals, groups, and

organizations. Although these theories vary in different ways, themes about what is necessary for resilience to thrive can be found throughout the literature. (Altman-Dautoff, 2001; Comfort, 1994; Coutu 2002; Hills, 2000; Jarrett, 1997; Lengnick-Hall 2010; Perez-Sales et al. 2005; Pietrzak, 2010; Powley, 2009; Redman, 2005; Rhee, n.d; Sutcliffe & Vogus, 2003; Wybo 2004). We will look into these differing views and themes in the paragraphs to follow.

2. Defining Resilience

Resilient individuals, groups and organizations face the same stressors, challenging conditions and harsh environments daily that non-resilient individuals, groups and organizations do. However, according to Altman-Dautoff (2001), “they typically regain their equilibrium faster, maintain higher levels of productivity and quality in their work, preserve their physical and emotional health, and achieve more of their objectives” (p. 16). Additionally, their capacity to handle future challenges and times of uncertainty is increased every time they successfully overcome an obstacle.

According to Coutu (2002), academic research in the field of resilience began in the early 1960’s with the study of children with schizophrenic parents (p. 47). The focus of these early studies was to determine why children of schizophrenic parents “did not suffer psychological illnesses as a result of growing up with them” (p. 47). These early studies too, focused on resilience as a personality trait and the children deemed to possess this quality were called “invulnerable,” or “stress resistant,” however, agreements that the term invulnerable, “promised more than it provided” led to “resilient” becoming the most agreed upon term to describe them (Altman-Dautoff, 2001, p. 20; Sutcliffe & Vogus, 2003, p. 99). Overtime, as the study of resilience expanded into different fields of study, with different perspectives on human interaction, it has focused on resilience as a process vice a personality trait (Sutcliffe & Vogus, 2003, p. 100). This expansion too, resulted in several differing views and definitions of resilience (Altman-Dautoff, 2001; Comfort, 1994; Coutu 2002; Hills, 2000; Jarrett, 1997; Lengnick-Hall 2010; Perez-Sales et al., 2005; Pietrzak, 2010; Powley, 2009; Redman, 2005; Sutcliffe & Vogus, 2003; Wybo 2004).

According to Lengnick-Hall (2010), resilience can be defined as “the ability to rebound from unexpected, stressful, adverse situations and pick up where they left off” (p. 2). This view of resilience is very similar to American political scientist Aaron Wildavsky’s view that “resilience is the capacity to cope with unanticipated dangers after they have become manifest, learning to bounce back” (Comfort, 1994, p. 157; Sutcliffe & Vogus, 2003, p. 96). And very similar to one outlined in organizational theory which defines resilience as “(1) the ability to absorb strain and preserve (or improve) functioning despite the presence of adversity or (2) an ability to recover or bounce back from untoward events” (Sutcliffe & Vogus, 2003, p. 96). Similarities can also be found in the definition of resilience in political and crisis management which states that “resilience implies an ability to resume an original position after crisis and an adaptability contingent on proven usefulness within a specific environment” (Hills, 2000, p. 117). According to Lengnick-Hall (2010), this particular view of resilience is “often tied to hardiness” or the “ability to react to stressful events with adaptive interpretations and actions” (p. 2). This adaptive view, too, is similar to one offered by Robert Pietrzak (2010) who defined resilience as “an individual’s capacity to successfully adapt to change in the face of adversity” and one offered by Perez-Sales, Cervellon, Vazquez, Vidales, and Gaborit (2005), in their article *Post-traumatic Factors and Resilience*, which defined resilience as “successful adaptation to stressful situations despite risk and adversity” (Pietrzak, 2010, pp. 188–189; Perez-Sales et al., p. 380). All of these views on resilience emphasize coping strategies that allow individuals, groups, and organizations to maintain high levels of performance in stressful situations and return to normalcy after the situation has passed “while simultaneously avoiding or limiting dysfunctional or regressive behaviors” (Lengnick-Hall, 2010, p. 2).

A contrasting view of resilience in the field of psychology defines resilience as “a personality characteristic of the individual or as a set of traits encompassing general sturdiness and resourcefulness and flexible functioning in the face of challenges” (Sutcliffe & Vogus, 2003, p. 96). Similarly, South African Psychologist Strumpfer (1995), defined resilience as “a pattern of psychological activity which consists of a motive to be strong in the face of inordinate demands” (Almedom, 2005, p. 258).

According to Sutcliffe and Vogus (2003), defining resilience as a personality trait, rather than a process, may undermine our understanding of resilience and introduce stereotypes that “some individuals do not have what it takes to overcome adversity” (p. 96). It is for this reason that the psychological perspective is not adequate to use for group or organizational resilience as it exclusive in nature, and ignores the fact that the nature of groups, teams, and organizations is inclusive, and that their success or failure is measured as a whole or entity, and not as the sum of the individuals that they are made of.

Another view of resilience is derived from research in child and family development and defines resilience as “the capacity for adaptability, positive functioning, or competence following chronic stress or prolonged trauma” (Sutcliffe & Vogus, 2003, p. 96). According to Sutcliffe and Vogus (2003), resilience from a developmental perspective is not the result of successfully reacting to a single stressful situation, but as the result of dealing with and handling stress overtime and emerging from each stressful situation stronger and more capable to deal with future stressors, situations and challenging conditions (pp. 96–97). This is because, resilience from this perspective is seen as an iterative, lifelong and developmental process in which each stressful experience or situation conquered adds to the capability of the individual, group, or organization’s to handle future stress (Sutcliffe & Vogus, 2003, p. 97). According to Sutcliffe and Vogus (2003), this perspective of resilience is closely linked to adaptability but also “recognizes both the possibility of fallibility and the probability of successful coping” (p. 97). Because of this realistic and lifelong learning approach to dealing with stressors, for the purpose of this paper, we will adopt the developmental perspective of resilience and define resilience as “the capacity for adaptability, positive functioning, or competence following chronic stress or prolonged trauma” (Sutcliffe & Vogus, 2003, p. 96).

3. Individual Resilience

Resilience, too, is a tiered process whose make-up, characteristics, attributes, and requirements to grow vary at different levels of organizational structure. Individual resilience can be defined as “an individual’s ability to resist or effectively cope with

stressors, to tolerate risks, and to be flexible and confident of his or her ability to successfully deal with such situations with minimal untoward effects” (Altman-Dautoff, 2001, p.11). Put simply, individual resilience can be summarized as an “individual’s ability to positively respond to stressful situations” (Jarrett, 1997, p. 219).

In order for an individual to be resilient in this context, he or she must have access to interpersonal and group interactions, as well as personal experiences and resources that enhance their “growth, competence/expertise and efficacy,” which will ultimately provide them with motivation allowing them to “succeed in their future endeavors” (Sutcliffe & Vogus, 2003, pp. 100, 106). From this perspective, individual resilience is seen as a lifelong “dynamic process that varies between individuals and overtime within individuals” (Jarrett, 1997, p. 219). According to Doe (1994), this is because “resilient individuals view change as an opportunity to grow, learn and achieve new results rather than as a threat to themselves or their environment” (p. 23). This in turn allows resilient individuals the ability to effectively use stressful situations to increase their knowledge base and ability to effectively cope in future situations through flexible responses and adaptations (Altman-Dautoff, 2001, pp. 11, 19). According to Jarrett (1997), “resilient individuals have a lowered susceptibility to risk and are characterized by a relatively consistent pattern of successful coping” (Jarrett, 1997, p. 219).

Understanding individual resilience is important because the interaction of organizational members is the building block for group level and organizational resilience (Lengnick-Hall, 2010, p. 2). It is also important because “a resilient organization requires a resilient workforce” (Doe, 1994, p. 23).

4. Group Resilience

According to Sutcliffe and Vogus (2003), there are similarities between individual and group level resilience in that both “focus on factors that promote competence, encourage growth, and restore efficacy” (p. 101). Group level resilience, however, focuses on the collective ability of the group to learn new skills, build collective efficacy, and positively adapt and adjust to change, challenging conditions, environments, and stressors over the long-term (Sutcliffe & Vogus, 2003, pp 101–103). Group resilience is

nested in the ability of the group to improve as a whole through the collective enhancement of group knowledge and experience, through organizational learning coupled with adequate resources to overcome obstacles (Sutcliffe & Vogus, 2003, p. 106). This would in turn provide a group, or small unit with a diverse repertoire of capabilities and competences with which to respond to adverse situations (Sutcliffe & Vogus, 2003, pp 101–103).

According to Wybo (2004), organizational learning is “is paramount for groups trying to build resilience” (Wybo, 2004, p. 32). The key, according Redman (2005), is that groups remain focused; goal oriented, and utilizes the knowledge, information and experiences gained from adverse situations to improve organizational learning and move the group towards their desired end-state (Redman, 2005, p. 74).

In sum, processes that promote competence, enhance human, social, and material assets (e.g., learning capabilities) and reduce risks or stressors (i.e., the more skills the group can leverage, the less they stress) increase the likelihood of positive adjustments because they enhance a groups capability to register and handle complexity and increase their motivation and persistence in handling challenges. (Sutcliffe & Vogus, 2003, p. 102)

5. Organizational Resilience

In the context of resilience, organizations are simply collections of individuals and groups whose competence, efficacy, skills, knowledge and resilience capacity adds to the collective capacity of the organization through complex social interactions (Lengnick-Hall, 2010, pp. 3–4). According to Altman-Dautoff (2001), organizational resilience can be defined as “an organization’s ability to absorb intense levels of change with a minimum display of dysfunctional behavior while maintaining high levels of performance and continuing to make use of the system’s assets” (p.12). Put simply, “researchers use the term resilience (in this context) to qualify the ability of organizations to resist dangerous situations with the minimum of damage” (Wybo, 2004, p. 26). Similar to group level resilience, organizational resilience processes strive to improve an organization’s efficacy, competence, growth, and overall learning ability “through enhancing the ability to quickly process feedback and flexibly rearrange or transfer knowledge and resources to deal with situations as they arise” (Sutcliffe & Vogus, 2003,

pp. 103-104). This is because “the experience gained by people in crisis situations is invaluable source of information for organizational learning” (Wybo, 2004, p. 33). To do so, however, takes a long-term and often lifelong perspective which “can identify which of many seemingly beneficial near-term actions truly contributes to long-term resilience and recognize how some seemingly rational choices lead, in the end, to undesirable outcomes” (Redman, 2005, p. 71).

6. Characteristics of Resilience

Although resilience can assist in ensuring the longevity of groups and organizations in adverse environments, groups still require structure to effectively operate with minimal dysfunction under challenging conditions. To do so, they must be organized in a way that provides guidance, direction, and proper allocation of resources to accomplish the goals of the organization while simultaneously meeting the needs of its members. From this perspective small units or groups are seen as “micro-systems” that operate within the larger “macro system” of the organization (Altman-Dautoff, 2001, p. 32). As reported by Altman-Dautoff (2001), functional theory, which originally appeared in Parsons (1951) *The Social System*, hypothesized that the “following characteristics must exist in fully functioning groups or organizations in order for them to survive”:

There must be a set of values that defines the overall meaning and purpose which guides the groups work

The group must have adequate resources available to meets its goals.

The roles of group members must be clear, and the members must see value in the work that they are doing.

There must be adequate coordination in the form of leadership to ensure that the resources are available and used by the group to support them in attaining their goal (Altman-Dautoff, 2001, p. 32).

In short, this theory ties the individual roles and responsibilities of leaders and group members to the overall goals of the group or organization.

Therefore, based on the preponderance of research on resilience coupled with functional theory; for the purpose of this paper, we will define the characteristics of resilient groups/organizations as: *concerted leadership, adequate resources, enhancement of organizational learning, flexibility/adaptability in the face of adversity, and goal oriented.*

Unit Resilience Characteristic	Description
Concerted Leadership	• Providing guidance direction and proper allocation of resources to accomplish group/organizational goals with minimal dysfunction as well as skillfully building teams capable of facing adversity
Adequate Resources	• To include human, social support, emotional and material capital necessary to overcome obstacles, encourage growth, and improve competence and efficacy
Organizational Learning	• Accumulating knowledge, enhancing competences, & increasing efficacy through processes that increase the capability of the group to handle future stressful situations and environments
Flexibility/ Adaptability in the Face of Adversity	• Ability to adapt, improvise and provide flexible responses to adverse situations that do not waste the units resources
Goal Oriented	• The unit contains a common set of values and moves collectively towards a common goal

Table 4. Group/Organizational Resilience Characteristics

These five characteristics are necessary for groups/organizations to build resilience, by enhancing the collective ability of the group to learn new skills, build collective efficacy, and positively adapt and adjust to change, challenging conditions, environments, and stressors over the long-term (Sutcliffe & Vogus, 2003).

III. ASSESSMENT TOOL DIMENSIONS

A. OVERVIEW

Any effective program to mitigate or eliminate stressors, suicide, post-traumatic stress disorder (PTSD) and build unit resilience for complex and arduous combat environments, must begin with planning, assessment and monitoring conducted at pre-established intervals before, during, and after deployments. Implementing a process at the unit level would involve discernible leadership and the availability of an assessment tool to determine the current level resilience in the unit and identify areas of concern or emphasis for leaders. Additionally, if properly utilized an assessment tool could assist leaders in improving the overall effectiveness and sustainability of our Soldiers and units in combat, as well as assist them in mitigating or eliminating stressors, suicides and the effects of PTSD on deployed Soldiers and for Soldiers returning from deployments.

It is recommended that such a tool, be used in conjunction with a command climate survey and a Unit Behavioral Health Needs Assessment Survey (UBHNAS). This is because the combined picture of these three tools would provide a commander with an invaluable overall assessment of unit moral, training, readiness and discipline concerns coupled with the Behavioral Health (BH) and resilience needs of the organization. Conducting a resilience assessment in conjunction with these other tools would also minimize the training and operational distracters for the unit preparing for, returning from, or engaged in combat operations.

B. GUIDELINES FOR ASSESSING RESILIENCE

In order to properly develop a unit level resilience assessment tool that can be integrated with existing Army tools (such as the Command Climate survey or UBHNAS), survey questions must be developed that coincide with the five group/organizational resilience characteristics identified in the prevailing literature (concerted leadership, adequate resources, enhancement of organizational learning, flexibility/adaptability in the face of adversity, and goal oriented), as well as, a tool to mathematically measure and score the results. One possible solution is that survey questions on resilience (see the

Appendix for sample survey questions) could be added to existing tools and scored separately, or a separate survey could be conducted in conjunction with the other tools. Additionally, survey questions developed, must be unbiased and not lead Soldiers towards negative responses or incite perceived symptoms or conditions in the voluntary respondents. Furthermore, the following basic survey guidelines must be followed to get the best benefit out of the conducted survey:

- The survey can be command directed, (i.e., attendance to the survey is mandatory) however, responses to the survey must be voluntary in order to receive candid results.
- The survey must be anonymous and leaders must respect the anonymity of the respondents.
- The commander at the level that the survey was conducted owns the results and any associated data with the survey (similar to command climate survey) for his action. However, mathematical results by unit, type, deployment length, frequency, and location could be maintained by the Office of Comprehensive Soldier Fitness (CSF) for trend analysis and program improvement.
- Mathematical results of the survey should be presented to the unit commander by the local Master Resilience Trainer for area of emphasis evaluation, education and recommended training and resource allocation.

What must not be lost in the administering of the results of the survey is that the purpose of the tool is to let leaders know the current resilience status of their organization, in order to target areas of emphasis for training, education, resource allocation or intervention in an effort to safeguard the lives and mental state of the Soldiers under their command. The areas of emphasis (or group/organizational resilience characteristics) are explained in detail in the paragraphs below.

C. THE FIVE DIMENSIONS OF RESILIENCE

1. Concerted Leadership

Leadership is arguably one of the most deterministic factors of the success or failures of organizations (Pearman, 2000). Resilient leaders provide purpose, guidance, motivation, and direct the allocation of key resources to accomplish the goals of the organization while simultaneously limiting dysfunction and promoting organizational

values, learning, growth, and efficacy (Altman-Dautoff, 2001; Lengnick-Hall, 2010; Sutcliffe & Vogus, 2003). They also skillfully build teams that can handle adversity without a drop in performance through training, education, experience, and provide flexible/adaptable responses in crisis situations (Altman-Dautoff, 2001; Perez-Sales et al., 2005; Sutcliffe & Vogus, 2003). According to Pearman (2000), “a study of 937 articles published in every major journal or bulletin” from 1985 to 2000, cited relationship/team building as paramount to the success of organizations. The data from the research also cited lack of the relationship/team building by leaders as the largest indicator organizational failure.

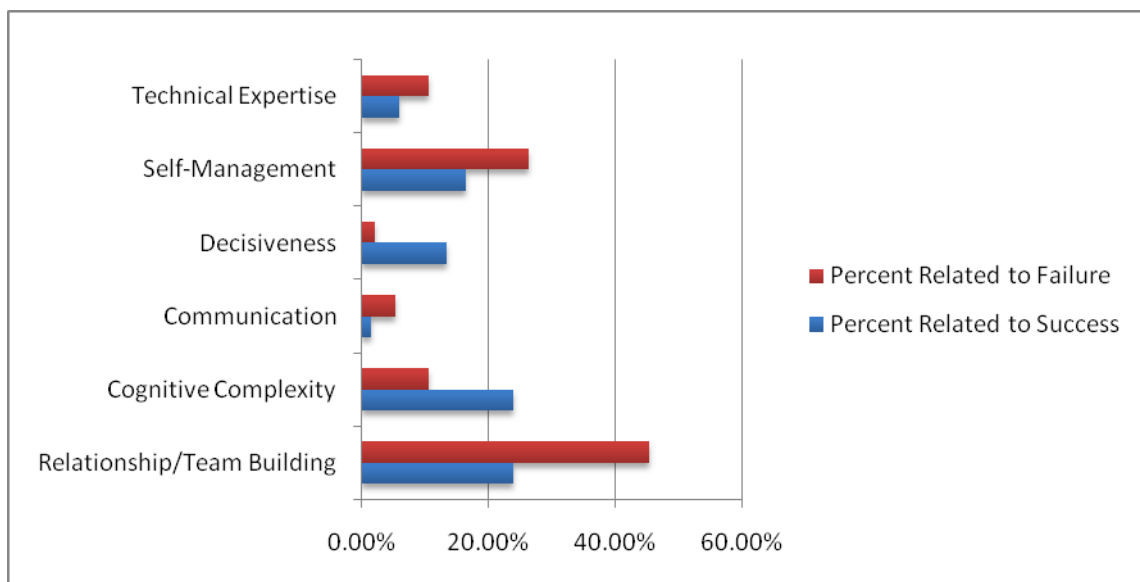


Figure 6. Behaviors Related to Success and Failure in Organizations (From Behaviors that Matter, Pearman, 2000, p. 1).

This underscores the importance of leaders in building teams and developing relationships with subordinates that strengthens unit cohesion and builds trust between leaders and subordinates. Concerted Leadership is a dimension that also improves the resilience and efficacy of organizations while simultaneously contributing to their overall success by binding all resilience factors together (*adequate resources, organizational learning, flexibility/adaptability in the face of adversity, and goal orientation*).

2. Adequate Resources

Organizations, as well as units in combat, must be properly equipped to face adversity. Resources provide the tools to prepare and sustain organizations for long-term adverse environments. Resources can take a myriad number of forms for units and can be strategic/operational resources such as education, training, equipment, personnel, logistic, medical, and or material support. They can also take the form of human/social support such as group interaction, counseling, social programs, Family Readiness Groups (FRG), Behavioral Health (BH) and or religious support. Leaders must be educated on the resources available to their units, as well as, how to request additional resources that are above and beyond their capabilities to provide. They must also foster an environment that encourages service members and their support groups (spouses, family, friends, and fellow Soldiers) to seek support as needed or provide mechanisms to intervene with the necessary resources on the Soldiers behalf. Resources provide groups/organizations with the tools necessary to reduce stress by increasing the groups' capabilities to overcome obstacles, while simultaneously increasing the capability of the group to build and sustain resilience for the long-term (Sutcliffe & Vogus, 2003).

3. Organizational Learning

Organizational learning focuses on increasing the cumulative knowledge, skills, capabilities and efficacy of an organization to accomplish its goals in adverse and challenging environments (Sutcliffe & Vogus, 2003). For military units this could entail battle drills and Military Occupational Specialty (MOS) training necessary to be efficient and effective Soldiers in a combat environment. However, for military units it must also entail the collective knowledge, experience, and coping mechanisms necessary to deal with adverse situations and promote resilience and positive functioning under arduous conditions (Sutcliffe & Vogus, 2003). Organizational learning builds resilience by increasing the units' capabilities and competencies in dealing with adversity, while also promoting growth, improving efficacy, and strengthening the capability of the unit and its members in positively dealing with future adverse environments or challenges. To do so properly, the organizational learning process must include mechanisms to learn

collectively from mistakes (through lessons learned) and adopt a developmental or lifelong learning perspective where each challenge successfully faced adds to the units' collective ability to resiliently face future challenges.

4. Flexibility/Adaptability

Resilient organizations are ones that are able to improvise and provide flexible and adaptive responses to adverse situations. Enabled by concerted leadership and through organizational learning the unit is able learn from past experiences, remain flexible, adapt to changes in their operational environment, and accomplish its goals with minimal dysfunction without wasting the units' finite resources. According Altman-Dautoff (2001), groups and organizations that display "flexibility in dealing with uncertainty" reduce organizational stress by applying approaches to problem solving that allow them to confront, deal with, and overcome obstacles "without being overwhelmed by them" (p. 26).

5. Goal Oriented

In order to be successful and positively function in an adverse environment, groups and organizations must share common values, goals, and a sense of purpose. Sharing common values and goals provides, purpose, organizational worth, and direction in the absence of orders or leadership that assists unit members in proactively accomplishing the goals of organization. Sharing this common focus also contributes to unit cohesiveness by providing a common identity for unit members, reduces ambiguity, and empowers group members to accomplish tasks in line with organizational goals. The explicit and implicit goals of the organizational too, tie to all other characteristics of resilient organizations together as leaders allocate and manage resources, develop the organization, respond to changes in their environment, and promote organizational learning to build resilience in order to meet both goals of the organization and the needs of its members.

While it may be easy see that these five dimensions of resilience are the anti-thesis of the stressors faced by Soldiers in modern military operations. Integrating new

ideas into the framework of any organization takes time and discernable leadership to turn ideas into organizational policies and practice. For that reason, we will also look at leadership in the United States Army.

IV. IMPLICATIONS AND CONCLUSION

A. OVERVIEW

As stated previously, leadership is arguably one of the most deterministic factors of the success or failures of organizations (Pearman, 2000). In resilient organizations, concerted leadership is required to implement, build, foster, and sustain resiliency for the long-term. This quality is a necessary element of resilient leaders and organizations as it binds all other resilience dimensions together. However, from the literature review on resilience and leadership we learn that the qualities in the Army leadership models do not match the qualities necessary to build resilient groups and organizations.

B. LEADERSHIP

Any study of how to build resiliency in small units, must also look at how we lead, and build leaders, in the United States Army. Over the past century, the Army has fought in two World Wars, Korea, Vietnam, Iraq, Afghanistan, and a plethora of smaller conflicts. As we change the way we fight in accordance with (IAW) the Contemporary Operating Environment (COE), we too, have changed the way we lead Soldiers in these conflicts. For decades the Army has incrementally changed their definition of leadership, and continuously refined the attributes, characteristics, competencies, and values desired to make up the ideal Army leader (Fallesen, 2006, pp. 1–8). The reason for this evolution was to ensure that the Army’s leadership, education system, and doctrine continued to produce leaders with the requisite qualities, and skills necessary to face the nations’ current challenges. Over time, these changes have shifted from focusing on what a leader is, or the traits the leader should ultimately possess, to “what leaders should do” (Fallesen, 2006, p. 8). According to Fallesen (2006), this is because of “the belief that leadership skill can be developed and improved but the basic elements of character are needed for ethical and effective decision making” (p. 8).

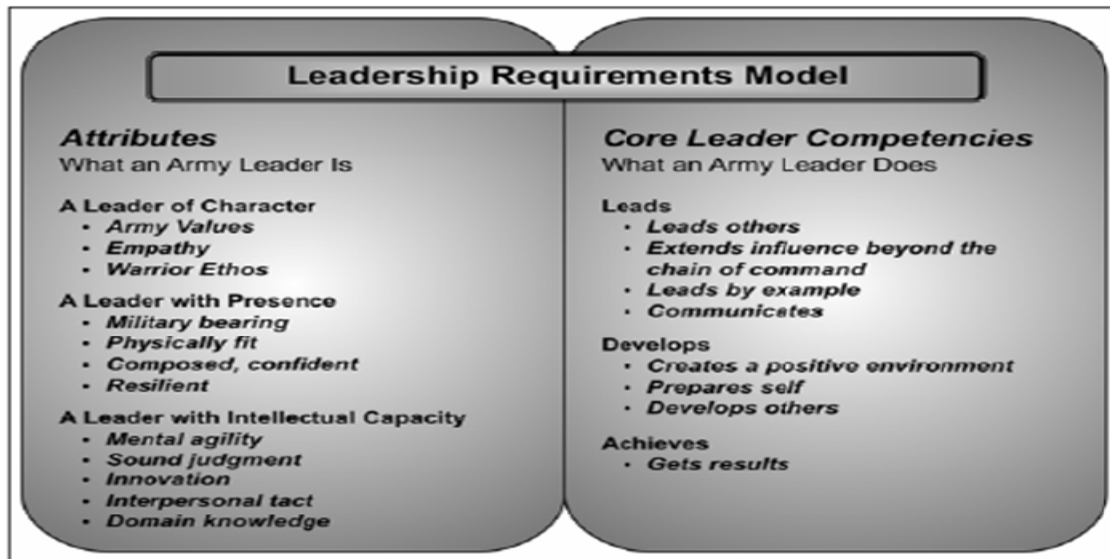


Figure 7. Army Leadership Requirements Model: (From Department of the Army, 2006 p. 2-4).

These changes, however, neither have occurred overnight, nor in a vacuum, as several prominent Army think tanks such as the Army Research Institute (ARI), Center for Army Leadership (CAL), Army Training and Leader Development Panel (ATLDP), the Army War College (AWC), and Center for Army Lessons Learned (CALL), all contributed to the development of the Army's current leadership model as outlined in *FM 6-22 Army Leadership: Competent, Confident, and Agile*.

That being said, leadership in the United States Army is defined as "the process of influencing people by providing purpose, direction, and motivation to accomplish the mission and improving the organization" (p. 1-2). And although this definition, coupled with the Army Leadership Requirements Model in Figure 7, provides a foundation for what a leader is, what a leader should do, and the attributes necessary for ethical and effective decision making. It does not address the specific war fighting competencies necessary for a warrior-leader to operate in the today's Contemporary Operating Environment (COE). This is where the Pentathlete Leadership Model comes in.

1. Pentathlete Leadership Model

The origin of the Army's modern Pentathlete Leadership Model, lies in the history of the ancient Greek pentathlon. The term pentathlon is derived from combining the Greek "words pente (five) and athlon (competition)" (Pentathlon, 2010, p. 1). This competition was introduced "at the 18th Olympiad in 708 B.C." and pitted the finest warriors (the pentathletes) across all of the "Greek city-states" against one another in five events (javelin, discuss, long jump, stadion, and wrestling) that took place in a single day, and was at the time "considered (to be) the ultimate test of military training and ability" (Montague, 2007, p. 2). For the Army, the term "pentathlete leader" was first used by former Army Chief of Staff, General Peter Schoomaker in 2004 to describe the Army as a "high tech sprinter...bogged down in a counterinsurgency marathon (Montague, 2007, p. 1). In 2006, Former Secretary of the Army Dr. Francis Harvey expounded upon this analogy by defining the pentathlete leader as:

A strong multi-skilled leader that first and foremost is a strategic and creative thinker. A builder of teams. An individual that must be a competent full spectrum warfighter, or an accomplished professional supporting that warfighter. (Montague, 2007, p. 1)

With an Army fighting two wars (both in Iraq and Afghanistan) the analogy continued to grow and propagate itself into all of the Army's leadership and development courses until it became an independent leadership model in which a pentathlete leader was said to possess six skills, and five attributes as depicted by the figure below (Carl, 2006, p. 4).

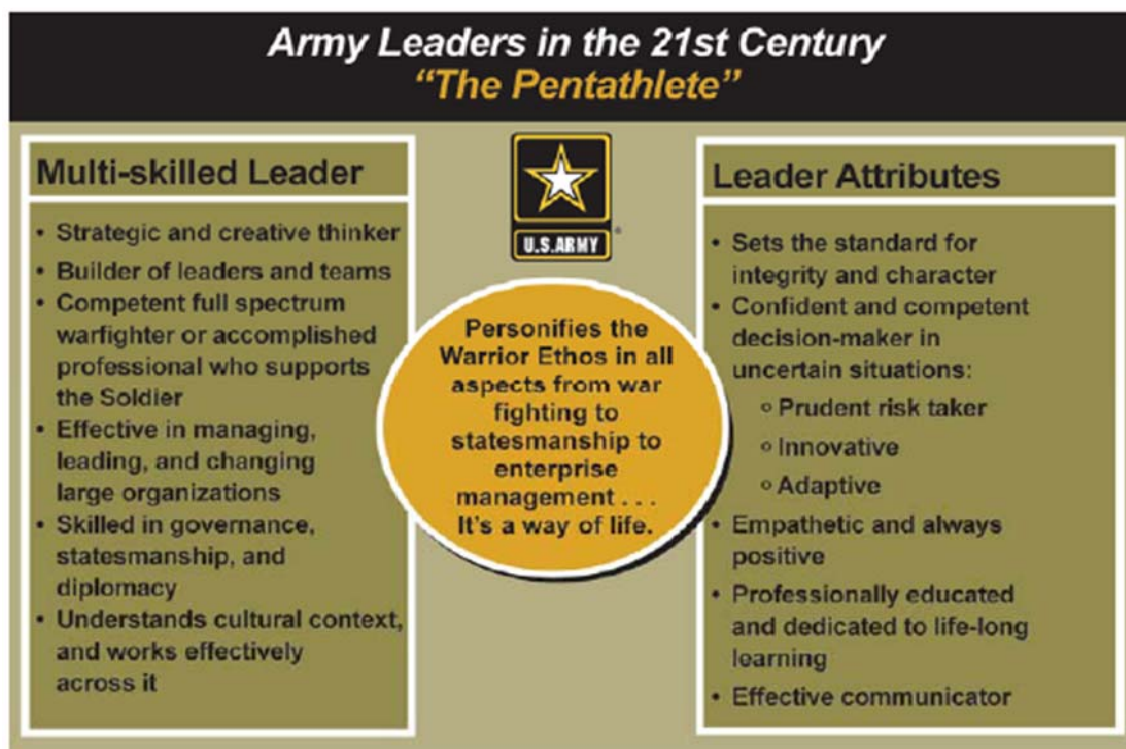


Figure 8. Army Pentathlete Leadership Model (From Carl, 2006, p. 4).

The Army changed to this new model of leadership because in the current conflicts in Iraq and Afghanistan, it was determined that the Army needed innovative, adaptive and culturally aware leaders with specific skill sets in diplomacy, governance, and statesmanship to effectively conduct Security, Stabilization, Transition, and Reconstruction Operations (SSTRO) (McElroy, 2007, p. 1). And although according to McElroy (2007), it could be argued that these skills sets already exist in other U.S. Government agencies, the reality is that “the Army must execute these tasks, since only military organizations are capable of surviving in and stabilizing the hostile post-combat environment(s)” (p. 1). However, no matter which approach you feel is more prudent, problems exist with both models.

2. Problems With Army Leadership Models

The Army Leader Requirements Model, and the Pentathlete Leader Model are very good concepts in theory, to describe the type of leader the Army needs to face the challenges of the future. You would be hard pressed to find anyone who would argue

that technically and tactically proficient leader, who was an ethical and effective decision maker in the midst of full spectrum operations, was not exactly what the Army needed. However, the problem does not necessarily rest with the model itself, inasmuch, as how they are developed and executed.

For instance, according to Robert Carl (2006), “many organizations fail in their development programs because of two pathologies they call productization and ownership is power” (Carl, 2006, p. 5). According to the author, productization can essentially be defined as a draw to the latest fads and trends in leadership that prompt, continuous changes to the leadership programs themselves (Carl, 2006, p. 5). That being said, some of the changes from *FM 22-100 Army Leadership*, to *FM 6-22 Army Leadership: Competent, Confident, and Agile*, could too, be viewed in this light. The best way to avoid these unnecessary updates is to create a well researched set of competencies ascribed to by the leaders of the organization specific enough to provide focus, yet, general enough to stand the test of time” (Carl, 2006, p. 5). On the other hand, ownership in power occurs when “multiple leadership development centers” (or the Non-Commissioned Officer Education System each essentially put their own spin on how leadership is taught, and what essentially is important (Carl, 2006, p. 5). Rather than standardizing the program across the Army.

3. Leadership and Resilience

The Army has done well in identifying the qualities, attributes, and skills sets needed for leaders today to face the challenges of tomorrow; however, there is much work still to be done. Leaders at all levels are not only responsible for what their Soldiers do, and fail to do. They are also responsible for the health, welfare, safety, morale, training, discipline, and combat readiness of their units. Inherent in that responsibility, is the duty of leaders to safeguard the lives and mental state of the Soldiers under their command. Leadership cannot be divorced from resilience. Resilience must be woven into leadership at all levels to ensure proper integration, implementation, and emphasis. To that end, leaders must be educated on how to properly assist our service members in

learning strategies to effectively cope with stress under the most arduous of conditions, in order to improve the effectiveness, and sustainability of our Soldiers in combat.

According to Altman-Dautoff (2001), resilient organizations are comprised of resilient leaders who support the members of their organization and “effectively manage the rate of change” versus the ability of the unit or organizations’ “to absorb change” (p. 30). Resilient leaders also implement flexible and adaptive responses to change without “draining resources or causing dysfunction which negatively impacts performance” (p. 30). Organizational leaders best support and build resilience in their organizations by positively influencing organizational learning, assuring adequate resources are available to their organizations and “by building a culture that develops a tolerance for uncertainty and supports communication, feedback, recognition, and continuous learning” (pp. 30-31).

Through functional theory, leaders promote the values of the organization; allocate resources to meet the units’ goals, flexibly and adeptly respond to changes and threats in the environment to meet the organizations’ goals all while improving processes and building resilience through organizational learning (Altman-Dautoff 2001, Sutcliffe & Vogus, 2003). The current Army pentathlete leadership model should reflect the characteristics required of leaders to build resilience in their organizations. As Doe (1994) stated “a resilient organizations requires a resilient workforce” and resilient leaders to promote the values, allocate scarce resources, and promote organizational learning that enhances the resilience competencies and capabilities of organizations (p. 23). These resilience characteristics should be built into unit training plans and taught from a developmental and lifelong learning perspective from inception in the Army through retirement or separation. This is key, because according to Tarabay (2010), 79% of Army suicides occur within the first three years of service, underscoring the importance of building resilience early in a Soldier’s career.

C. CONCLUSION AND RECOMMENDED FURTHER RESEARCH

In conclusion, resilience can be defined as “the capacity for adaptability, positive functioning, or competence following chronic stress or prolonged trauma” (Sutcliffe & Vogus, 2003, p. 96). It offers a framework for addressing individual and organizational stressors, suicides, and post-traumatic stress disorder (PTSD) by developing individual and group/organizational capabilities to cope with cumulative effects of stress. In order for units to build resilience for the long-term, they must contain five key resilience characteristics: *concerted leadership, adequate resources, enhancement of organizational learning, flexibility/adaptability in the face of adversity, and goal oriented*. Together, these characteristics coupled with a developmental and life-long learning perspective enable groups/organizations to build resilience, by enhancing the collective ability of the group to learn new skills, build collective efficacy, and positively adapt to change, challenging conditions, environments, and stressors over the long-term without regressive or dysfunctional behavior. They also enable groups/organizations to emerge from each of these situations stronger and more capable of handling future adversity.

Furthermore, to implement a process at the unit level, leaders must have access to an assessment tool to determine the current level of resilience in their unit in order to identify areas of concern or emphasis. To that end, it is recommended that:

1. Such a tool or survey be developed (and used at pre-established intervals before, during, and after deployments) with an emphasis on the five resilience dimensions as well as, a tool to mathematically measure and score the results
2. Data collected from the tool or survey be presented to unit commanders by the local for area of emphasis evaluation, education and recommended training and resource allocation
3. Mathematical results by unit, type, deployment length, frequency, and location could be maintained by the Office of Comprehensive Soldier Fitness (CSF) for trend analysis and program improvement

Building resilience is critical to mission accomplishment, longevity and sustainability of Soldiers in combat. Doing these things at the unit level, may safeguard the lives, mental state, of our Soldiers and units in combat.

THIS PAGE INTENTIONALLY LEFT BLANK

APPENDIX

A. SAMPLE SURVEY QUESTIONS

Resilience Characteristics and Questions	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Concerted Leadership					
1. Unit Leaders provide purpose, guidance, motivation, and direct the allocation of key resources to accomplish the goals of the organization	5	4	3	2	1
2. Unit Leaders promote organizational values, learning, growth, and efficacy	5	4	3	2	1
3. Unit Leaders build teams and developing relationships with subordinates that strengthens unit cohesion and build trust between leaders and subordinates	5	4	3	2	1
Adequate Resources					
4. The Unit has sufficient strategic, logistic or materiel resources to accomplish their mission	5	4	3	2	1
5. Leaders know how to request additional resources above and beyond the units' capability to provide	5	4	3	2	1
6. The Unit encourages service members and their support groups (spouses, family, friends, and fellow Soldiers) to seek support as needed or provide mechanisms to intervene with the necessary resources on the Soldiers behalf	5	4	3	2	1
Organizational Learning					
7. Mechanisms are in place for the unit to enhance unit knowledge learn new skills, build collective efficacy, and positively adapt and adjust to change, challenging conditions, environments, and stressors over the long-term	5	4	3	2	1
8. The unit utilizes the knowledge, information and experiences gained from adverse situations to improve organizational learning	5	4	3	2	1
9. The unit contains mechanisms (lessons learned) to provide feedback to enhance learn from mistakes and improve unit performance	5	4	3	2	1
Flexibility/Adaptability					
10. The unit is able to improvise and provide flexible and adaptive responses to adverse situations	5	4	3	2	1
11. The Unit is able to adapt to changes in their operational environment, and accomplish its goals with minimal dysfunction and without wasting the units' finite resources	5	4	3	2	1

Resilience Characteristics and Questions	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree		
12. The unit is able to reduce organizational stress by applying approaches to problem solving that allow them to confront, deal with, and overcome obstacles	5	4	3	2	1		
Goal Oriented							
13. The unit contains a common set of values and moves collectively towards a common goal	5	4	3	2	1		
14. Unit members are empowered to accomplish tasks in line with organizational goals	5	4	3	2	1		
15. The specified or implied goals of the unit are known to all members of the organization	5	4	3	2	1		

Table 5. Sample Resilience Survey Questions

LIST OF REFERENCES

- Addler, Amy A. (2009). *Battlemind resilience training research accomplishments and plans*. [Information Paper]. Washington, DC: Department of the Army.
- Altman-Dautoff, Diane C. (2001). *Exploring individual and organizational resilience as factors in effective transient work teams*. Ed.D. dissertation, Pepperdine University. Retrieved October 7, 2010, from ABI/INFORM Global. Publication No. AAT 3032022.
- Almedom, A. (2005). Resilience, hardiness, sense of coherence, and post-traumatic growth: All paths leading to 'light at the end of the tunnel'?" *Journal of Loss and Trauma*, 10: 253–265.
- Barnes, J. (2010, July 30). U.S. news: soldiers' suicides tied to problems at home. *Wall Street Journal* (Eastern Edition), p. A.3. Retrieved from ABI/INFORM Global Document ID: 2095277341.
- Bartone, P. (2006). Resilience under military operational stress: Can leaders influence hardiness? *Military Psychology*, 18(3, suppl), S131-S148. Retrieved from Military Module, document ID: 1171399971.
- Broadwell, P. (2009, April 21). Leadership, Petraeus style. *The Boston Globe*, Retrieved June 13, 2010, from http://www.boston.com/bostonglobe/editorial_opinion/oped/articles/2009/04/21/leadership_petraeus_style/
- Burke, C. (2008). Sorry pentathlete wasn't on the syllabus. *Small Wars Journal*. Retrieved June 5, 2010, from <http://smallwarsjournal.com/blog/journal/docs-temp/169-burke.pdf>
- Cameron, K. S. (2008). *Positive leadership: Strategies for extraordinary performance*. San Francisco, Calif: Berrett-Koehler Publishers.
- Carl, R. (2006). *Transformation and the making of a pentathlete*. Master's thesis, U.S. Army War College. Retrieved June 5, 2010, from <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA449386&Location=U2&doc=GetTRDoc.pdf>
- Castro, C.A. & Hoge, C.W. (2005). Building psychological resiliency and mitigating risks of combat and deployed stressors faced by soldiers. In *Strategies to Maintain Combat Readiness during Extended Deployments – A Human Systems Approach*, 13-1–13-6).

- Comfort, L. K., & University of California, Berkeley. (1994). *Risk and resilience: Interorganizational learning following the Northridge Earthquake of January 17, 1994*. Berkeley, Calif.: Institute of Governmental Studies, University of California at Berkeley.
- Coutu, D. L. (2002, May). How resilience works. *Harvard Business Review*, 80(5), 46-55. Retrieved October 11, 2010, from ABI/INFORM Global. (Document ID: 116098374).
- Defense Manpower Data Center. (2010a). OEF casualty by type. Retrieved September 26, 2010, from <http://siadapp.dmdc.osd.mil/personnel/CASUALTY/wotsum.pdf>
- Defense Manpower Data Center (2010b). OIF casualty by type. Retrieved September 26, 2010 from <http://siadapp.dmdc.osd.mil/personnel/CASUALTY/oif-total.pdf>
- Department of the Army. (2006). *Field Manual 6-22, Army leadership, competent, confident, and agile*. Washington, DC: Author.
- Department of the Army. (2009). *Field Manual 6-22.5, Combat and Operational Stress Control Manual for Leaders and Soldiers*. Washington, DC: Author.
- Department of the Army (2010). *Army health promotion, risk reduction, suicide prevention report 2010*. Washington, DC: Author.
- Department of the Army (n.d). *Comprehensive Soldier Fitness* [brochure]. Washington, DC: Author.
- Doe, P. J. (1994, July). Creating a resilient organization. *Canadian Business Review*, 21(2), 22-25. Retrieved October 7, 2010, from ABI/INFORM Global. (Document ID: 7596).
- Fallesen, J. J. (2006). Army characteristics for full range operations. *Center for Army Leadership*. Retrieved June 5, 2010, from <http://www.indiana.edu/~rotc/files/fullrangeops.pdf>
- Fischer, H. (2009). United States Military Casualty Statistics: Operation Iraqi Freedom and Operation Enduring Freedom. *Congressional Research Service*. Retrieved September 26, 2010 from <http://www.fas.org/sgp/crs/natsec/RS22452.pdf>
- Goldman, E., & Casey, A. (2010). Building a Culture That Encourages Strategic Thinking. *Journal of Leadership & Organizational Studies*, 17(2), 119. Retrieved October 20, 2010, from ABI/INFORM Global. (Document ID: 2038570291).

- Hamel, G., & Valikangas, L. (2003, September). The quest for resilience. *Harvard Business Review*, 81(9), 52–63. Retrieved from ABI/INFORM Global, document ID: 395498971.
- Harms, P., & Credé, M. (2010). Emotional intelligence and transformational and transactional leadership: a meta-analysis. *Journal of Leadership & Organizational Studies*, 17(1), 5. Retrieved from ABI/INFORM Global, document ID: 1954622301.
- Hills, A. E. (2000). Revisiting institutional resilience as a tool in crisis management. *Journal of Contingencies and Crisis Management*, 8(2): 109–118.
- Jarrett, R. L. (1997). Resilience among low income African American Youth: An Ethnographic Perspective. *Ethnography and Sociocultural Processes: A Symposium*. 25(2): 218–229.
- Kline, A., Dodson, M., Sussner, B., Ciccone, D., Chandler, H., Callahan, L., & Losonczy, M. (2010). Effects of Repeated Deployment to Iraq and Afghanistan on the Health of New Jersey Army National Guard Troops: Implications for Military Readiness. *American Journal of Public Health*, 100(2), 276–83. Retrieved ABI/INFORM Global, document ID: 1963688591.
- Leland, A., & Oboroceanu, M. (2010). American war and military operations casualties: lists and statistics. *Congressional Research Service*. Retrieved September 26, 2010, from <http://www.fas.org/sgp/crs/natsec/RL32492.pdf>
- Lengnick-Hall, C. A., et al. (2010). Developing a capacity for organizational resilience through strategic human resource management. *Human Resource Management Review*. Retrieved September 13, 2010, from <http://www.elsevier.com/locate/humres>
- Linda Hoopes. (1999, May). Team resilience. *Executive Excellence*, 16(5), 16. Retrieved October 7, 2010, from ABI/INFORM Global, document ID: 41232592.
- McElroy, K. (2007). Developing the army pentathlete. Master's thesis, U.S. Army War College. Retrieved June 5, 2010, <http://www.dtic.mil/cgiin/GetTRDoc?AD=ADA468972&Location=U2&doc=GetTRDoc.pdf>
- McShane, S. L., & Von, G. M. A.Y. (2009). *Organizational behavior: Essentials*. Boston: McGraw-Hill/Irwin.

- Montague, K. (2007). Building the pentathlete mind: Army leadership in the contemporary operating environment. Command and General Staff College. Retrieved June 5, 2010, http://www.cgsc.edu/repository/dcl_Second_Place_Essay_2006_2007.pdf
- Office of the Surgeon General, United States Army (2009a). Mental Health Advisory Team (MHAT) 6 Operation Enduring Freedom. Washington, D.C.: Department of the Army
- Office of the Surgeon General, United States Army (2009b). Mental Health Advisory Team (MHAT) VI Operation Iraqi Freedom. Washington, D.C.: Department of the Army
- Perez-Sales, P., Cervellon, P., Vazquez, C., Vidales, D., & Gaborit, M. (2005). Post-traumatic factors and resilience: the role of shelter management and survivors' attitudes after the earthquakes in El Salvador. *Journal of Community & Applied Social Psychology*, 15(5), 368–382. Retrieved from Research Library, document ID: 929497351.
- Pearman, R. (2000). Behaviors that matter analysis of research data on leadership: success and derailment. Retrieved November 22, 2010, from <http://www.careerperformancestrategies.com>
- “Pentathlon.” (2010). Retrieved from <http://en.wikipedia.org/wiki/Pentathlon>
- Powley, E. (2009). Reclaiming resilience and safety: Resilience activation in the critical period of crisis. *Human Relations*, 62(9), 1289. Retrieved from ABI/INFORM Global, document ID: 1863940651.
- Powley, E., & Piderit, S. (2008). Tending wounds. *The Journal of Applied Behavioral Science*, 44(1), 134. Retrieved from ABI/INFORM Global, document ID: 1454964911.
- Powley, E.H. & Taylor S.N. (2006). Leading with Values. In E.D. Hess & K. S. Cameron (Eds.), *Leading with Values: Positivity, Virtue, and High Performance* (pp. 194–212). New York, NY: Cambridge University Press.
- Quinn, R. E. (2004). *Building the bridge as you walk on it: A guide for leading change*. San Francisco: Jossey-Bass.
- Robert H. Pietrzak. (2010). Psychosocial buffers of traumatic stress, depressive symptoms, and psychosocial difficulties in veterans of Operations Enduring Freedom and Iraqi Freedom: The role of resilience, unit support, and postdeployment social support. *Journal of Affective Disorder* (120), January, 188–192. Retrieved from <http://www.elsevier.com/locate/jad>

- Schouten, R., Callahan, M. V., & Bryant, S. (2004). *Community response to disaster: The role of the workplace*. Emmitsburg, MD: National Emergency Training Center.
- Seung-Yoon Rhee, (n.d.) Group Resilience Process: Bouncing Back from a Negative Emotional State through Narrowing Interactions. *Korean Advanced Institute of Science and Technology*.
- Sutcliffe, K. M. & Vogus T.J., (2003). Organizing for Resilience. In K. S. Cameron, J.E. Dutton & R.E. Quinn (Eds.), *Positive organizational scholarship: Foundations of a new discipline*. (pp. 94–110). San Francisco, CA: Berrett-Koehler.
- Tarabay, J. (2010). For Army, preventing soldiers suicides starts on day 1. Retrieved December 7, 2010, from <http://www.npr.org/templates/story/story.php?storyId=130857445>
- Tipton, J. (2007). George C. Marshall: the essential strategic leader. Master's thesis, U.S. Army War College. Retrieved from <http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA469633>
- Vane, M., & Toguchi, R. (2010, May). Achieving excellence in small-unit performance. *Military Review*, 90(3), 73–81. Retrieved from Military Module, document ID: 2066325661.
- Whetten, D. A., & Cameron, K. S. (2002). *Developing management skills*. Upper Saddle River New Jersey: Pearson Education International.
- Wybo, J.-L. (2004). Mastering risks of damage and risks of crisis: The role of organisational learning. *International Journal of Emergency Management*, 1–2

THIS PAGE INTENTIONALLY LEFT BLANK

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
Ft. Belvoir, Virginia
2. Dudley Knox Library
Naval Postgraduate School
Monterey, California
2. Edward H. Powley
Naval Postgraduate School
Monterey, California
3. Gail F. Thomas
Naval Postgraduate School
Monterey, California