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MASTER OF MILITARY STUDIES

**BRIDGING THE GEN Z GAP: HARDY LEADER INFLUENCE INCREASES
INDEPENDENCE, ADAPTABILITY, AND RESILIENCE IN MARINE CORPS
INFANTRY BATTALIONS**

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

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Executive Summary

Title: Bridging the Gen Z Gap: “Hardy” Leader Influence Increases Independence, Adaptability, and Resilience in Marine Corps Infantry Battalions

Author: Major Shawn Connor, United States Marine Corps

Thesis: An infantry battalion commander who actively facilitates hardiness through his personal example, policies, and communication with subordinates can increase the hardiness of his battalion, and as a result, develop small unit leaders and individual Marines who are more independent, adaptable, and resilient under stress. This thesis correlates increased independence to more autonomous small unit leaders capable of making mature and confident decisions; increased adaptability to improved problem solving and critical thinking during training and operations; and increased resilience to better mental health and stress reaction, resulting in Marines and small units who are less in need of professional mental health services, more operationally focused, and more determined under adversity.

Discussion: The existing academic and professional literature highlights a gap between the generalized traits and behaviors of Gen Z with those desired by the Marine Corps. Gen Z members, who are the current and future population of the Marine Corps, are on average less independent, less able to solve problems, and more mentally fragile than previous generations. Simultaneously, the Marine Corps’ future operational concepts require individuals and junior leaders to act more independently, solve more complex problems, and accept more responsibility than ever before. The concept of hardiness may help to bridge this gap. Individuals who are high in hardiness have a strong sense of commitment to life and work, a high sense of control over their life and environment, and the perception that change and challenge are worthwhile learning experiences. It has been found to improve performance, adaptability, and resilience under stress, including military leaders in both training and real-world scenarios. Evidence suggests that individual hardiness can be increased through training and experience, and that a high-hardy leader can increase the hardiness of an entire organization through interaction and policy.

Conclusion: The hardy leader influence process is a promising approach to help bridge the Gen Z gap. An infantry battalion commander who actively facilitates hardiness through his personal example, policies, and communication with subordinates can increase the hardiness of his battalion, and as a result, develop small unit leaders and individual Marines who are more independent, adaptable, and resilient under stress. He must personally model the hardy worldview; demonstrate trust in subordinates, comfort with uncertainty, and tolerance of prudent risk; and hold high but achievable standards. He should implement policies related to training, education, and garrison routine that decentralize autonomy, authority, and responsibility to promote independence; force decision making and competition against free-thinking and adaptive adversaries to promote critical thinking, problem solving, and adaptability; promote a culture of consistent critical feedback, learning, and improvement; and prioritize the long-term professional development of subordinates over short-term battalion goals. His communications should reinforce mutual trust and promote the interpretation of challenge as a learning opportunity, critical feedback as the best means to help Gen Z members improve, and an overall hardy interpretation that increases confidence, sense of control, and mental resilience.

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS, COMMAND AND STAFF COLLEGE, OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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Preface

Intrigued by my personal observation of the changing behaviors and attitudes of young Marines and sailors over the course of my career, I undertook this project desiring to learn the current findings of academic and professional research regarding Gen Z. While this paper focuses on several negative generational trends, it is not intended to imply that Gen Z is a lesser generation or that they lack important strengths. On the contrary, I believe that our young Marines and sailors have great potential to realize the demands of future conflict and operating concepts, provided they are led and developed appropriately. I hope this project will contribute to the Marine Corps' most important conversation- how to develop and leverage our human talent.

I want to thank the faculty and staff of Marine Corps University for providing a challenging and dynamic learning environment throughout the '19-'20 academic year, particularly LtCol Dan Micklis, Dr. James Joyner, and Dr. Anne-Louise Antonoff. I also wish to thank Dr. John Gordon for his guidance, patience, and advice as an MMS mentor. I have been blessed with too many impactful leaders, mentors, and peers to name, but am grateful for their influence throughout my career. Most importantly, I want to thank all the Marines, sailors, soldiers, and airmen who I have had the honor to serve with- I am impressed, humbled, and inspired by their actions and sacrifices.

Introduction

“The most important responsibility in our Corps is leading Marines. If we expect Marines to lead and if we expect Marines to follow, we must provide the education of the heart and of the mind to win on the battlefield and in the barracks, in war and peace.”

--General Carl E. Mundy, Jr¹

“Whereas Millennials needed praise, (Gen Z) needs reassurance... Managers who learned to be cheerleaders for Millennials will find they are more like therapists, life coaches, or parents for (Gen Z).”

--Dr. Jean Twenge²

There is a critical gap between the generalized traits and behaviors of Gen Z with those that are required within the Marine Corps for decentralized operations. Born in 1995 and after, Gen Z members have shifted significantly from previous generations in their behavior, attitude, and personality traits. In fact, several researchers conclude that the shift from Millennials, born between 1980 and 1994, to Gen Z is the greatest in the history of generational study.³ The research to date has identified several trends which will impact those who educate, employ, and lead this generation. On the positive side, they tend to be more focused and harder working, less narcissistic and entitled, and more eager to prove themselves than Millennials.⁴ However, they also tend to be more anxious and uncertain, less independent, and more scared of mistakes.⁵ They report historically poor mental health, lack problem solving and critical thinking skills, and are risk averse students and workers.⁶ More than any previous generation, they tend to subscribe to an external locus of control, or the belief that outside forces (vice their own decisions and actions) control their lives.⁷ They were raised as the most protected and safety-conscious generation ever, and thus require constant reassurance and feedback.⁸ One generational researcher asserts that, based on life milestones correlated to independence, 18 year-olds in 2015 were the equivalent of 15 year-olds in 2009.⁹

Meanwhile, fundamental tenets of the Marine Corps' Warfighting philosophy and aspects of the *38th Commandant's Planning Guidance* are based on decentralized operations employing semi-autonomous, adaptable small units who can overcome adversity. Marine Corps Doctrinal Publication 1, *Warfighting*, describes a decentralized philosophy based on subordinate initiative, judgment, and flexibility at all levels to create and exploit opportunities.¹⁰ It recognizes that adaptation and superior human will are essential in war, and emphasizes the importance of intangible traits such as courage, perseverance, and boldness.¹¹ The *38th Commandant's Planning Guidance* states that future force development must develop "elite warriors with physical and mental toughness, tenacity, initiative, and aggressiveness to innovate, adapt, and win in a rapidly-changing operating environment."¹² It expresses the expectation for increased decentralization to fulfill operating concepts such as Distributed Operations and Expeditionary Advanced Base Operations.¹³ Moreover, it explicitly lists rifle squads "at the forward tactical edge" of the Fleet Marine Force and calls for squads able to coordinate the "full-range of combined arms."¹⁴

As the Marine Corps attempts to decentralize more, it will need to entrust more responsibility and expect higher performance from junior leaders who come from a generation less capable of thinking or acting independently, solving problems, or handling stress. Based on Marine Corps demographics, Gen Z now comprises approximately two-thirds of the active duty force.¹⁵ The Marine Corps must leverage the strengths of this generation while retaining traditional values such as flexibility, innovation and adaptation, and the determination to overcome adversity. Infantry battalions, in particular, must develop individual Marines and small unit leaders prepared to excel in complex, semi-autonomous operations such as those envisioned in the *38th Commandant's Planning Guidance*.

The influence of a hardy leader can help to bridge this gap. The concept of mental hardiness, or hardiness, has been found to predict performance, adaptability, and resilience under stress.¹⁶ Hardiness is a broad, generalized perspective or worldview defined by the three components of commitment, control, and challenge.¹⁷ Individuals who are high in hardiness have a strong sense of commitment to life and work, a high sense of control over their life and environment, and the perception that change and challenge are worthwhile learning experiences.¹⁸ It has been correlated with effective military leadership in training and real world operations, with studies including West Point cadets, junior Army officers, special operations candidates, and Norwegian naval cadets.¹⁹ Moreover, evidence suggests that hardiness is transferrable throughout an organization by the leader influence process and “micro-level policies” such as those at the battalion level.²⁰ Therefore, an infantry battalion commander who actively facilitates hardiness through his personal example, policies, and communication with subordinates can increase the hardiness of his battalion, and as a result, develop small unit leaders and individual Marines who are more independent, adaptable, and resilient under stress. This thesis correlates increased independence to more autonomous small unit leaders capable of making mature and confident decisions; increased adaptability to improved problem solving and critical thinking during training and operations; and increased resilience to better mental health and stress reaction, resulting in individuals and small units who are less in need of professional mental health services, more operationally focused, and more determined under adversity.

Research Methodology, Scope, and Limitations

This project applied a qualitative study of existing relevant literature to determine how high-hardy leaders can influence Gen Z subordinates to adopt a hardier worldview, thus increasing independence, adaptability, and resilience under stress. It is intended to apply to active

duty infantry battalions and the end goal is to provide tangible recommendations for future infantry battalion commanders. While hardiness has broad applicability, the recommendations and conclusion of this project emphasize operational readiness vice broader life skills.

The projects most significant limitation is the lack of quantifiable data available related to hardiness in Marine Corps infantry battalions. Individual hardiness is measured through the Dispositional Resilience Scale (DRS), a 45-item questionnaire which produces an overall score for hardiness as well as sub scores for commitment, challenge, and control. The DRS is also administered in shortened 30- and 15-item versions. Future research or implementation can benefit from the use of this survey within participating units to produce quantifiable hardiness data and measurements over time.

Another problematic issue which requires clarification is definitional- while the terms resilience and resiliency proliferate throughout academic and professional literature, there is no universal or agreed upon definition. Generally, source material for this project defined resilience in terms of retaining or rapidly rebuilding normal mental and emotional health in the face of stressors. The hardiness literature infers a more active process of coping, learning, and adapting, thus resulting in positive increase to stress reaction. In military literature, resilience is used more contextually, referring to sustained mental health, physical survivability, or simply to mean determination. For the purposes of this projects analysis, resilience refers to stronger mental health and improved stress reaction which results in Marines who are less in need of professional mental health services, more operationally focused, and more determined under adversity.

Literature Review

The literature review is arranged thematically to provide the current state of Gen Z traits, Marine Corps doctrine and guidance related to decentralization and small unit performance, and

the psychological concept of hardiness. There are abundant academic and peer-reviewed sources available to study Gen Z and hardiness. The source material related to Gen Z is based primarily on statistics and polling data. Observational or anecdotal evidence is included only when it is provided by an expert source. A few of the sources, while grounded in professional research, contain provocative titles or were marketed to a popular vice academic audience. For example, Dr. Jean Twenge's book, while written for mainstream distribution, is based on four major longitudinal studies conducted by professional research institutes serving academia and the U.S. government. She is a recognized expert in generational study and her work is based on a representative sample of more than 11 million anonymous surveys, some dating back to the 1970s. For hardiness, there is robust literature available from several academic disciplines. The concept has roots in existential psychology, originally developed in the medical community, and has been studied in numerous contexts. This project relied heavily on the work of Paul Bartone, who is the most prolific researcher of hardiness as it relates to military performance and leadership.

Gen Z

Gen Z is generally defined as the generation born between 1995 and 2012. Due to rapid technological advancement and cultural change, they differ substantially from the Millennial Generation who preceded them.²¹ Leaders in education and private industry, still adapting to Millennials, were initially surprised and unprepared for Gen Z. Their arrival had far-reaching implications, as their needs and desires challenged established norms and values in new and unexpected ways. Researchers, educators, and managers led the effort to better understand and adapt to Gen Z. While their findings are not unanimous, the literature does support several broad trends and recommendations.

Raised in a safety-conscious society with near constant parental involvement and little unsupervised activity, Gen Z is less independent and more risk averse than any previous generation.²² 18 year-olds in 2015 were less likely to go out without their parents than 14 year-olds did in 2009, and were also less likely to date, drive, work part time, or even be home without a parent present.²³ They engage in less physical activity, less in-person social activity, and less homework, and instead spend their time online.²⁴ Gen Z is, on average, delayed in reaching every life milestone associated with independence. They are growing up more slowly than previous generations and are unprepared for independence upon entering college or the workforce.²⁵ Moreover, they are exceptionally safety conscious and risk averse. While this is not a negative trait in general, Gen Z has taken it to an unhealthy extreme. Educators have noted that their Gen Z students are noticeably more reluctant to ask questions or speak in class for fear of being wrong.²⁶ They have been labelled as “conservative learners” who are overly concerned about grades and lack the confidence to attempt new things or explore new ideas.²⁷ Some universities have identified the need to “teach risk-taking” to Gen Z, emphasizing that failure in pursuit of learning is a growth opportunity and “not a stigma to avoid at all costs.”²⁸ Workplace reports are similar- Gen Z members want to contribute, but only if they are safe from criticism.²⁹ Gen Z has also associated safety with “emotional safety,” which includes being protected from uncomfortable situations, people who disagree with you, and controversial ideas.³⁰ Researchers have noted the rise in victimhood among Gen Z, who have developed “exceptionally thin-skin” and replaced critical thinking with emotional reasoning.³¹ College students widely support “safe spaces” free of controversial or offensive ideas, “disinvitation” of potentially controversial speakers, and sanitized textbooks and syllabi, causing many schools to prioritize emotional safety over intellectual development.³²

Gen Z feels less in control of their lives and are more disengaged and cynical than previous generations.³³ They believe that they are the hardest working generation ever and are entering the workforce at the most difficult time in history.³⁴ They are fearful of student loan debt, demoralized about entering the workforce, and convinced that they face more barriers to success.³⁵ Research shows that more Gen Z members subscribe to an external locus of control, or the belief that outside forces control one's life; in contrast, an internal locus of control is the belief that one controls their own life through their actions and decisions.³⁶ It is unclear whether the growth in defeatist attitudes is a cause or effect in relation to other Gen Z traits.

Gen Z is deficient in important skills traditionally required by higher education and private industry. As students, they lack creativity, do not imagine alternatives or engage in debate, and are reluctant to apply concepts in practical ways.³⁷ One research team argued that colleges and universities have allowed Gen Z to replace objective critical thought with subjective emotional reasoning. Since it is also culturally unacceptable to “question the reasonableness of one's emotional state,” students are encouraged to shut down opposing viewpoints by claiming emotional distress vice facts or informed opinions.³⁸ Private industry has noted similar trends, reporting that Gen Z employees require significant remedial effort to develop broad transferrable skills such as work habits, interpersonal communication, critical thinking, and problem solving.³⁹ In this area, large numbers of Gen Z agree that their high school and college education has not adequately prepared them for the workplace or developed the skills to solve real life problems.⁴⁰ Evidence also suggests that Gen Z members have less social skill and more difficulty with in-person interaction than any previous generation.⁴¹

Gen Z reports the worst mental health in history. In 2017, Jean Twenge summarized the data to that point by noting that “the trends are remarkably consistent: loneliness, depressive

symptoms, major depressive episodes, anxiety, self-injury, and suicide are all on the rise, mostly since 2011.”⁴² Starting in 2010-2011, every indicator of poor mental health increased significantly among college students, with rates of loneliness, depression, and anxiety reaching all-time highs.⁴³ Simultaneously, feelings of life satisfaction and usefulness reached all-time lows while rates of suicide increased by 46% among 15 to 19 year-olds and 250% among 12 to 14 year-olds.⁴⁴ In a 2018 PEW poll, 70% of Gen Z members believed that anxiety and depression were a major issue amongst their peers.⁴⁵ Also in 2018, the American Psychological Association (APA) reported Gen Z as slightly less stressed than Millennials, but significantly more likely to report poor mental health (27% vice 15%) and depression (23% vice 14%). Additionally, the APA found more than one-third of Gen Z reported having received therapy or other mental health treatment, and 91% reported having had at least one physical or emotional symptom due to stress within the previous month.⁴⁶ Gen Z also reported substantial emotional barriers in the workplace, with anxiety (34%), lack of motivation (20%), and low self-esteem (17%) negatively impacting work performance.⁴⁷ Overall, they are the most mentally fragile generation in history.⁴⁸

However, Gen Z has several positive trends as well. Compared to Millennials, Gen Z is more focused on work, realistic about expectations, and eager to contribute; less narcissistic, entitled, and over-confident; and have a stronger work ethic.⁴⁹ In fact, many researchers are optimistic regarding Gen Z’s future if leaders in education and industry accommodate their needs in a few key areas. First, they need to be made to feel physically and emotionally secure. Leaders should create a safe environment and communicate this as a priority to Gen Z workers or students. Leaders must emphasize their desire to help and nurture the Gen Z member, always framing criticism as the best path to better performance- Twenge recommends that leaders

literally say “I want to help you succeed” prior to any critical feedback.⁵⁰ Second, leaders should provide consistent, near-real time feedback as Gen Z craves reassurance and in-person mentorship.⁵¹ Leaders should keep feedback brief and specific to one or two issues as Gen Z lacks the attention span to remain engaged during lengthy performance reviews.⁵² Third, leaders should be honest and transparent, communicate frequently, and be supportive of subordinates personal and professional needs to develop trusting relationships.⁵³ Gen Z wants to have their concerns acknowledged and want open dialogue with their leaders.⁵⁴ At least one research team identified mutual trust as the key element that allows Gen Z to accept criticism and feedback constructively.⁵⁵ They recognize their skill gap in the workplace and want the opportunity to learn; however, they also want to make meaningful contribution from the very start of their employment.⁵⁶ Overall, leaders and organizations who can meet Gen Z’s need for security, nurture, and trust will be rewarded with motivated, diligent workers.⁵⁷

Marine Corps Doctrine and Guidance

The Marine Corps has well-established doctrine and tradition promoting decentralization and adaptability. Marine Corps Doctrinal Publication 1, *Warfighting*, describes maneuver warfare as an opportunistic mindset which requires individuals and small unit leaders with the flexibility, courage, and aggression to act decisively under pressure. The Marine Corps’ philosophy of maneuver warfare is enabled by decentralization and intelligent leaders who apply boldness, judgment, and initiative at the lowest levels to create and exploit fleeting opportunities.⁵⁸ It expresses the need to operate effectively despite friction and uncertainty by accepting risk and applying military judgment.⁵⁹ *Warfighting* implies a strong need for critical thinking, problem solving, and adaptation at all levels.

The *38th Commandant's Planning Guidance* calls for greater decentralization and more capable small units to meet the demands of the contemporary and future operating environment. Operating concepts such as Expeditionary Advanced Base Operations and Distributed Operations require dispersed small units, empowered by new technologies and long-range communication, to deploy and operate in a complex, competitive expeditionary environment. Rifle squads will be expected to coordinate combined arms at a level commiserate with current infantry companies.⁶⁰ To develop the force of the future, General Berger reinforces that individual Marines are the centerpiece of the organization, and will need to be tough, tenacious, and adaptable.⁶¹ He calls for more flexibility and decentralization in home station activities; improved education, based in adult learning methodology and focused on teamwork, critical thinking, problem solving, and a bias for making decisions and taking action; and competitive training exercises which are critically evaluated and subjected to formal critique.⁶²

Hardiness

Hardiness has been linked to resilience, performance, and the leader influence process in stressful situations. It has been consistently correlated to improved resilience and performance under stress, and to effective military leadership under various conditions.⁶³ It is also associated with the ability of a military leader to make constructive sense of a situation, and then transfer this same interpretation to peers and subordinates.⁶⁴ A high-hardy leader will be actively engaged and committed to their mission and subordinates, confident and organized in pursuing tasks or goals, and undeterred by obstacles or setbacks.⁶⁵ Moreover, through personal example and leadership, as well as policies and actions, he or she can transfer hardiness to subordinates and throughout an organization.⁶⁶

Hardiness is based in existential psychology and is associated with resilience and healthy reaction to stress. It originated in the medical community to conceptualize the attitudes, beliefs, and behavioral tendencies found in individuals who remain healthy after stressful life events.⁶⁷ Hardiness is best understood as a broad, generalized perspective or holistic worldview vice a strict personality trait.⁶⁸ This is an important distinction, as personality traits are generally fixed while evidence suggests that an individual can increase their level of hardiness.⁶⁹

Hardiness is a unitary construct defined by the three facets of commitment, control, and challenge.⁷⁰ Commitment refers to the sense of purpose and meaning that one relates to his or her life, as well as how actively he or she participates in life's events. Control refers to the belief that an individual can exert great influence on his or her life events and surrounding environment. Challenge refers to the belief that change is a normal part of life and an opportunity for growth rather than a threat or something to fear.⁷¹ Individuals who are high in hardiness have a strong sense of commitment to life and work, a high sense of control over their life and environment, and the perception that change and challenge are worthwhile learning experiences.⁷² High-hardy individuals also favor problem solving and proactive coping strategies when confronted with stressful stimuli.⁷³

The existing literature consistently found hardiness to be significantly and positively related to individual resiliency and military leader performance. Studies across diverse civilian and military occupational groups found hardiness to moderate the impact of stress, including Gulf War soldiers exposed to combat, U.S. Army casualty assistance workers, and former Israeli prisoners of war.⁷⁴ The most significant research linking hardiness and military leadership performance has been conducted at the U.S. Military Academy. Numerous studies involving West Point cadets found hardiness to be a strong predictor of retention, graduation, and leader

performance for both the academic year and summer training periods.⁷⁵ The findings of one study correlated effective leadership to the facets of commitment, control, and challenge, describing the “generally effective leader as competent and committed, confident in his/her ability to manage events and influence outcomes, and conscientious, persistent, and savvy in the face of complex and changing conditions.”⁷⁶ Overall, hardiness was found to have a broad application for effective leadership in various situational contexts at West Point.⁷⁷

Researchers found similar support for hardiness while studying cadets at the Norwegian Royal Naval Academy and candidates training for U.S. Army special forces selection. One study found hardiness to increase the small unit cohesion and performance of cadets during an intensive two-week training exercise.⁷⁸ A second study found that hardiness was positively correlated to both cadet leader performance and transformational leadership during stressful training which emphasized autonomy, initiative, independent decision making, and flexibility.⁷⁹ In a 2008 study of U.S. Army special forces candidates, high-hardy individuals were found to be significantly more likely to complete a rigorous four-week selection and assessment course. Researchers noted that the high-hardy individual seemed well-suited to working in small, relatively isolated teams and reacting to challenges in uncertain environments.⁸⁰

Research also supports the positive influence of hardiness on the adaptive performance of junior military officers in real world operations.⁸¹ One study evaluated hardiness as measured at entry to West Point against the results of an adaptability survey taken seven years later, following graduation and three years of active service. It found that hardiness, and particularly the facets of control and commitment, are significant predictors of adaptability in junior officers operating in the real-world environment. In explanation, the authors suggested that individuals with a stronger sense of commitment are better able to build on experience and have more

confidence in their problem solving skills, while those with high control are more likely to effectively balance routine and initiative to adapt to a changing situation.⁸²

In addition to extensive findings linking hardiness to resilience and performance under stress, there is evidence that a leader can transfer hardiness to peers and subordinates. The underlying mechanism is not fully understood, but a key feature of individual hardiness involves how people interpret events around them or their own actions. In groups or organizations, a leaders' policies and actions can influence how subordinates interpret and make sense of events.⁸³ In a 2006 article, Bartone described his hardy leader influence hypothesis by writing that "leaders who are high in hardiness themselves exert influence on their subordinates to interpret stressful experiences in ways characteristic of high-hardy persons."⁸⁴ A leader high in hardiness will tend to interpret experiences as interesting and worth engaging in, something which he or she can exert control over, and an opportunity for growth and learning. Through personal example, policies, and communication, the leader influences the entire organization to interpret experiences in the same high-hardy way, creating a shared understanding and promoting shared values. This influence is most pronounced under high-stress conditions and when the leader is admired by subordinates.⁸⁵

Multiple studies have supported the idea that high-hardy leaders can influence subordinates through policies, interaction, and training programs. For example, one 1997 project found that nurse managers who actively attempted to build hardiness in subordinates produced higher job satisfaction, productivity, and organizational commitment, as well as fewer stress-related problems.⁸⁶ A second study, in 2007, found that focused and quality training had a significant effect on the physical and psychological performance of security officers under stress.

It concluded that security forces can be trained to effectively deal with stressful situations through a graduated training program emphasizing assessment and feedback.⁸⁷

Bartone offers several recommendations for leaders to increase the hardiness of an organization.⁸⁸ First and foremost, leaders should set a clear personal example and serve as a role model for the hardy approach. The hardy leader should reflect a self-confident and calm demeanor under stress, accept responsibility for mistakes without blaming others, and demonstrate interest in learning and problem solving. Second, they must facilitate positive group interpretation of experience, tasks and missions, and mistakes and failures through informal daily interactions and formal processes such as after-action reviews. Leaders should set high but achievable standards, encourage subordinates to accept responsibility for mistakes, and treat shortfalls as opportunities for growth and learning. Next, they must provide meaningful and challenging group tasks which are adequately resourced. Failure should be treated as an opportunity to identify what went wrong and how to improve rather than to punish or humiliate. Conversely, success should be recognized, awarded, and magnified. Assigned tasks should become increasingly difficult as groups become more proficient and confident. Next, leaders must always communicate a high level of respect and commitment to subordinates through respectful communications, supportive actions and policies, and promotion of personal and professional development opportunities. Finally, leaders should build cohesion across the organization through social events and offsite team activities. Tables 1-3 provide more of Bartone's specific recommendations for each hardiness facet.⁸⁹

Table 1- Leader Actions to Foster Mental Hardiness: Commitment

How to Build Commitment	How to Diminish Commitment
Support workers' attempts to give their own ideas; use their skills and talents to get tasks accomplished	Do not accept feedback, input from subordinates
Give recognition, awards, praise for accomplishments	Criticize and denigrate worker initiative
Use teamwork and cohesion-building activities	Be self-absorbed and self-promoting
Provide meaningful tasks where progress is visible	Keep apart and take special privileges for yourself
Support individual professional development (education, learning opportunities)	Be unfair or stingy with rewards, benefits, recognition
Be fair, do not show favoritism	Avoid direct interactions with workers
Be visible, spend time with workers	Do not provide workers with information about the mission and goals of the organization, the purpose
Share hardships with workers	Show favoritism
Provide information about what you are doing and why, purpose	Show no interest in workers' aspirations

Table 2- Leader Actions to Foster Mental Hardiness- Control

How to Build Control	How to Diminish Control
Provide tasks that are challenging but within employees' capabilities to achieve	Assign too many tasks for the time available
Establish graduated training and production programs: crawl-walk-run	Assign tasks that are too difficult for workers' skill levels
Provide resources and time needed to accomplish goal	Criticize and punish workers for failure
Set achievable standards	Do not listen to feedback
Build on success: seek short-term wins to build on	Do not provide needed resources

Table 3- Leader Actions to Foster Mental Hardiness- Challenge

How to Build Challenge	How to Diminish Challenge
Role model enjoyment, fun in variety	Avoid change or surprise at all cost
Always emphasize value of change for learning	Never take a risk
Incorporate surprises and variation into schedules	Restrict innovation and experimentation by requiring rules and permission for everything
Be willing to change the plan to meet changing circumstances	Never change the plan or schedule
Treat failures as chance to learn	Blame others for mistakes or failures
	Denigrate others for failure

Summary

In summary, the existing academic and professional literature highlights a gap between the generalized traits and behaviors of Gen Z with those desired by the Marine Corps. Gen Z members, who are the current and future population of the Marine Corps, are on average less independent, less able to solve problems, and more mentally fragile than previous generations. Simultaneously, the Marine Corps' future operational concepts require individuals and junior leaders to act more independently, solve more complex problems, and accept more responsibility than ever before. The concept of hardiness may help to bridge this gap. Hardiness is found to improve performance and resilience under stress, including military leaders in both training and real-world scenarios. Evidence suggests that individual hardiness can be increased through training and experience, and that a high-hardy leader can increase the hardiness of an entire organization through interaction and policy.

Recommendations

An infantry battalion commander who actively facilitates hardiness through his personal example, policies, and communication with subordinates can increase the hardiness of his battalion, and as a result, develop small unit leaders and individual Marines who are more

independent, adaptable, and resilient under stress. This thesis correlates increased independence to more autonomous small unit leaders capable of making mature and confident decisions; increased adaptability to improved problem solving and critical thinking during training and operations; and increased resilience to better mental health and stress reaction, resulting in Marines and small units who are less in need of professional mental health services, more operationally focused, and more determined under adversity. This section is arranged to provide recommendations for the battalion commander's personal example, policies, and communication. While many of the recommendations are not new or unique, the commander's specific emphasis on hardiness is a novel approach to allocate resources, build culture, and develop Gen Z Marines and sailors. The intent is not necessarily to make radical change to existing doctrine, standards, or best practices, but rather to use hardy leader influence to set a command climate focused on independence, adaptability, and resilience at the individual and small unit levels.

Personal Example

The first, and arguably most important pathway for a commander to influence his battalion is through personal example. As recommended by Bartone, the commander should provide a strong role model for the hardy approach by remaining calm and self-confident under stress, accepting responsibility without blaming others, and demonstrating enjoyment in variety, learning, and problem solving.⁹⁰ He should reflect a strong sense of commitment to life and work in general, but specifically to the battalions' people and mission; a high sense of personal control over life, the environment, and the battalions' training and readiness; and the interpretation of new experiences as worthwhile challenges and opportunities for growth.

The commander should also demonstrate trust in subordinates, comfort with uncertainty, and high tolerance for prudent risk. He should extend trust and properly employ mission

command during all activities. Importantly, this will require the commander to accept risk in baseline proficiency and standardization to develop more independent and adaptable small units. He should model flexibility in thought and action, and be willing to change the plan based on evolving circumstances or to capitalize on subordinate initiative. Perhaps most importantly, the commander should resist enacting policies and procedures to the lowest common denominator. As expressed by one former commander, it is counterproductive to treat the entire unit as if they are the bottom 2%.⁹¹

To be an effective role model, the commander must be present, approachable, and interact openly with subordinates. He must balance interaction and supervision to avoid micro-management and allow autonomy. This includes offering insight and advice to subordinates without solving their problems for them. A commander must also be visible during periods of adversity and must actively share hardship with his subordinates.⁹²

The commander should set and hold high but achievable standards of performance and discipline.⁹³ While the assignment of challenging group tasks is inherent within any military organization, the commander will influence how these tasks and their results are interpreted throughout the battalion. To increase hardiness, the commander should seek out challenge, expecting subordinates to overcome adversity and remain committed to the task through completion. He should reward success and treat failure as an opportunity for growth and learning.⁹⁴ Rewards can include formal awards, informal awards such as a battalion trophy, recognition at a battalion formation and/or via social media, letters to a parent or spouse, or time off from work. In keeping with Gen Z's preference for consistent vice delayed feedback and recognition, the commander should bestow rewards as soon as feasible. This indicates more emphasis on impact vice end of tour awards, especially for more junior Marines and those new to

the unit. On the other hand, the commander should remain positive when subordinates fail to fully meet challenging standards. He should insist that the group identify what led to failure and implement steps to improve for the future, always modeling failure as a growth opportunity and essential to the process of getting better. However, he must draw a distinction for failure related to ethics, effort, or negligence. Per the Commandant's explicit guidance, commanders must uphold high standards, separate those who adversely impact readiness, and "energetically" separate those engaged in "destructive behaviors."⁹⁵

Policies

The commander's policies are the most tangible means to transfer hardiness throughout the battalion. As recommended by Bartone, policies should promote subordinate initiative, professional development, and properly resourced, challenging but achievable group tasks. Training programs should be graduated and progress via the crawl-walk-run methodology. The commander should implement policies that reward success, learn from failure, and actively build upon initial and short-term wins.⁹⁶ Gen Z recognizes that they are lacking in professional skills, are eager to contribute, and desire education and development.⁹⁷ The battalion commander can implement and supervise policies related to field training, professional military education and development, and garrison routine that encourage hardiness, build proficiency, and reduce the Gen Z skills gap.

The primary means to developing more operationally independent, adaptable, and resilient individual Marines and small units is through field training. Policies which encourage Gen Z members to use their own skills and talents to achieve assigned goals will increase commitment and, as initial success is built upon, sense of control.⁹⁸ Field training focused on independence at lower levels will lead to more autonomous small units, with more mature and

confident small unit leaders, who are better able to conduct decentralized operations. For example, squad leaders can, following initial training and with minimal assistance, design, supervise, and evaluate training events through the squad level. First, the Battalion Operations Section integrates the staff sections and company leadership to develop a train-the-trainer course focused on the systems approach to training and the *Infantry Training and Readiness (T&R) Manual*. This course should include classroom, practical application, and field training portions that progress through preparation, execution, assessment, and feedback. Following completion of the course, all platoon commanders, platoon sergeants, and squad leaders are certified to design, supervise, and evaluate training events. They should also be certified to “paint effects” and to serve as part of an exercise control group. Following this initial centralized investment, squad leaders are granted maximum autonomy and made responsible for the training of their squad through the squad level.

Starting with individual events and progressing through multi-day field exercises, they develop training plans to achieve assigned objectives. Initially, these objectives can be more concrete, such as a set of collective tasks from the *T&R Manual*. However, objectives should purposefully become more abstract as squad leaders gain proficiency, forcing them to think critically about how to be successful. Squad training plans should be based on appropriate *T&R* events which the squad leader has organized and prioritized. Importantly, the squad leader should be actively encouraged to modify *T&R* events based on resource shortfalls, adaptation to expected adversary tactics, or any other good reason. This will encourage critical thought and creativity vice a prescriptive “checklist” mentality, as well as facilitate squad leader coordination for logistic and intelligence support. Squad leaders should also be encouraged to identify important skills not included in the *T&R Manual* and develop the tasks, conditions, and standards

to achieve proficiency. This graduated progression should continue to challenge the squad leader and his squad members while increasing their sense of control and commitment.⁹⁹

Moving beyond conceptual design, squad leaders should participate in reconnaissance for training ranges and exercises, identify and request for shortfalls, and supervise any physical set-up. For many live fire events, this will require coordination with the designated range safety officer and officer in charge. As training is conducted, squad leaders and other small unit leaders should evaluate and certify proficiency, deciding who has achieved standard and who requires remediation. The remediation plan should be detailed, resourced, and integrated into the timeline. Ultimately, the squad leader will certify to his platoon commander that his Marines have achieved standard or identify which failed to do so following remediation. Making the squad leader responsible and accountable for his squads training will reinforce independence and encourage increased hardiness amongst the battalion's Gen Z population.¹⁰⁰

A second, and more simplified example, is to integrate independent small unit movements into field training. Whether moving to the field from garrison or moving from one training area to another, task squads or fire teams to meet at a designated location and time. Each element will plan their route, conduct time-space analysis, and make tactical movement. Platoon or company leaders will establish the most permissive boundaries possible, deconflict movements as required to keep independence, and establish safety procedures. Fire team leaders, especially, will be afforded an all-too-uncommon opportunity for autonomy and independence. This simple modification can facilitate increased hardiness among Gen Z Marines while simultaneously developing risk mitigation and tolerance among platoon and company leaders.

A third example is to mandate multi-day, overnight platoon field exercises. This will facilitate autonomous platoon level planning, coordination, and supervision in a field training

environment. Squad level training as described above can be nested into these platoon field exercises. The parent company and battalion should treat these exercises as a rehearsal and support in the same manner which they expect to support real world operations. Anticipated real world conditions, such as a need for digital or other long-range communication and burst transmissions, should be applied even if artificial. Overall, these field exercises should develop proficiency in independent operations throughout all levels of the battalion. They should also increase hardiness by providing challenging group tasks and facilitating teamwork and cohesion at different echelons.¹⁰¹

The battalion can also conduct field training to improve adaptability, creating individual Marines and small unit leaders better able to think critically and solve problems. To do so, training should provide these Gen Z members novel situations and stimuli which maximize opportunities for decision making and initiative. This constant variation will encourage Marines to adapt their plans to changing circumstances, reinforcing a key component of the hardiness challenge facet.¹⁰² Force-on-force training is an excellent example and can be employed efficiently at multiple echelons. Lane training events, which often emplace an opposing force at a designated location with specific instructions, can instead task red and blue forces within designated boundaries. This will result in a more realistic opponent and a competitive model which facilitates increased analytic rigor. Each unit receives a task and purpose which will bring them into contact, conducts planning, and briefs the lane supervisor on their plan. The lane supervisor makes only minimal and necessary alterations to any plan- for example, he or she may shift a route to ensure the teams come into contact. As an alternative which increases realism, the lane supervisor may not desire to artificially ensure contact. While this may disrupt the original training objective, a unit may learn that their scouting and reconnaissance efforts are inadequate

or ineffective to gain contact with an adversary. This lane training model allows for each training unit to participate as the red and blue team, to conduct multiple runs with different stimuli, and to adapt tactics against a competitive adversary who is also adapting.

The battalion should also incorporate free play, force-on-force training into battalion and company field exercises. In one example, the battalion can supervise a rotation in which one company provides the exercise control group while two companies compete against each other. Companies can supervise platoon against platoon force-on-force training in the same manner. These exercises should be minimally scripted and controlled to emphasize realism, creative decision making, and reconnaissance and counter-reconnaissance.

Live fire events can also be tailored to emphasize individual and small unit decision making and adaptability. Ideally, a live fire and movement range can be set up to allow for multiple axis of approach, providing flexibility and forcing decisions based on terrain and the disposition of the simulated enemy. This is certainly not possible on every range and may require the unit to develop its' own surface danger zones, which can also be leveraged into a training opportunity led by the Battalion Gunner. Whether this is possible or not, an exercise control group can "paint effects" to the training unit to force decisions, problem-solving, and adaptation during live fire training. The Training and Tactical Exercise Control Group has been using this model for years and most officers and staff non-commissioned officers will already be familiar with it.

To encourage learning and adaptation, evaluators should facilitate in-stride debriefs and after-action reviews during the training evolution whenever possible. This will enable more rapid improvement and meets the Gen Z preference for consistent, near real-time feedback.¹⁰³ The debrief is externally focused toward the environment, adversary, or any other external variable

and should feed into the intelligence cycle, while the after-action review is internally focused on performance. Certain events, such as live fire ranges and lane training, support a debrief and/or after-action review immediately upon the conclusion of each run. Other events, such as longer duration force-on-force exercises, will be more situationally dependent. Regardless, the evaluators primary goal should be to facilitate discussion and pull input from the participants. He or she should ask open questions, encourage dialogue, and avoid dominating the conversation. The evaluators input should be integrated into the discussion or saved until the end. Eventually, small unit leaders should run their own in-stride debriefs and after-action reviews based on this model.

At the conclusion of every training exercise, the battalion should conduct a more formal process of debrief and after-action review. These should be in-person events with broad participation, conducted as soon as feasible following the conclusion of the exercise. One potential model for formal debrief and after-action review attendance includes all participants for squad and platoon levels, squad leaders and higher for company level, and platoon sergeant/section chief and higher for battalion level. They should be interactive and facilitate dialogue similar to the in-stride model described previously. The dialogue during these events should be recorded by a designated note-taker and ultimately produce a written document for future reference, vertical submission, and horizontal distribution. These in-person events are a prime opportunity for the battalion commander to model hardiness and encourage a shared hardy interpretation. He should encourage all to accept responsibility, treat shortcomings as an opportunity to learn, and frame challenging training as the means for growth.¹⁰⁴ Especially when interacting with younger Marines, he should explicitly frame criticism as normal, constructive,

and essential to the process of improvement. As recommended by Twenge, the commander can simply state “I want to help you succeed” prior to any critical feedback.¹⁰⁵

The commander can also implement policies related to innovation and experimentation, professional education and development, and garrison routine which encourage independence, adaptation, and resilience. First, he can support innovative ideas from subordinates and/or select focused areas of experimentation which contribute to future operating concepts and anticipated mission sets. As an example, 2d Battalion, 5th Marines experimented with techniques for prolonged field casualty care throughout an entire deployment cycle from 2017-2019. When approached by the Battalion Surgeon, the Battalion Commander recognized the merits of his ideas and supported his initiative with funding, training resources and opportunities, and broad integration into battalion training exercises. This effort resulted in an Emergency Whole Blood Program which was adopted as a best practice for casualty response by the 1st and 2d Marine Divisions (the battalion letter of instruction is included in Appendix A for reference and further detail).

Second, the commander’s policies should support the professional development and education of subordinate leaders.¹⁰⁶ The battalion should aggressively send Marines to formal schools and advanced training, prioritizing career progression and long-term development over short-term unit goals. When a leader departs for school, the next senior subordinate who replaces him should be granted maximum autonomy and responsibility. The commander can also develop a robust education and development program within the battalion focused on tactical decision games, decision-forcing case studies, battle studies and staff rides, and competitive wargames. They should avoid definitively right or wrong solutions or overly prescriptive lessons learned, instead focusing on discussion. Gen Z leaders should be routinely forced to make and explain

decisions with incomplete information during these events. Competitive wargames should continue for several turns, allowing for teams to adapt against an also adapting adversary. Finally, a commander can implement policies which result in less regimented and more decentralized garrison routines. This will reinforce training and education efforts as well as meet the Commandant's intent for garrison activities.¹⁰⁷ As one simplified example, squad leaders can develop daily or weekly schedules to accomplish objectives which were assigned in advance.

Communication

The commander can also increase hardiness through his communications with the battalion. Gen Z prefers frequent feedback and dialogue, honest and transparent leaders, and physical and emotional safety.¹⁰⁸ The commander should communicate frequently with his subordinates, using all available mediums but emphasizing in-person interaction. He should provide information about missions, goals, and the reason or purpose behind them.¹⁰⁹ He should openly discuss goals such as increasing independence, adaptability, and resilience within the battalion; emphasize key parts of the process, such as meeting challenges, overcoming obstacles, thinking critically, solving problems, and learning from mistakes; and provide feedback on progress. Most importantly, he should be authentic in his communication, to include his actions and policies. Mutual trust may be the single most important variable when leading Gen Z members and the commander should cultivate it as his first priority. The issue of safety is problematic, as training exercises, real world operations, and even daily duties are inherently dangerous in an infantry battalion. The commander should not encourage risk aversion to placate this preference. Instead, he should openly communicate regarding the analysis, management, and acceptance of risk as an essential part of military operations. He should also explicitly advocate for proficiency, discipline, and professionalism as the primary tools for risk mitigation. At the

same time, the commander should communicate intolerance for illegal and offensive behaviors, negligence, or lack of effort.

The commander should employ multiple methods to provide consistent, interactive feedback to subordinates. In addition to after-action reviews, the commander should engage in informal, daily interactions and implement a robust counseling program. He should emphasize his commitment to helping Gen Z Marines improve and the value of constructive criticism in this process. As a method to further empower small unit leaders, he can task the battalion's squad leaders to develop standardized or semi-standardized formats and procedures for the counseling program. This should explicitly require coordination and mentorship from senior enlisted leaders and officers. Counseling sessions should maximize dialogue and discussion, allow for subordinate feedback, and summarize and record the key points. Performance feedback should be focused on one or two specific items.¹¹⁰ While formal and documented counseling sessions are important, the primary goal should be to develop a culture of consistent feedback and dialogue throughout the battalion which also includes informal counseling, debriefs, and after-action reviews.

Finally, the commander should develop trusted feedback networks throughout the battalion. He should encourage subordinates to provide performance feedback during formal or, situationally dependent, informal counseling sessions. He may also wish to explicitly task certain individuals, such as the Battalion Sergeant Major, Executive Officer, Operations Officer or Chief, and Gunner, to communicate when they disagree with a policy or decision. He should implement frequent councils to meet with junior officers, staff non-commissioned officers, and non-commissioned officers. While the mechanisms are important and necessary, it is more important that the commander receive feedback constructively and, when appropriate, act upon

it. By accepting feedback and being willing to change based upon constructive subordinate input, the commander will encourage all three facets of hardiness in the battalion.¹¹¹

Conclusion

For the Marine Corps to embrace greater decentralization and realize future operating concepts, it will need to develop individual Marines and small unit leaders who excel in complex, semi-autonomous operations. These Marines will come from a generation less capable of thinking or acting independently, solving problems, or handling stress. The hardy leader influence process is a promising approach to help bridge the gap between the values and behaviors desired by the Marine Corps and those demonstrated by Gen Z. An infantry battalion commander who actively facilitates hardiness through his personal example, policies, and communication with subordinates can increase the hardiness of his battalion, and as a result, develop small unit leaders and individual Marines who are more independent, adaptable, and resilient under stress.

Personal example is arguably the most important pathway for the commander to influence his battalion toward hardiness. He should model the hardy approach by remaining calm and self-confident under stress; reflecting strong commitment to the battalions' people and mission; exerting control over life, the environment, and the battalions' training and readiness; and interpreting challenge as positive opportunity for growth and development.¹¹² The commander should also demonstrate trust in subordinates, comfort with uncertainty, and high tolerance for prudent risk, employing mission command in all activities and accepting deviation to promote independence and adaptability. He should set high but achievable goals, expecting subordinates to overcome adversity and remain committed to the task through completion.¹¹³ The commander should reward success and treat failure as a learning opportunity and essential to the

process of getting better.¹¹⁴ He should, however, draw a clear distinction for failures of ethics, effort, or negligence.¹¹⁵

The commander's policies related to field training, professional military education and development, and garrison routine are the most tangible means to encourage hardiness, build proficiency, and reduce the Gen Z skills gap. Field training should encourage independence, adaptability, and resilience at the small unit level and throughout the battalion. For example, squad leaders should be properly trained and certified to design, supervise, and evaluate training events, then granted maximum autonomy and responsibility for training through the squad level. They should develop training plans to achieve increasingly abstract objectives, encouraged to use but appropriately modify the *T&R Manual*, and made responsible to evaluate, remediate, and certify squad members as trained to standard. The battalion should also integrate independent small unit movements into field training and conduct multi-day, overnight platoon field exercises as rehearsals for real world operations. Allowing Gen Z leaders to use their own skills and talents to achieve goals, while holding them responsible and gradually increasing difficulty, will increase commitment, sense of control, and positive interpretation of challenge.¹¹⁶

To improve adaptability, critical thinking, and problem-solving skills, field training should provide novel situations and stimuli which maximize opportunities for decision making and initiative. Force-on-force training should be integrated into lane training events and larger free-play exercises with emphasis on realism, creative decision making, and reconnaissance and counter-reconnaissance. Live fire and movement ranges should, if possible, be set up to allow for multiple axis of approach, providing flexibility and forcing decisions based on terrain and the disposition of the simulated enemy. An exercise control group should also "paint effects" during live fire events to force decisions, problem solving, and adaptation. Evaluators and small unit

leaders should maximize interactive in-stride debriefs and after-action reviews to meet Gen Z's preference for consistent, near real-time feedback.¹¹⁷ At the conclusion of training exercises, the battalion should conduct a more formal process of debrief and after-action review that is in-person, interactive and based on dialogue, and ultimately produces a written document for future reference, vertical submission, and horizontal distribution. This process is a prime opportunity for the commander to model hardiness and encourage a shared interpretation.

In addition to field training, the commander should adopt innovation and experimentation within the battalion, such as the Emergency Whole Blood Program. The battalion should, as policy, aggressively send Marines to formal and advanced schools, prioritizing career progression and long-term development over short-term battalion goals. The battalion should develop a robust education and development program focused on tactical decision games, decision-forcing cases, battle studies and staff rides, and competitive wargames which avoid overly prescriptive solutions or lessons learned, force Gen Z leaders to make and explain decisions based on incomplete information, and force adaptation against an also adapting adversary. Finally, the commander can implement policies to decentralize garrison routines, such as allowing squad leaders to develop daily or weekly schedules to achieve assigned tasks. Constant variation will encourage Gen Z Marines to adapt their plans to evolving circumstances, reinforcing a key component of the hardiness challenge facet.¹¹⁸

The commander can also transfer hardiness through frequent, honest, and transparent communication. He should prioritize in-person communication and provide information about the battalion's mission, goals, and purpose.¹¹⁹ He should be authentic and cultivate mutual trust as his highest priority. The commander should avoid risk aversion and instead communicate openly regarding the analysis, management, and acceptance of risk as an essential part of

military operations. He should explicitly advocate for proficiency, discipline, and professionalism as the primary tools for risk mitigation. The commander should also provide consistent, interactive, and focused feedback to subordinates.¹²⁰ In addition to after-action reviews, he should engage in daily, informal interactions and implement a robust counseling program, developed by subordinate leaders, which maximize dialogue, allow for subordinate feedback, and record one or two key points. Ultimately, his goal should be to develop a culture of consistent feedback and dialogue throughout the battalion which consists of formal and informal counseling, debriefs, and after-action reviews. Finally, the commander should develop trusted feedback networks through relationships with key subordinate leaders and frequent meetings with junior officers, staff non-commissioned officers, and non-commissioned officers. Most importantly, the commander should receive feedback constructively and, when appropriate, act upon it to encourage hardiness in the battalion.¹²¹

Appendix A: V25 Emergency Whole Blood Program LOI

From: Battalion Surgeon
To: Commanding Officer
Via: Operations Officer
Subj: V25 EMERGENCY LOW TITER O WHOLE BLOOD (LTOWB) PROGRAM

Ref: (a) Health Affairs Policy, HA 10-002
(b) Joint Trauma Theater System - Clinical Practice Guideline for Whole Blood Transfusion dtd 15 May 2018.
(c) DoDI 6480.04 Armed Services Blood Program Operational Procedures
(d) OPNAVINST 6530.4B Department of the Navy Blood Program
(e) American Association of Blood Banks (AABB) *Standards for Blood Banks and Transfusion Services*
(f) AABB *Technical Manual*, current edition
(g) AABB Circular of Information for the Use of Human Blood and Blood Components
(h) AABB Transfusion Transmittable Disease Testing Guidance dtd 8 Mar 2016
(i) Committee on Tactical Combat Casualty Care – Guidelines
(j) TCCC Guidelines Change 14-01: Fluid Resuscitation for Hemorrhagic Shock in Tactical Combat Casualty Care
(k) Journal of Special Operations Medicine Advanced Tactical Paramedic Protocols (ATP-P) Handbook, 10th edition
(l) Emergency War Surgery, 5th edition
(m) Ranger Medic Handbook, 4th edition

Encl: (1) Valkyrie Emergency Whole Blood Training & Readiness Manual
(2) Example Donor Card
(3) ASBP Form 572 – Emergency Whole Blood Donation Record

1. Purpose.

2. General. Whole Blood (WB) is the resuscitative fluid of choice for critically wounded combatants under the threat of hemorrhagic shock. The ability to secure and transfuse FWB under extreme and austere conditions has been clearly demonstrated to improve the survival of our Marines and Sailors in sustained, remote combat operations. The use of Low Titer Type O blood (LTOWB) has a successful safety record that has been soundly demonstrated in Special Operations Commands over the past decade. We will develop and maintain the ability to transfuse LTOWB at all levels of command. To accomplish this task, we must:

- a. Establish a walking blood bank protocol compliant with the Armed Services Blood Program (ASBP), comprised of volunteer donors capable of producing safe LTOWB, while maintaining combat readiness of the individual volunteers.
- b. Develop and maintain a system to pre-screen and track blood donors.
- c. Create a formalized training program to train battalion medical personnel in safe transfusion procedures in the field and at the Battalion Aid Station.
- d. Train all battalion personnel in walking blood bank procedures and develop SOP's to ensure blood is collected, labeled, and utilized safely and expeditiously in time of critical need.

- e. Acquire and maintain materials required for blood transfusion.

3. General guidance.

a. This program is instituted for contingency use in emergent situations only, specifically in response to hemorrhagic trauma in which tactical evacuation of casualties may be delayed, or FDA approved blood-products are not available through conventional medical supply chains. There are risks associated with whole blood transfusion that must be weighed against immediate medical condition of the patient and the tactical scenario.

b. Blood collection and transfusion shall only be performed by trained corpsmen or personnel per paragraph 7.

4. **Implementation.** This program will be implemented in the following manner.

a. Deficits in required equipment for training and equipping personnel will be acquired as needed. Required equipment for training is specified by the Valkyrie training program. Required equipment for use in the deployed setting will be sufficient to provide each pre-screened donor with a blood collection kit. Kits for administration of blood will be determined by battalion surgeon based on operational demand.

b. Training of unit medical personnel and specially trained Marines will be conducted per paragraph 7.

c. Donors from each company will be recruited, screened and educated on blood transfusion per paragraphs 4 and 5. Screening of potential blood donors should be conducted sixty days prior to deployment (D-60).

d. The goal for donor recruitment is to attain a minimum of 20% of total personnel as eligible blood donors.

5. Donor selection and pre-screening. Donors for this program will be recruited from existing and incoming battalion personnel based on having Type O blood. Any donor may refuse to participate in the program if desired.

a. *Pre-screening* refers to a standardized questionnaire used to determine eligibility for this program based on medically pertinent elements of their personal history IAW current ASBP guidelines.

b. *Screening* refers to a standardized set of laboratory tests that are conducted after pre-screening to definitively determine a donor's eligibility.

(1) Laboratory testing will include blood type confirmation, Anti-A and Anti-B IgM titer levels for Type O donors, and transfusion transmittable infection (TTI) testing IAW current ASBP guidelines.

(2) Eligible donors must have:

(a) Type O blood confirmation.

(b) Anti-A and Anti-B IgM antibody titers of < 1:256.

(c) TTI negative testing.

c. Any positive TTI testing results will be addressed by the Battalion Surgeon's office for follow up testing and treatment per Ref (b).

d. Screening tests will be conducted by a DoD-approved blood donor center in accordance with Armed Services Blood Program directives. To the maximum extent possible, unit personnel are encouraged to donate a unit of blood at the time of testing to support the mission of the Armed Services Blood Program in supplying blood across the DoD-worldwide.

6. Donor tracking and responsibilities.

a. All donors will be entered into the Theater Medical Data Store (TMDS) for tracking purposes. The Battalion Surgeon is responsible for ensuring that donor data is entered into TMDS accurately.

b. Each donor will receive a donor identification card. See encl (2). This card is to be carried in the left shoulder pocket at all times.

c. Each donor will receive a fresh whole blood collection kit which will be carried on their person where the bag is least likely to be compromised and to maintain sterility.

d. Donors will not donate more than one unit every 56 days unless an exemption is approved by the Battalion Surgeon, Assistant Medical Officer, or an Independent Duty Corpsman. This exception is only to be granted in extremis situations and based upon sound clinical judgement in the context of the tactical scenario.

e. Donors must inform battalion medical staff if they suspect that they may have been exposed to a TTI for evaluation and treatment. It is the responsibility of the battalion medical staff to ensure donors are appropriately educated regarding TTI.

f. Each donor will be counseled by medical staff, and an entry will be documented in the donor's appropriate service record.

7. Battalion Medical Staff Responsibilities

a. With the initiation of Phase 1 of implementation, the BAS will establish a database of eligible blood donors within the battalion to include:

(1) Each member's blood group, low titer status, and date of TTI testing.

(2) Risk stratification of the donor list by the pre-screening history and lab values. A laminated paper copy will be kept in the field BAS and duplicated in the S-1 while deployed.

b. With Phase 2 of implementation, each company/platoon corpsman maintains a roster of all donors within his unit. The roster will have each donor's blood group, low titer status, and date of TTI testing. The unit corpsman is also responsible for ensuring that small unit leaders are provided a copy of this list also.

c. Within sixty days of scheduled deployment (D-60), medical personnel will conduct and document TTI testing in TMDS for all donors.

d. Corpsmen within each unit will maintain awareness and brief small unit leaders on the number of donors within that unit before each mission.

8. Battalion medical training program. The training requirements for Emergency Fresh Whole Blood Transfusion are detailed in the Valkyrie Emergency Fresh Whole Blood Transfusion Training and Readiness Manual [Enclosure (1)]. The Valkyrie Training Program is maintained by the 1st Marine Division Surgeon's Office to ensure compliance with references (a-e,k).

a. Upon completion of the required training components specified in Encl (1), all medical personnel will receive a letter of authorization to perform blood transfusion services from the Battalion Surgeon, which will be placed in the corpsman's individual training record.

b. Marines that have completed the Valkyrie Marine syllabus are eligible to conduct blood collection only. LTOWB transfusion will only be conducted by medical personnel.

9. Execution.

a. Activation of the Walking Blood Bank. The walking blood bank is intended to function to support the BAS during response to mass casualty scenarios. It may only be activated *upon request* of the battalion surgeon, assistant medical officer, or independent duty corpsman. Since the activation of the walking blood bank may carry tactical implications, only the Commanding Officer, or his delegated authority, may direct the walking blood bank to activate.

(1) Upon direction to activate, the donors within H&S company are directed to marshal at the BAS for blood donation. The most suitable donors will be selected by competent medical authority at that time.

b. Point of Injury transfusion. Company and platoon corpsman are to maintain up to-to-date rosters of pre-screened LTOWB donors. Pre-mission review of these donor rosters and any changes in health status of the donors should be conducted as a part of pre-combat checks (PCC) and pre-combat inspections (PCI). A casualty response plan should be coordinated with the respective small unit commander or designated authority as part of pre-mission planning.

c. Donors will marshal as directed, and present their donor card which should be verified against the unit's donor list.

d. Collect whole blood per ref (j-l).

(1) Each unit of blood drawn must be individually labeled with the following information:

(a) Battle Roster Number (aka "Zap") or EDIPI / DODID number

(b) ABO Blood Type and Rh Type of Donor, Titer status

(c) Phlebotomist name & Location

(d) Start/Stop Time & Date

1. Collection

2. Administration

(e) Donor sign/initial the label

(2) Secure the donor card to the donation bag.

(3) LTOWB should only be collected in an approved blood collection bag. Collection should be conducted IAW Ref (j-1).

e. Patient vital signs should be recorded immediately prior to transfusion and monitored throughout the procedure. Elevated temperature may be the first sign of a transfusion reaction.

f. Begin transfusion IAW Ref (j-1) or applicable transfusion kit manufacturer instructions. FWB should only be transfused via an approved delivery system with an in-line filter (170-260 micron filter) to prevent infusion of macroaggregates of clotted blood.

WARNING: If a patient having another blood type than type O begins receiving type O blood, do not subsequently switch to another blood type as a fatal hemolytic reaction may occur.

g. Rh factor considerations.

(1) In emergency situations, all patients may receive Rh+ or Rh- blood.

(2) Rh- patients should receive priority for Rh- blood, especially if they have been sensitized to Rh+ by previous exposure or transfusion. Otherwise, this restriction may be waived in extremis.

(3) Rh- females with childbearing potential must be given priority for Rh- blood to avoid risk of Rh- sensitization.

h. The patient must be closely monitored for signs of an adverse reaction.

(1) Medical personnel must be prepared to immediately recognize Anaphylaxis, Acute Hemolytic Transfusion Reaction, Febrile Nonhemolytic Reactions, Urticarial Reactions and Citrate Toxicity, and to treat these conditions to the fullest degree possible given the constraints of the situation. Any suspected reaction must be reported to the next higher echelon of care.

i. All units drawn must be transfused in no more than eight hours or destroyed appropriately.

(1) LTOWB will not be stored at room temperature for greater than eight hours. Within that time, it should be transfused to a patient, or it may be re-infused back to the donor.

(2) If greater than eight hours has passed since the blood was drawn, it should be disposed of appropriately in a medical facility with HAZMAT capability if possible, or otherwise, it should be burned in field in the same manner as solid human waste.

j. Training. Training is detailed in Enclosure (1). It is important to note that in the training environment, no blood will ever be transfused from a donor to a different person. Blood may be drawn from a donor and re-infused back to the donor (aka “auto-transfusion”). Differences between the conduct of the simulation and conduct under actual conditions should be pre-briefed and covered again in post-event debrief. Informed consent from the donor must be obtained.

k. Contingencies. Extremis situations may result in depletion of the pre-screened LTOWB donor pool. If no pre-screened donor is available, and in dire circumstances only, alternate donors may be selected in the following order of precedence:

(1) U.S. Military with untitered type O blood verified by Eldon card testing.

(2) U.S. Military with type specific blood type verified by Eldon card testing.

(3) U.S. Military with type O blood type verified by dog tags.

(4) Local nationals and non-U.S. personnel should not be used as donors. However, if no alternative is available, the risk of uncontrolled massive hemorrhage exceeds the infectious risk. In this case, all blood transfusion components (collection bag, lines, Eldon card, etc) should be sent along with the patient for testing at a higher level of care.

(5) Eldon test kits should be used to verify blood type if not a pre-screened donor with unit issued ID card.

l. These instructions are intended to comply fully with the Joint Trauma System (JTS) Clinical Practice Guidelines (CPG) and the guidelines of the Committee on Tactical Combat Casualty Care (TCCC). These guidelines are updated regularly. In any case of conflicting or contradictory information, defer to the JTS CPG and TCCC guidelines.

m. Post-transfusion testing and monitoring.

(1) At the earliest available time following the mission, the corpsman will escort the donor to the nearest available facility to conduct post-transfusion testing.

(2) The corpsman or provider will contact the receiving medical facility to ensure they are aware of the number of whole blood transfusions, donor information, and any complications encountered in the pre-hospital setting.

(3) The Donor Identification Number and recipient of a FWB transfusion will be reported to the applicable ASBP within 24 hours of returning from a mission. Battalion medical staff will ensure that all data is correctly documented in the Theater Medical Data Store (TMDS).

(4) Recipients of FWB will undergo infectious disease re-testing at 3, 6, and 12 months post-transfusion IAW ref (a).

10. **Program Maintenance.** The Battalion Surgeon is responsible for maintaining this protocol and will review and update it no less than annually to ensure completeness and relevancy. Point of contact for this is LCDR Russell Wier, e-mail russell.wier@usmc.mil or russell.p.wier.mil@mail.mil.

R. P. Wier

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