Alcohol and Suicide in the Marine Corps

Executive Summary

AN EXAMINATION OF HOW ALCOHOL INFLUENCES THE SUICIDE RATES IN THE UNITED STATES MARINE CORPS

Alcohol use, abuse, and misuse can have detrimental effects on an individual and an organization. Although the Marine Corps is considered an elite fighting force, alcohol's influence on its ability to remain such is perplexing and a concern for many stakeholders. Equally concerning for taxpayers, leaders, and lawmakers is the staggering rate at which Marines take their own lives. This research sought to better define the relationship of these two key elements that are surrounded by negative consequences and may be prevented with the appropriate amount of resources, effort, and strategy to address the problem.

This research was intended to better define the relationship between alcohol and deaths by suicide within the Marine Corps. It accomplished this by looking at three primary research questions which address how many Marines had documented alcohol problems prior to dying by suicide; how many Marines used alcohol or other substances during the suicide event; and are there significant differences in statistical values between the other branches of military service? It begins by reviewing and analyzing numerous articles and publications that are relevant to the research. It took a broad approach to the literature reviewed. This was done to better understand the girth of alcohol's influence, not only on deaths but on the stressors associated with suicide. It also considered resemblances and differences within varying cultures that could be compared to the Marine Corps.

While many elements of the research incorporated nationwide statistics and international data, every effort was made to maintain comparisons to those entities with similarities.
Alcohol and Suicide in the Marine Corps

The results of this research supported clear and achievable recommendations for the Marine Corps. The recommendations detail primary personnel to be involved, outputs that should be expected, and the many processes and programs that could be positively influenced if the recommendations are accepted.
Dedication

This study is dedicated to my mother and father,
Madelon Denise and Daniel Lyle Bush.
Both of them had creative ways of encouraging me to
constantly learn and be accountable for myself and my family.
One of my mother’s dying wishes was for her son to make a living
using his mind and not fall prey to business that requires
extensive use and abuse of the human body. Her words of
encouragement and direction have set me on a path to
accomplish much more than I ever thought possible.

Thank you mom and dad, I love you.
Alcohol and Suicide in the Marine Corps

Acknowledgements

I would like to take this opportunity to thank the numerous people in my life who have often times seen the potential in me that I was unable to. First and foremost, I must acknowledge my family who have sacrificed so much while I was deployed or spending endless hours doing class work. Without Janette, Brandyn, and Faith Bush none of this would have been possible. Thank you for your patience, sacrifice, support, and understanding.

Secondly, the co-workers and leaders who have taught me numerous lessons about Behavioral Health over the years and provided influential tutelage throughout this research. As a Marine, few people in my occupation have been afforded the opportunity to start a second career while in the service. While the learning curve was steep and the challenges were many for me, people like Todd Shuttleworth, Andrew Martin, Sam Stephens, and Adam Walsh continued to mentor and educate me on topics that I would likely have never grasped. For their continued friendship and support I would like to offer a heartfelt thank you.

Finally, I must acknowledge all of the other Behavioral Health working professionals who provided great insight and direction throughout this research process. On a daily basis your involvement and expertise encouraged me to learn more and work smarter. Thank you for your daily involvement in my life and support of this research.
AN EXAMINATION OF HOW ALCOHOL INFLUENCES
THE SUICIDE RATES IN THE UNITED STATES MARINE CORPS

MSA 699 Project Report

Submitted in Partial Fulfillment of Requirements
For the Degree of
Master of Science in Administration
(Concentration in Organizational Development and Human Behavior)

By
Phillip E. Bush

Project Instructor
Dr. Melvin Rusher

April 29, 2016
## Table of Contents

<table>
<thead>
<tr>
<th>Table of Figures</th>
<th>vi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1 Problem Definition</td>
<td>1</td>
</tr>
<tr>
<td>Background</td>
<td>1</td>
</tr>
<tr>
<td>Research Problem</td>
<td>3</td>
</tr>
<tr>
<td>Research Objective</td>
<td>4</td>
</tr>
<tr>
<td>Scope</td>
<td>5</td>
</tr>
<tr>
<td>Chapter 2 Literature Review</td>
<td>6</td>
</tr>
<tr>
<td>General Suicide Notions</td>
<td>7</td>
</tr>
<tr>
<td>Internal Stakeholders</td>
<td>9</td>
</tr>
<tr>
<td>Belongingness and Perceived Burdensomeness</td>
<td>10</td>
</tr>
<tr>
<td>Alcohol - A Major Concern</td>
<td>12</td>
</tr>
<tr>
<td>Summary of Literature</td>
<td>17</td>
</tr>
<tr>
<td>Chapter 3 Research Methodology</td>
<td>19</td>
</tr>
<tr>
<td>Research Approach</td>
<td>19</td>
</tr>
<tr>
<td>Data Collection and Procedures</td>
<td>20</td>
</tr>
<tr>
<td>Data Analysis and Synthesis</td>
<td>20</td>
</tr>
<tr>
<td>Methodological Limitations</td>
<td>21</td>
</tr>
<tr>
<td>Chapter 4 Data Analysis</td>
<td>22</td>
</tr>
<tr>
<td>Overview</td>
<td>22</td>
</tr>
<tr>
<td>Marine Corps - Alcohol Issues Prior to a Suicide Event</td>
<td>23</td>
</tr>
<tr>
<td>Marine Corps - Alcohol Use During the Suicide Event</td>
<td>25</td>
</tr>
</tbody>
</table>
Alcohol and Suicide in the Marine Corps

Comparison of United States Military Services 29

Data Analysis Summary 33

Chapter 5 Summary, Conclusions, and Recommendations 34

Summary 34

Conclusions 35

Recommendations 36

References 38

Appendixes 41

Appendix A - Terminology and Definitions 42

Appendix B - Acronyms 46
## Table of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>United States Marine Corps Suicide Data, 2003-2015</td>
<td>2</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Diagnosis of Substance Abuse for Marines That Died by Suicide, 2009-2013</td>
<td>23</td>
</tr>
<tr>
<td>Figure 3</td>
<td>Primary Stressors for Heavy Drinkers in the Military</td>
<td>24</td>
</tr>
<tr>
<td>Figure 4</td>
<td>Marine Corps, Alcohol Used During the Suicide Event, 2009-2013</td>
<td>26</td>
</tr>
<tr>
<td>Figure 5</td>
<td>Marine Corps, Alcohol and Drugs Present at Time of Suicide, 2009-2013</td>
<td>27</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Blood Alcohol Content and Method of Suicide, 2005-2010</td>
<td>28</td>
</tr>
<tr>
<td>Figure 7</td>
<td>Service Comparison, Alcohol Present at Time of Suicide</td>
<td>31</td>
</tr>
<tr>
<td>Figure 8</td>
<td>Service Comparison, Lack of Reporting on Alcohol During a Suicide</td>
<td>32</td>
</tr>
</tbody>
</table>
Chapter I

Problem Definition

Administrative Problem

There has been a concerted effort by each Military Department to implement suicide prevention initiatives, especially those targeting early identification of manifest risk factors that may indicate a need for treatment. (Hyman, Ireland, Frost, & Cottrell, 2012, p. S138)

Background

While there are many contributors to any death by suicide, United States Marines are a unique target audience. Culturally, they are renowned as being introverted and protective of their own. This culture can provide for challenges not routinely witnessed within, or by, the civilian population. One of these anomalies is the acceptance and endorsement of the routine use of alcohol. Another concern is the methods by which Marines cope with stress through substance abuse. These substances do not necessarily mean illegal drugs, but can often be misuse of prescription medicine or over-the-counter pharmaceuticals. With this in mind, a person does not need extensive knowledge or experience to be aware that substance abuse can have a profound impact on personal relationships. Both relationship and substance abuse issues have been documented as major contributors to suicide deaths by service members.

In 2013 there were 45 active duty Marines that died by suicide. (Cross & Jagger, 2015) Many of these deaths are attributed to factors that are unique to Marine Corps lifestyles. Whether legal concerns, relationship issues, substance abuse issues, or a slew of other factors that were involved in a Marine's life during the time of distress, many organizations have made it their goal to help the military determine the causes and develop better tools for preventing it.
Recently the Department of Defense (DOD) has established the Defense Suicide Prevention Office (DSPO) whose primary purpose is to help prevent deaths by suicide in the military population. Their efforts are holistic and include training, data analysis, policy development and implementation, and outreach programs. Of significance in one of their routinely involved findings is a recent statement in the Department of Defense Suicide Event Report (DODSER) 2013 report. "Failed relationships (mostly intimate in nature) and administrative/legal issues were the most frequently cited psychosocial stressors in suicide DoDSERs." (Smolenski, Reger, Bush, Skopp, Zhang & Campise, 2014, p. iv) These factors are consistently represented as major stressors for Marines who die by suicide.

Substance use and misuse can lead to many undesirable effects. One of which is a strain on personal relationships. Another is a negative impact on a Marine's career, regardless of the perceived acceptance within the organization. "In addition to failed relationships, US military analyses consistently mentioned financial and legal problems, as well as substance misuse (usually alcohol) as significant risk factor." (Smolenski, et al, 2014, p. 3) As cited by
Smolenski, et al, the implication in this statement is the possible connection between substance misuse and relationship issues.

One of the key ways to assist the DOD with preventing suicides is to develop training that is specific to the stressors and validated causes. Due to cultural differences amongst the services, each service has championed their own prevention program specific to their needs. This was the case, with few exceptions, until the development of the DSPO. Regardless of its implementation and influence over policy, the services are aware that uniqueness in training which addresses cultural differences is paramount to reception by service members. The Marine Corps is no exception. It develops and designs training based on current needs and its presentation is relevant to the target audience.

By examining the connection between alcohol and suicide related events, it is proposed that there is potential to influence suicide rates within the Marine population. This could be done by helping develop better prevention training that is specific to the key stressors associated with Marine suicides. It will also offer policy makers an opportunity to advance their knowledge of key contributors to support the advancement of suicide prevention efforts.

**Research Problem**

The strategic question for the purposes of this research was to determine if there is a correlation between the use of alcohol and suicides in the Marine Corp? And if so, what can be done to mitigate both by identify and analyzing the relationship. The research used the following sub-questions to describe a more prominent relationship between alcohol misuse and suicide events.

- How many Marines had documented alcohol problems prior to dying by suicide?
- How many Marines used alcohol or other substances during the suicide event?
• Are there significant differences in statistical values between the other branches of military service?

To answer these questions the research followed a holistic and systematic approach by looking at controlled data that is specific to the Department of Defense and the United States Marine Corps. The literature review provided many insights relating to the other branches of service and relevant target populations. This exploratory information was helpful when synthesizing the data by providing other perspectives. The methods of gathering and reviewing the data are detailed in subsequent chapters of this research project.

**Research Objective**

This research provides evidence to stakeholders and will assist with developing improved policy and/or training which could improve programs that are designed to assist in suicide prevention efforts. The key stakeholders that are internal to the organization included the Behavioral Health Branch head and subordinate managers that influence suicide prevention efforts. The external stakeholders that will be provided its' results will include agencies within the DOD to include the DSPO.

The results of this research will further serve a force-wide drive to improve suicide prevention efforts. It will inform substance abuse policy and training developers with valid information pertaining to the target audience. It will also support use of the Institute of Medicine model by addressing the independent groups of those at risk for suicide. These groups are defined as selective, indicated, and universal.

**Scope**

This research focused on relevant information that is directly associated with the United States Marine Corps. While some parallels have been drawn to emphasize need or importance,
the target audience was the direct stakeholders and active duty members of the USMC. Collected data was pertinent to, and collected for the purpose of looking at suicide deaths by active duty Marines from the period of 1 January 2009 through 31 December 2013.
Chapter II

Literature Review

Death by suicide is a very complex issue. Most researchers agree there is no single activity, stressor or event which leads a person to attempt suicide. This chapter will provide insight from many sources of suicide research and attempt to compare and contrast the relationship of alcohol with suicide activities. While there has been much research devoted to military members, there is significance in reviewing data and conclusions as they relate to overall suicide behavior, prevention measures, and basic human traits that could assist with defining concerns within the Marine Corps population.

Due to the complexity in predicting suicidal behavior, many researchers have spent endless resources defining the proverbial, "needle in the haystack." Over time, researchers have drawn similar conclusions about the need for a holistic, community based approach to preventing suicides. It seems the search for a simple theme or strategy is more elusive than most people would have expected.

From a defined population's view, the United States military internal stakeholders are not driven by profit or agenda items. The pursuit of solving the suicide problem within the military is driven from intrinsic values and beliefs which state that we must take care of those who defend our country. Many of those involved have reason to believe the root cause of these behaviors is driven from exposure to combat, changes in life style compared to civilian life, or other military lifestyle impacts. For the Marine Corps, suicide events that occurred around a combat deployment were very small in number and through research; the relationship with Post Traumatic Stress or Traumatic Brain Injury was very limited in scope. More often there were several other indicators within the Marine's life that likely caused the perilous event.
General Suicide Notions

Research on suicide dates back generations. Although limited in scope and by environmental factors this research has driven much of what is being accomplished today. Many concepts and theories developed hundreds of years ago have fed into these efforts. Attempting to research suicide without a defined audience presents its own challenges. Basic human behaviors are fairly well defined and have been researched at extent. While this broadened area would be worthy of mention, its value is shown in most of the literature which is specific to the USMC.

Marines are humans, to state the obvious. Studies on human behavior are paramount when considering the stressors, protective factors, risk factors, and other associations with suicide deaths. However, for the purpose of this literature review focus will be given to those institutions that have the greatest similarities and issues witnessed by this culture. Many of these similarities draw upon one common theme. This theme derives from the many forms of stress and how a person's tolerance of life's events, personal resilience, and assimilation drive a person's ability to cope with stressful events.

Another aspect that has a profound impact on suicide related events is stigma. "Stigma associated with help-seeking behavior or treatment may also be more prevalent in the military, because mental illness is often viewed as a manifestation of weakness or malingering, as well as a threat to one’s career." (Black, Gallaway, & Bell, 2010, p. 440) While the context provided by this author relates to mental illness, the same parallels can be drawn for treatment of alcohol problems. In a culture that seemingly promotes the use of alcohol it is easy to see how the younger generation would avoid seeking help for alcohol or substance abuse issues. This fact perpetuates the stigma of help-seeking behavior and promotes a barrier for individuals who may be considering suicide.
While this research is not intended to focus on other mental issues such as post traumatic stress disorder (PTSD) or traumatic brain injuries (TBI), it would be remiss to not consider some of the facets and tenets that are directly associated with alcohol use. According to the Institute of Medicine, "...research on the potential association between TBI and suicide noted that there is insufficient empirical evidence to determine whether such an association exists." (Skopp, Movich, Grimes, Oetjen-Gerdes & Gahm, 2010, p. 8) Often times Marines have been known to seek the relief of the ailments by seeking alcohol as a means to cope. Whether considered self medication or self treatment, the stigma surrounding help-seeking behavior coupled with the availability of alcohol encourages Marines to avoid proper care. In fact, these two elements may be the largest of the barriers to overall prevention efforts within the Marine Corps.

Throughout this research many authors have cited and expressed that suicide is not driven by a single stressor. Most often the person was experiencing many of the known stressors associated with suicide. According to one study, 75% of all deaths by suicide within the designated population had more than 2 stressors. (Black et al., 2010, p. 448) The research also expresses that triggering events played a key role. The combination of many stressors and a triggering event seem to be at the cornerstone of many researcher's premise. This is very similar to data reported by the Marine Corps and its stakeholders which promulgates the previous conversation concerning self medication through the use of alcohol.

Internal Stakeholders

Government organizations that are essential to the preservation of uniformed service members which are specific to the prevention of suicide include the Substance Abuse and Mental Health Services Administration (SAMHSA), Department of Defense Suicide Prevention Office (DSPO), Bureau of Medicine and Surgery (BUMED), National Institute of Mental Health
(NIMH), and service specific organizations which include internal staffing of the individual service level headquarters. The congruency among these organizations is paramount to effective preventive measures and policy related to the well-being of service members. The Marine Corps is no exception. Each of these entities supports, tasks, and socializes policy, training, and research to assist with improvement of a more holistic approach to preventing suicide.

The quintessential collection medium for the Department of Defense is recognized as the DODSER. "The DODSER system collects data on demographics, contextual factors, behavioral health history, and known or suspected risk factors for suicide for all identified suicides and suicide attempts that occur among Active Component Service Members and Selective Reserve Service Members in a duty status." (Smolenski, et al., 2014, p. 3) While quantitative in presentation there is much qualitative data that is provided by the annual outputs of this program. The system standardizes reporting for all DOD elements which is challenging considering many of the cultural differences within the services.

The Marine Corps is a unique population with regards to suicide. Much of the research surrounding military services continually make exception for the Marine Corps and the unique challenges they face. For example, Hyman et al. stated, "The Marines tended to demonstrate weaker associations in many risk factors than were seen in the other services, including the effects of deployments." Albeit, each service has an inherit need to protect its own, most services are well-served by and continue to operate with the dynamic approach of information sharing. Sharing lessons learned and cooperative initiatives have supported a more robust and efficient means of developing products which seek to restrict suicide activities.

Within the Marine Corps there are many entities which consider suicide prevention a paramount function. Headquarters Marines Corps has assigned the primary responsibilities of
policy, prevention, intervention and oversight of non-clinical services to the Behavioral Health Branch located in Quantico, Virginia. This team of experts consists of many different disciplines and levels of collegiate accomplishments. All of the civilian management within the organization has achieved at minimum a Master degree while many hold a PhD in their chosen fields. By leveraging the occupational prowess of these working professionals and combining their knowledge with the experience and cultural savvy of many uniformed members, Behavioral Health has been deeply involved with the surveillance, reporting, policy development, and other programmatic functions of suicide prevention for the Marine Corps. They are also intricately involved with many civilian organizations who share the same passion and mission to enhance the quality of life for Marines and their families.

**Belongingness and Perceived Burdensomeness**

Conceptually, no single theory has been more widely accepted in recent years than Dr. Thomas Joiner's interpersonal-psychological theory. One element of this theory is perceived burdensome. "Perceived burdensomeness is the view that one’s existence burdens family, friends, and/or society. This view produces the idea that “my death will be worth more than my life to family, friends, society, etc.” – a view, it is important to emphasize, that represents a potentially fatal misperception." (Joiner et al, 2009, p. 535) His research goes on to explain how relationships, in many forms, are a driving force behind the basic human instinct of survival. Whether due to our homogenous natures which can be defined by our cultures or by our inherit need to communicate, the premise seems appropriate as it relates to the modern day Marine.

Marines are a tightly wound group of people. They are not easily distracted by outsiders and rarely will allow the intrusion of any other source than a fellow Marine. This value provides for unique effects on risk and protective factors for Marines. Their relationships are bound
closely and pure. Whether professional or personal, the loss of this strength can have a profound impact on the Marines ability to cope and remain resilient in the face of adversity. This is especially true when legal or financial issues arise from the actions of the individual Marine. Poor choices, unethical behaviors, and a lack of integrity are the quickest way of launching a Marine from within his organizational and relationship boundaries. Often times, this process is irreversible, because Marines are not a forgiving population and always consider the ramifications of a choice based on its impact on the unit.

Along these lines is the transitory nature of Marine Corps life. Routinely they move to new duty stations, spend time in a combat area, or have temporary duty which may require them to leave their home area for extended periods of time. This behavior is routine for Marines. However, the effects of these transitions may be a key contributor to poor relationships. Routinely a Marine will belong to a specific unit for about 3 years. If married, their spouse and children might accompany them. Each of the members of the family will have to establish new relationships and social circles. Often times these social circles will involve other Marine families or closely related civilian enterprises.

While the familial relationship is the more pronounced and relevant with regards to basic human needs for relationships, the professional boundaries carry value as well. When a Marine moves to another duty station they leave behind Marines who might have relied on the moving Marine for moral support and professional mentoring. Inversely, the moving Marine may have been emotionally or professionally attached to a leader within the unit. Trust is not given by Marines, it is earned. All of them understand the natural presence and expectation of the title of Marine, but this prowess must be shown. Within most organizations there are standards which are not met by a select few. In the Marine Corps it is called, "the 10%".
Most leaders will confess that 90% of their time is spent on 10% of their Marines. Unfortunately this small representation of a leader’s responsibilities is often involved with immoral, unethical, or poor decision making activities. Suicide and alcohol related incidents fall within this category for all essential purposes.

**Alcohol - A Major Concern**

Research on the abuse and misuse of alcohol in the military is plentiful. There is not much literature to be found that is specific to this topic and the associations within the Marine Corps. Nonetheless, many conclusions can be drawn with a few limitations being present due to cultural differences, geographical influences, and levels of alcohol use acceptance by the different sub-groups. Many articles point to and discuss acute use of alcohol (AUA) and alcohol use disorder (AUD) as primary variables for their research. Furthermore, many of the articles suggest that alcohol use is a prevalent risk factor from a disorder perspective and as an enabler for those that suffer from another psychological health issues. Lastly, researchers suggest that there are those that drink to complete suicide and those that do not think about suicide until intoxicated. (Conner, Bagge, Goldston, & Ilgen, 2014, p. 205)

Alcohol's involvement in the many stressors associated with suicide may be difficult to surmise. The use of alcohol within the Marine Corps is not simply a generational thing, but a staple of culture and perhaps a means of increased social acceptability. Lowered inhibitions and increased fortitude may present increased risk for unethical behavior, but they can also support an increased sociability for some Marines without apparent social skills. If it is perceived that a general use of alcohol can be seen or related to AUA, then it is possible the institutions that allow its use in social gatherings may be promoting a level of suicide risk. "An empirical review of published studies reported that a median of 37% of suicides and 40% of suicide attempts are
preceded by AUA." (Conner et al, 2014, p. 207)  These values are a close representation of those that appear within the DODSER reports which reflect all elements of the DOD.

As previously mentioned, Marines live within a unique culture. Locating similar cultures to provide for comparison and contrast was not overly difficult. One such group who are renowned for their level of alcohol consumption are Russians. "Russian levels of alcohol consumption and suicide are among the highest in the world." (Pridemore, 2006, p. 413) While this research does not seek to clarify nor define the Russian culture as a military one, a few similarities can be drawn. For example, social, cultural, economic and political norms were shaken in the years leading up to Pridemore's research. These disruptions in the lives of the populous can be sparsely compared to those affects that may be felt by Marines during deployments and exposure to constant transition throughout a career. "Three distinctive traits of Russian consumption have been the preference for distilled spirits, binge drinking and socio-cultural tolerance for heavy drinking and concomitant behavior." (Pridemore, 2006, p. 415) Considering the elements addressed by Pridemore, tolerance for alcohol consumption and related behaviors are quite familiar for any that have served in the Marine Corps.

Suicide rates in Russia are staggering compared to those in the United States and the Marine Corps. Most health organizations responsible for reporting suicide rates have standardized reporting by creating ratios that reflect a value compared to 100,000 people. Over the past 20 years the United States aggregate ratio has been around 20 deaths by suicide per 100,000 people. (Smolenski et al, 2014, p. 5) In Russia that value skyrockets to 77 per 100,000. Similar to those associated risks and stressors for Marine Corps deaths, the stressors and triggering events are comparable. This limits the variables to mainly socio-economic, political, an environmental factors when comparing these two cultures.
Another culture which correlates well with the Marine Corps from a demographic aspect are college students. A majority of the suicides within the Marine Corps are carried out by the 18-24 year old age group. This is strictly from an aggregate perspective. This age group represents a vast majority of the total population within colleges and the Marine Corps. Reporting by the Marine Corps shows that this age group is not at a heightened risk overall. In fact there are no indicators that this age group is more susceptible to suicide than any other. Marine Corps statistics show that each age group are proportionately represented when comparing deaths to overall population.

College students are exposed to similar peer pressures as they relate to alcohol. However, one major difference is the institutional disagreement and accountability of underage drinking. The Marine Corps has standards and certainly abides by all governing directives and laws that pertain to the legal drinking age but depending on the environment, some leaders are willing to overlook this. In the eyes of many, especially the older generation within the Marine Corps, they believe that if a young Marine is willing to sacrifice their lives for their country than there is cause for flexibility as it relates to the legal drinking age. Unlike the Marine Corps, colleges do not have nearly the tolerance for underage drinking. In contrast, another consideration as it relates to suicide is the sense of belongingness. College students face the absence of family and friends just as Marines do. The difference lies in the union or bond that is established amongst their peers. College students often gravitate towards similar interests or fields of study when joining social atmospheres. Marines of a younger age are more reliant on rank and standing to assist with the development of their social skills and circles.

Suicide is equally a major concern for college students. "Suicide is a leading cause of death among college-aged students and an estimated 108,000 full-time college students report a
suicide attempt in the last year." (Lamis, Ballard, May, & Dvorak, 2015, p. 1) This author goes on to explain that over 25% of suicide deaths by college students had consumed alcohol shortly before dying. This percentage is close to what is being reported by the Department of Defense for each branch of service. The values by both entities represent the outcomes of medical testing and do not consider a more advanced level of dependency on alcohol for multiple reasons. As mentioned earlier, there are many ways that alcohol can be an enabler of suicide activities. While the usage of alcohol and its tendency to remove inhibitions is one aspect of its influence, there are other factors to consider. One factor is the impact of alcohol on the person's life well before an event. Research should consider how the presence of alcohol influenced productivity, creativity, social networks, and other socio-economic factors that could have been effected well before the event. One such consideration is the, "..transactional relationship between alcohol use and depression." (Lamis et al, 2015, p. 5)

Alcohol's influence on depression is well documented throughout the literature used for this research. Depression and mental illness are a few of the leading indicators for potential suicidal behaviors and thoughts. According to one study, "Alcohol use may be a self medicating behavior for other problems such as mental health issues." (Bray, Pembetton, Lane, Hourani, Mattiko, & Babeu, 2010, p. 397) The cited research continues by addressing alcohol's presence during other negative consequences which can contribute to a correlation with suicidal activities. For instance, poor decision making during the use of alcohol could cause legal and financial issues which are key stressors related to suicide for the Marine Corps population. It is possible that the individuals who are making poor decisions during the use of alcohol could be perpetuating stressors. This is likely through continued lack of responsibility which could be supporting the development of mental illness or depression.
The Marine Corps has developed many prevention and intervention measures to support the well-being of its service members as it relates to depression and mental illness. As previously mentioned, one of the primary concerns with getting Marines to accept assistance or self refer is the stigma associated with seeking help. Of the different cultures addressed in this research each element has similar challenges. In contrast, the Marine Corps is not faced with economical or geographical concerns related to stigma. Over the past 5 years they have incorporated many measures to mitigate and address stigma. One measure is the introduction of the Community Counseling Centers across the Marine Corps. These centers are available to all Marines and their family members. The records that are kept at these offices do not become part of the service member's official health records. This was partially put in place to address the stigma associated with help seeking behaviors. Marines are able to receive counseling without fear of reprisal or concern that their leadership will be aware of their involvement. However, as is routine in most medical facilities, these non-medical counselors have a duty to warn in the event of reported self harm or harm to others.

Overall, available data from controlled studies of suicide and suicide attempts indicated that both the presence of alcohol and the amount of alcohol consumed were key considerations in understanding their link with suicidal behavior. Interventions with demonstrated efficacy to prevent suicide reattempts among individuals who predominantly (or exclusively) have alcohol or other drug use disorders suggest the value of skill development and problem solving; mindfulness, emotion regulation, and distress tolerance; interpersonal effectiveness and reduction of relational and family difficulties that provide a context for much suicidal behavior; and motivational enhancement and relapse prevention. (Conner et al, 2014)
Summary of Literature

It is clear within the literature reviewed that many stakeholders and researchers believe preventing suicide is a worthwhile task. Key stakeholders at the political and military service level have extended many resources to help define the problem and provide valid measures and tools to prevent the meaningless loss of life. Leveraging the prowess and knowledge of civilian professionals is only one way of defending against this hidden enemy. An understanding of the target audience is needed and should consider the many complexities that could be the leading causes of death by suicide.

Alcohol's influence and the other complex contributors to suicide impact a person's life in unique and challenging ways. To associate the use, misuse, or abuse of alcohol with suicide a researcher must look beyond its presence during the event. It must consider how alcohol could have been a detriment or distraction to personal relationships, professional relationships, and the impact on a Marine's career. Some of the outcomes are clearly self inflicted and likely the product of substance misuse. Others are not as easy to define or may have been a consequence of relationships or other items outside of a person's control. Throughout this research it is apparent there are limited longitudinal studies that incorporate varying stages of a person's life and the impact alcohol may have had on suicidal outcomes. Most evident is the lack of information as it relates specifically to service members and the hidden elements of trauma that may have existed before joining the military.

Throughout time there is no denying that alcohol has had a profound impact on the lives of many. The same can be said about suicide whether or not alcohol was involved. The crossroads where alcohol and suicide meet is a very dangerous place. "Suicide is among the leading types of injury mortality linked with alcohol consumption." (Conner, et al, p. 171) For
most Marines and their families this unfortunate consequence is avoided. This may be due to many protective factors that have been put in place by the institution or it may be a product of individual morals and values that are embedded through their development. Regrettably there are those that succumb to the negative impacts of alcohol especially when they are experiencing a multitude of stressors that relate to suicide. As an institution, the Marine Corps has mounted a grand attack on this silent enemy. Prevention education, reliable reporting, and thoughtful intervention strategies have been incorporated across Behavioral Health programs. These initiatives and products are often times initiated at the service level. Other times political influences and senior leaders demand action, creativity, and innovation to support those that defend our nation.
Chapter III

Research Methodology

Research Approach

Due to the complexities surrounding deaths by suicide in our military culture it is nearly impossible to find the proverbial, “needle in the haystack.” To ensure the best measures and methods are in place many researchers have committed themselves and their resources to looking at suicide at a much more granule level. Separating the characteristics, risk factors, protective factors, and the slew of other indicators associated with suicide has been helpful in developing training. It has also been influential in establishing policy and programs to support the reduction of suicidal behaviors within the military population. Alcohol is merely one element of a much grander group of enablers for behaviors that may induce or promote unhealthy relationships and lifestyles. By looking more deeply at alcohol use, misuse, and abuse by Marines who have died by suicide, this research supports the improvement of effective measures to assist the Marine Corps in its efforts.

This research is driven from a standpoint of correlation. The relationship between alcohol and the many factors of suicide risk was at the forefront of the data collection purpose. While there was a clear understanding that this typology may not provide a cause and effect relationship, it served to better define how impactful alcohol use, misuse, and abuse have been on service members. The existing data that was collected for this research was publicly available reports provided by government organizations, such as the Department of Defense Suicide Event Report and service level reports and data.
Data Collection and Procedures

To support the objectives of this research data was collected for all deaths by suicide that occurred from January 1, 2009 – December 31, 2013. As the primary means of information pertaining to this target audience, the DODSER report provided a great foundation. One immediate and known limitation was the lack of adequate and concise reporting from 2005 – 2010. After this period the services combined their efforts to create a more standardized method of reporting under the guidance and direction of DSPO.

The primary data was existing data. There was no necessity to acquire data that was not already being reported by the United States Marine Corps or its stakeholders. No survey, interviews, or other similar methods were required. All official data is cited as such and is cleared for use by the appropriate responsible party within the given institution.

All requests for data beyond those available on the Internet were made in person, by email, or appropriate organizational request forms. All data that serves the DODSER report is readily available and stored electronically with Headquarters Marine Corps Behavioral Health programs. An advantage held by this research is that personnel involved with the data collection process are quite knowledgeable about the internal processes of HQMC and have familiarization with key personnel.

Data Analysis and Synthesis

Showing the correlation between alcohol and suicide will be best visualized by using descriptive statistics. Utilizing a content analysis approach this research provided value added information for inclusion to recommendations. This is supported by visual representations that show levels of reported alcohol use, misuse, or abuse and its proximity to other key elements of
suicide behaviors and stressors. Basic functions of excel have provided a sufficient visual depiction of the data.

Synthesis was accomplished by incorporating all data into a spreadsheet and assigning relative values to each category. These categories represent associations with alcohol concerns, relationship issues, and other suicide related information. These variables were in no way influenced and are a true representation of what is reported by competent medical authorities or those in high-level leadership positions.

**Methodological Limitations**

Limitations for this research are led by the potential for delayed or inaccurate reporting of suicides. The reporting process that captures this data is reliable; however, some personnel responsible for reporting may experience technical or other issues that represent a challenge. For the purpose of this research, all data reported in the DODSER system was considered true and was not adjusted for any purpose.

Secondly, the personnel providing reports other than those found on the Internet operated in an official capacity. The collection of this data was considered less than operationally required which caused some delays in the acquisition of the data. Every effort was taken to request information well in advance of recommended timelines and was supported by the appropriate level of authority within the organization.
Chapter IV

Data Analysis

Overview

The methods and processes for collecting the data associated with this research involved accessing publicly available information. No personally identifiable or protected information was used throughout this research. The premise of this analysis was to address three objectives which will be helpful in developing recommendations and presenting findings to Headquarters Marine Corps senior leadership. The primary objectives were: i) analyze how many Marines had diagnosed alcohol problems prior to dying by suicide, ii) analyze how many Marines were under the influence of alcohol when they died by suicide, and iii) analyze similar culture’s alcohol concerns as they relate to objectives i) and ii).

The Department of Defense Suicide Prevention Office has a robust amount of information as it relates to factors associated with suicide. All of the data located on their website is open source and mostly in raw form. The presence of data analysis specific to alcohol concerns was not present, however, there was sufficient data to support the time period addressed by this research. While attempting to gather data on specific cultures there were many more challenges with the availability of data. This was amplified by attempting to clearly compare and contrast the other cultures with the United States Marine Corps.

For the purposes of this research the term "prior" relates to a diagnosis of substance abuse before a suicide event and while serving in the United States Marine Corps. Collection of the data relevant to this aspect, and as it relates to the individual prior to joining the service, would cause an increased risk of releasing personally identifiable information. It would also expand the
need to collect data beyond the reliability and validity being provided by the Defense Suicide Prevention Office.

**Marine Corps - Alcohol Issues Prior to a Suicide Event**

Despite many prevention efforts by the Department of Defense and the United States Marine Corps, alcohol use and abuse remains a major concern. It continues to be reported as a detriment to unit and personal readiness. Furthermore, it is a prevalent factor in the unfortunate loss of life due to suicide. From 2009 - 2013, there were 213 confirmed suicide deaths by United States Marines. Of these, 59 had been diagnosed with substance abuse issues which includes alcohol. 130 of the 213 confirmed cases did not have a substance abuse diagnosis. While the history of diagnosed substance abuse represents 28% of the total deaths, most concerning is the absence of reporting for the remaining 23 Marines which represents over 10%. With such a large amount of variance, and given the importance and value of the information, the Department of Defense should look more closely at how to mitigate this perceived anomaly by improving processes, policy, and training.

![Figure 2 - Diagnosis of Substance Abuse for Marines that Died by Suicide, 2009-2013](image-url)
A 2008 Military Medicine study revealed that based on the definition prescribed by the Substance Abuse and Mental Health Services Administration, nearly 20% of all military members were considered to be "heavy drinkers." (Bray, Pemberton, Lane, Hourani, Mattiko, & Babeu, 2010) While this study occurred 1 year prior to the scope of this research, the analysis provided by the study showed little variance in the percentages over the last 20 years. Of interest in the study were many of the captured reasons for excessive drinking. Nearly 16% confirmed that it was due to combat deployment reasons, 22.5% expressed being away from family as the primary cause, and 15% stated that increased stress from work and family problems were causing excessive drinking.

![Figure 3 - Primary Stressors for Heavy Drinkers in the Military](image-url)
Marine Corps - Alcohol Use During the Suicide Event

The second topic of this research focused on the presence of alcohol in the subject's body during the suicide. There were varying methods for determining its presence throughout the research, however, there were three primary means: medical examiner, coroner, or a mixture of both. For studies conducted outside of the military there was a fair representation by each of the methods of discovery showing the potential for reduced reliability and validity based on varying methods of collection. All reporting by the United States Marine Corps concerning this topic were results of toxicology tests performed by an Armed Forces Medical Examiner during an autopsy.

The presence of alcohol during a suicide raises many questions. Were lessened inhibitions the primary cause? Was the person doing other drugs that interacted with the alcohol? Would the person had done this if they had not been drinking? All of these are questions that have been researched and evaluated extensively. The Marine Corps recently conducted a robust series of case studies that were helpful in many ways, but were not able to clearly define whether the presence of alcohol was the primary reason for a person taking their own life. According to a 2014 study released by the American Journal on Public Health which reviewed records on 37,402 deaths by suicide from 18 states across the United States, 36.7% of men and 29% of women who died by suicide from 2005 - 2010 had alcohol present at the time of the suicide. The research also concluded that 37.4% of 18-24 year old and 40.7% of 25-44 year olds had the presence of alcohol at the time of death. Of note in this study is that only 70% of all decedents were tested for their blood alcohol content. Although their sample size is significantly higher than any military study that is available, the lack of stringent reporting and testing requirements has become a trend within this research.
While researching this aspect from strictly a Marine Corps perspective, after 2011 reports showed a significant increase in alcohol’s impact on suicides. From 2009 - 2011, 13-19% tested positive, then from 2012 - 2013 this value increased to 38-42%. While reviewing the data and literature there was no significant variance in testing requirements or methods for the Marine Corps. This sudden increase is alarming yet is a more direct reflection of what is occurring in the civilian populous. When these statistics are compared to the lack of reporting during the same period there seems to be a direct correlation. In 2009, 44% of all Marine Corps deaths by suicide were not tested for the presence of alcohol. In 2013 this value dropped to 7% which could explain some of the variance in the positive results.

![Alcohol Used During Event](image)

**Figure 4 - Marine Corps, Alcohol Used During the Suicide Event, 2009-2013**

Another consideration during this research is the presence of drugs other than alcohol. According to a report published by the Naval Health Research Center, "The most important finding was that mental health problems, including manic-depressive disorder, depression, and alcohol-related problems, were significantly associated with an increase in the risk of suicide." (Leardmann, & Boyko, 2013, p. 499) This caused the researcher to consider varying elements
associated with prescription and non-prescription drugs. The Armed Forces Medical Examiner does not test for non-narcotic substances during the autopsy process. Personnel responsible for the reporting of this data within the Defense Suicide Prevention Office consider many anecdotal aspects and documentation that resides within the service member's medical record. With these facts in mind it is possible that non-narcotics are underrepresented and the statistics shown are merely revealing the use of narcotics during the suicide. The potential for negative consequences when using alcohol while under the influence of other drugs is well documented and publicized.

![Alcohol and Drugs Present During Event](image)

**Figure 5 - Marine Corps, Alcohol and Drugs Present at Time of Suicide, 2009-2013**

As the data clearly shows, testing for narcotics has revealed an increase in the presence of the combination of alcohol and other drugs. While this number represents a small percentage for deaths by suicide in the Marine Corps, its presence in an institution that has a zero tolerance for drug use is worth researching. In the years leading up to 2009 there was no testing or reporting of these occurrences. Since testing has began there has been a measurable increase in its presence. Nearly 10% of the studied deaths had the presence of alcohol and another substance.
In 2013, the DODSER report showed that 9% of all service member deaths had shown polypharmacy characteristics which is defined by the use of 4 or more drugs.

Another consideration for the purposes of this research is to determine how influential alcohol is on the method used for suicide. The 3 primary methods for the general U.S. population and the Marine Corps are very similar. According to National Violent Death Reporting System, from 2005 -2010, 35.9% of studied deaths had a blood alcohol content of .08 or higher. This same study showed that 38.3 % of these died by hanging and 36.8 % of them died by poisoning. Also of note in this study was the average Blood Alcohol Content (BAC) level present during death. The average BAC of those who tested positive for alcohol was .16 for firearms, .14 for hanging, and .12 for poisoning. The aggregate mean for all methods of death was .15. The most prominent method of suicide for Marines is through the use of firearms. The use of weapons is somewhat intuitive for Marines due to their advanced training on care of weapons, weapon system functions, and marksmanship principles.

Figure 6 - Blood Alcohol Content and Method of Suicide, 2005-2010
The presence of alcohol during a suicide is clearly a large concern for Marines who die by suicide. This also appears to be the case for most populations that this research included. This research included review of studies on the Russian, American Indian, college students, and other cultures outside of the military environment. According to a study released by the American Journal of Public Health, "A meta-analysis of descriptive reports concluded that a median of 37% of suicides were preceded by acute use of alcohol." (Conner, Huguet, Catano, Giesbrecht, McFarland, Nolte, & Kaplan, 2014, 9. 172) This knowledge coupled with the vast amounts of research and education on suicide prevention, risk and protective factors, and other programmatic roles will allow for clear recommendations for the Marine Corps. It will also assist in developing strategic communication plans and improvements in organizational structure that could assist in reducing suicides.

Comparison of United States Military Services

One of the most reliable means of comparing and contrasting the United States Marine Corps is to research the other branches of military service. Each service uniquely addresses their challenges with suicide based on their needs. This is an important aspect of suicide prevention primarily due to leadership's ability to creatively and intently address the target audience. This is true whether the effort is being addressed through training, policy, or overall programmatic roles and processes within the organization. Throughout this research many professionals continued to assess and analyze the military as a single entity. Rarely did researchers consider the differences of each branch of the military. This research considers the similarities and differences as they relate to alcohol's influence on suicide rates and seeks to point out areas that some branches may be doing better than others.
While analyzing the suicide reports by each branch of service there were many evident similarities. This is partially due to the standardized reporting requirements set forth by the Defense Suicide Prevention Office in 2012. Prior to 2012 the lack of standardization caused services to report the most significant factors that related to it's members. While this was sufficient when the services had little to no routine reporting requirement to the Department of Defense, the introduction of DOD level policy has greatly improved reporting. It has also provided the reliability and validity that is needed to draw comparisons amongst the varying branches.

As it relates to alcohol use during a suicide event, it is interesting to note the sudden consistency and increase of reported alcohol usage from 2011 to 2013. The Air Force reported that less than 17% of its suicide deaths had used alcohol during the event in 2010. This value steadily climbed for the following years and in 2013 had skyrocketed to 53.5%. The Marine Corps had very similar values reporting 18.92% in 2010 and 42.2% in 2013. The remaining services saw an increase of approximately 10% during the same time period. The primary anomalies within this data set showed a disturbing increase for the Air Force in 2013 when, as the below graph shows, over half of the members who died by suicide had a BAC level exceeding .08. Another aspect of the data which is worthy of mention was the reporting of Navy values in 2013 which states that 31% of its death by suicides had a presence of alcohol. This is the lowest of all the military services.
Trends concerning the lack of reporting on alcohol's use during suicide are striking similar for each branch of service. The data shows that each of the services had improved reporting over this period, yet there is still a need to identify why some cases do not provide a response to this question. In 2009, the aggregate of DODSER reports showed that 39.6% of all responses did not identify if a member had a relevant BAC level. Disturbingly, this value increased to 47.74% in 2011. This statistic represents nearly half of the decedents and emphasizes a clear concern.

In 2012, soon after the Defense Suicide Prevention Office requirement for standardized reporting across the branches was being introduced, the services showed great improvement in
reporting this information. According to the 2012 DODSER, the aggregate mean for this question dropped to 14.1% with the Air Force remaining a leading concern at 24.6%. The following year, 2013, the aggregate mean dropped to 6.1% with the Marine Corps showing less than 7% and the Navy showing a remarkable 2.4%. While it is clear that compliance of reporting requirements had a positive influence on this topic, there remains a cause for concern.

The Air Force statistics show that nearly 10% were not identified in 2013. From 2009 - 2013, the Marine Corps showed great improvement in this area reaching 6.7% in 2013 from 44.23% in 2009.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Force</td>
<td>9.30%</td>
<td>24.60%</td>
<td>41.30%</td>
<td>42.37%</td>
<td>45.65%</td>
</tr>
<tr>
<td>Army</td>
<td>6.10%</td>
<td>9.70%</td>
<td>54.72%</td>
<td>39.46%</td>
<td>39.22%</td>
</tr>
<tr>
<td>Navy</td>
<td>2.40%</td>
<td>13.60%</td>
<td>35.29%</td>
<td>39.47%</td>
<td>26.09%</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>6.70%</td>
<td>17.00%</td>
<td>41.94%</td>
<td>45.95%</td>
<td>44.23%</td>
</tr>
<tr>
<td>Aggregate</td>
<td>6.10%</td>
<td>14.10%</td>
<td>47.74%</td>
<td>40.93%</td>
<td>39.06%</td>
</tr>
</tbody>
</table>

**Figure 8 - Service Comparison, Lack of Reporting on Alcohol During a Suicide**
Data Analysis Summary

This data clearly showed a connection between alcohol and death by suicide for members of the United States Marine Corps. While trying to determine the extent of the influence prior to a Marine's suicide, there was difficulty defining the proximity to the event. While this was the case for Marine Corps specific data, other populations and contributors to suicide revealed the extent to which it has an influence. Data that was specific to the presence of alcohol during a suicide exceeded expectations. The data that was available and relevant to the United States Marine Corps concerning alcohol's presence at the time of the suicide was supportive and revealed the potential for further research.

The data analyzed during the comparison of military services was helpful in validating concerns that were discovered for the other main topics. Anomalies in reporting and the extent to which the uniformed services have made recent improvements in this area helped to confirm the level of severity of this topic. It also served to show the extent to which alcohol influences suicide in a direct and indirect manner. While the data showed conclusively the direct impact it has by showing its presence during a suicide, it also showed how alcohol can influence the many risk and protective factors revealing how alcohol can be a detriment well before a suicide event.
Chapter 5

Summary, Conclusions, and Recommendations

Summary

The presence and use of alcohol in the Marine Corps culture is a longstanding and generally accepted nuance of serving within its ranks. However, much as society continues to evolve and change, the Marine Corps continues to improve and acknowledge the limitations of this mindset. While many levels of the Department of Defense are influenced by politicians and lawmakers on a daily basis, the Marine Corps must adjust its norms in a similar fashion. The negative consequences of alcohol misuse is a primary example of why it must continue to evolve to remain an elite war fighting instrument for the American public.

This research has proven that a vast majority of alcohol drinkers in the Marine Corps are acting appropriately and accountable for their actions on a daily basis. The amount of suicides within the Marine Corps represents a very small percentage of its entirety. This fact alone will never suffice to stop trying to save the lives of those that protect our country. However disproportionate the resources may be to the amount of people they are influencing, the Marine Corps has a responsibility to care for its own and it does not take this responsibility lightly.

Stress is a part of life that everyone handles in different ways. For some people exercise is a great coping mechanism to reduce stress. For others it may be visiting friends or going to a movie. Unfortunately the availability and acceptance of alcohol use within the Marine Corps is proven to have many negative consequences. Often times these consequences influence the multiple stressors that can lead to the unnecessary loss of life due to suicide. According to one analysis, "Suicide is simultaneously an individual and a social act." (Mastroianni & Wilbur,
This statement speaks clearly to how the actions of an individual can have profound impacts on an organization.

**Conclusion**

One of the conclusions that has been drawn from this research is the confirmation of alcohol's influence prior to a death by suicide for members of the Marine Corps. Mutually imperative is the fact that many stakeholders have been trying diligently to address this problem through changes in policy, reporting requirements, and suicide prevention training. The extent to which alcohol is influencing the stressors that may lead to suicide remains unknown and should be the subject of continued research. The mere diagnosis of substance abuse problems has not proven to be a quintessential factor in whether a person will attempt to take their own life.

Secondly, the presence of alcohol during the act of suicide is more prominent than previously believed. An encouraging element that was revealed by this research is that the Department of Defense has clearly taken measures to ensure standardized reporting which supports validity and reliability of future research efforts. One key fact in this aspect was the ability of the services to reduce non-reporting of alcohol use during a suicide event from 39% to 6% in a period of 4 years. It is likely that this improved reporting has resulted in an increase of confirmed alcohol use during a suicide from 22% to 38%. These facts combined by the amount of resources and expertise being applied to the subject matter should assist in enhancing suicide prevention efforts within the Marine Corps.

Comparing the United States military branches to one another provided for valued insight. Cultural variance and uniqueness that resides in each branch of the military are clearly influencing the impact of societal ills within each element. However, most research that has been conducted on suicide within the military is viewed from a holistic approach. This approach
which masses the separate services together is ineffective when considering the implementation of processes or programs to defend against this problem.

**Recommendations**

Having confirmed the relationship between alcohol and suicide, this research points to a few areas of concern that could be addressed through changes in strategic vision, improvements in training, and compliance of reporting procedures. The following recommendations are supported by this research and could provide for measures that will limit the senseless loss of Marines to suicide.

The first recommendation to leadership is to more closely analyze the relationship of alcohol and the stressors associated with suicide. This research should begin with the most commonly identified stressors currently being seen in deaths by suicide for the Marine Corps. It should consider case studies as a primary means of more clearly defining whether alcohol had an extended impact on those stressors. Existing Behavioral Health assets, including the Substance Abuse and Community Counseling Sections, contain the personnel which possess the required skills, abilities, authority, and access to data that could be used to accomplish this research. The research and analysis would serve to improve existing universal, indicated, and selective interventions by informing its processes and content to more specifically address alcohol misuse, as well as, possibly determine that alcohol is a much greater consideration than is currently being reported.

Secondly, while standardized reporting requirements at the Department of Defense level have resulted in better reporting by the services there is still room for improvement. The Marine Corps should look more closely at why commands are unable to properly complete this obligation and establish policy and/or procedures that support accurate and complete reporting
requirements. The first action that should be taken is to survey the commands that have been responsible for reporting yet did not complete it properly. This will help to ensure existing policy supports its completion and determine any barriers or limitations. The Marine Corps may also consider collecting data that incorporates more of a Marine's career. Most data currently being collected is focused on the time period surrounding the suicide. According to many researchers point of view, the act of suicide and the conditions that may have been set for the individual, likely occurred well before the incident occurred. By completing the first recommendation of this research prior to advancing reporting requirements, the Marine Corps would be certain it is collecting data that is worthy and beneficial.

Finally, this research has shown the apparent risk when alcohol and access to lethal means are combined. The Marine Corps should look more closely at its current protocols and policies as they relate to access to firearms and the potential for a suicide related event. It is recommended that leadership develop a planning team for this purpose. The initial planning team should consist of unit-level leadership, Behavioral Health subject matter experts, legal personnel, and legislative affairs personnel. Developing a strategic plan to address this concern should be at the forefront of their responsibilities.

Each of these recommendations comes with an inherit need to implement or adjust training. In the event any of these recommendations are accepted, leadership must strongly consider the ramifications and lack of expertise by the target audience. Modifying a culture that has been deeply rooted in the use of alcohol will not occur overnight. The strategies that come for these recommendations must consider the educational needs, strategic communication plans, and accountability of the policies that could ensue.
References


Conner, PsyD, K., Bagge, PhD, C., Goldston, PhD, D., & Ilgen, M. (2014). Alcohol and Suicidal Behavior. *American Journal of Preventive Medicine, 47*(3S2), S204-208. http://dx.doi.org/10.1016/j.amepre.2014.06.007


Appendixes

Appendix A - Terminology and Definitions 42
Appendix B - Acronyms 47
Appendix A

Terminology and Definitions

Active Component -
Per the Office of the Deputy Chief Management Officer, the Active component is, “the portion of the armed forces as identified in annual authorization acts as ‘active forces,’ and in section 115 of Title 10 USC as those Active Duty personnel paid from funds appropriated for Active Duty personnel.”

Article 15 -
A provision under the Uniform Code of Military Justice which gives commanding officers ability to impose nonjudicial punishment upon soldiers who commit minor offenses within their units.

Death-risk gambling -
Any game of chance with death or serious injury as a potential outcome. Examples include “Russian roulette.”

Deployment -
Per the Office of the Chairman, the Joint Chiefs of Staff, a deployment is defined as “a troop movement resulting from a Joint Chiefs of Staff (JCS)/combatant command deployment order for 30 continuous days or greater to a land-based location outside the United States. This deployment location does not have permanent U.S. military medical treatment facilities (i.e., funded by the Defense Health Program) and may or may not be directly supported by deployed medical forces.” SMs who deployed and had at one location identified as part of Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF), or Operation New Dawn (OND) were considered to have been OEF/OIF/OND deployed. Per the RAND report, “Army
Deployments to OIF and OEF,” 2010, the identified locations included: Afghanistan, Bahrain, Djibouti, Iraq, Kuwait, Kyrgyzstan, Oman, Qatar, Saudi Arabia, and Uzbekistan. Additionally, the sea boundaries of the Red Sea, the Gulf of Aden, the Gulf of Oman, and the Arabian Sea, north of the 10ºN latitude and west of the 68ºE longitude and the air space over all countries and sea boundaries listed above.

**Duty status** -
SMs are considered to be in a duty status if they are members of the Active Component and are not identified as being AWOL or in a deserter status. Per the Office of the Assistant Secretary of Defense for Reserve Affairs, SMs of the Selected Reserve are in a duty status if they are identified as currently engaged in Drill or Training, or being in the Simultaneous Membership Program.

**Medical evaluation board** -
Informal proceeding evaluating the medical history of a SM to determine how the injury/disease will respond to treatment protocols. This is used to determine if the medical condition and/or physical defect will render the SM unfit for duty.

**Planned and/or premeditated** -
Evidence the event was planned and/or premeditated includes verbal discussion of plan, written notes, email/chat-room discussion, or other evidence of plan such as preparatory behaviors (e.g., giving possessions away, purchase of materials to facilitate suicide, etc.).

**Polypharmacy** -
Being prescribed any four or more medications taken concurrently with any one of them being a psychotropic or central nervous system depressant.

**Psychotropic medications** -
A type of medication that directly affects the mental, emotional and behavioral states when consumed by an individual. Such medications are used to treat disorders such as depression or bipolar.

**Selected Reserve** -
Per the Office of the Assistant Secretary of Defense for Reserve Affairs, the Selected Reserve “consists of those units and individuals within the Ready Reserve designated by their respective Services and approved by the Chairman, Joint Chiefs of Staff, as so essential to initial wartime missions that they have priority over all other Reserves. All selected Reservists are in an active status…This category includes all Guard and Reserve personnel who have Selected Reserve agreements, whether trained or not.

**Self-harm (without intent to die)** -
A self-inflicted, potentially injurious behavior for which there is evidence (either implicit or explicit) that the person did not intend to kill himself/herself (i.e., had no intent to die).

**Suicidal ideation** -
Any self-reported thoughts of engaging in suicide-related behaviors.

**Suicide** -
Self-inflicted death with evidence (either explicit or implicit) of intent to die.

**Suicide attempt** -
A self-inflicted potentially injurious behavior with a non-fatal outcome for which there is evidence (either explicit or implicit) of intent to die.

**Traumatic brain injury** -
A traumatically induced structural injury and/or physiological disruption of brain function as a result of an external force that is indicated by new onset or worsening of at least one of the following clinical signs, immediately following the event:

a) Any period of loss of or a decreased level of consciousness;

b) Any loss of memory for events immediately before or after the injury;

c) Any alteration in mental state at the time of the injury (confusion, disorientation, slowed thinking, etc.) Neurological deficits (weakness, loss of balance, change in vision, praxis, paresis/plegia, sensory loss, aphasia, etc.) that may or may not be transient Intracranial lesion.
### Appendix B

**List of Acronyms**

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD</td>
<td>Active Duty</td>
</tr>
<tr>
<td>AFMES</td>
<td>Armed Forces Medical Examiner System</td>
</tr>
<tr>
<td>AWOL</td>
<td>Absent without official leave</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence interval</td>
</tr>
<tr>
<td>CY</td>
<td>Calendar year</td>
</tr>
<tr>
<td>DMDC</td>
<td>Defense Manpower Data Center</td>
</tr>
<tr>
<td>DOD</td>
<td>Department of Defense</td>
</tr>
<tr>
<td>DODSER</td>
<td>Department of Defense Suicide Event Report</td>
</tr>
<tr>
<td>DSPO</td>
<td>Defense Suicide Prevention Office</td>
</tr>
<tr>
<td>MTF</td>
<td>Medical treatment facility</td>
</tr>
<tr>
<td>OEF</td>
<td>Operation Enduring Freedom</td>
</tr>
<tr>
<td>OIF</td>
<td>Operation Iraqi Freedom</td>
</tr>
<tr>
<td>OND</td>
<td>Operation New Dawn</td>
</tr>
<tr>
<td>OTC</td>
<td>Over the counter</td>
</tr>
<tr>
<td>SR</td>
<td>Selected Reserve</td>
</tr>
<tr>
<td>SM</td>
<td>Service member</td>
</tr>
<tr>
<td>SMCR</td>
<td>Selected Marine Corps Reserve</td>
</tr>
<tr>
<td>SPPM</td>
<td>Suicide Prevention Program Manager</td>
</tr>
<tr>
<td>T2</td>
<td>National Center for Telehealth &amp; Technology</td>
</tr>
<tr>
<td>TDY</td>
<td>Temporary duty</td>
</tr>
<tr>
<td>USMC</td>
<td>United States Marine Corps</td>
</tr>
</tbody>
</table>