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IMPACT OF PSYCHOLOGY RESEARCH ON FEMALE MILITARY SERVICE MEMBER RETENTION

March 2023

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This research aims to understand better psychology's role in shaping female decisions to leave U.S. military service. The study problem driving this research is to determine whether psychological factors are an underlying cause of attrition and the challenges that females in the military face with female retention. Specifically, this study seeks to understand how psychology has been used to understand our subject of interest. We compiled academic articles and other relevant material through searches of Web of Science, EBSCO, JSTOR, CRS, and GAO databases. Our period of interest covered 1978–2022. The search parameter of 1978 coincides with Public Law 95-485, that established female integration into regular service in the U.S. military. Our keywords in our searches were: female, military, retention, and psychology or analogous related words to our four keywords. We found recurring words or themes in psychology that corresponded to a military culture centered on masculinity. The identified military type of masculinity known as "hegemonic" masculinity serves to maintain male privilege, resulting in female exclusivity in the military. According to our findings, the military culture impacts their overall physical and mental health, well-being, and safety, contributing to female servicemember attrition. Future research is needed to understand this culture and to implement policy changes that will ensure equality and the safety of female service members.

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IMPACT OF PSYCHOLOGY RESEARCH ON FEMALE MILITARY SERVICE MEMBER RETENTION

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ABSTRACT

This research aims to understand better psychology's role in shaping female decisions to leave U.S. military service. The study problem driving this research is to determine whether psychological factors are an underlying cause of attrition and the challenges that females in the military face with female retention. Specifically, this study seeks to understand how psychology has been used to understand our subject of interest. We compiled academic articles and other relevant material through searches of Web of Science, EBSCO, JSTOR, CRS, and GAO databases. Our period of interest covered 1978–2022. The search parameter of 1978 coincides with Public Law 95-485, that established female integration into regular service in the U.S. military. Our keywords in our searches were: female, military, retention, and psychology or analogous related words to our four keywords. We found recurring words or themes in psychology that corresponded to a military culture centered on masculinity. The identified military type of masculinity known as "hegemonic" masculinity serves to maintain male privilege, resulting in female exclusivity in the military. According to our findings, the military culture impacts their overall physical and mental health, well-being, and safety, contributing to female servicemember attrition. Future research is needed to understand this culture and to implement policy changes that will ensure equality and the safety of female service members.

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LIST OF ACRONYMS AND ABBREVIATIONS

CRS	Congressional Research Service
DA	Department of the Army
DADT	Don't Ask Don't Tell
DOD	Department of Defense
DSM	The Diagnostic and Statistical Manual of Mental Disorders
EEOC	The U.S. Equal Employment Opportunity Commission
GAO	Government Accountability Office
LBGT	Lesbian Gay Bisexual Transgender
MIJIAP	Military Justice Improvement and Increasing Prevention Act
MST	Military Sexual Trauma
NAVA	National Archives and Records
PO1	Petty Officer First Class
PFC	Private First Class
PTSD	Post-Traumatic Stress Disorder
SOF	Special Operations Force
SPARS	Semper Partus-Always Ready
SPC	Specialist
U.S.	United States
WAAC	Women's Axillary Army Corps
WAFs	Women Accepted Ferry Squadron
WAPS	Women's Airforce Service Pilots
WAVES	Women Accepted Volunteer Emergency Services

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I. INTRODUCTION

A. BACKGROUND OF THE PROBLEM

Today's diverse military includes a higher percentage of women compared to when females were first allowed to serve in the armed forces. The Pew Research Organization reported the population of enlisted females in the Department of Defense (DOD) increased from 42,278 females (10.4%) out of an estimated 405,000 total end force in 1973 to 166,729 (11.7%) out of 1.42 million total end force in 2010. Moreover, the number of female officers increased from 12,750 (1.0%) to 35,341 (2.5%) in the same period (Patten & Parker, 2011). However, there has been a significant reduction in number of women who wish to remain in the military after their initial years of service commitment. Female active-duty personnel in all roles were 28% more likely to leave the service than their male counterparts after their first or second tours in the service (U. S. Government Accountability Office [GAO], 2020). Some of the reasons for these separations (e.g., sexual harassment and assault, as well as family needs) are more generally thought of as affecting females than males. While it is worth considering whether these are gendered problems or if it would be better to consider these problems as applying to all service members, that is not the focus of this study. Instead, we see these problems as being related to the psychological needs of service members. Consequently, we seek to understand some of the reasons for attrition which may have a psychological aspect that we do not yet fully understand. We believe that by understanding these psychological factors, there is a better chance not only for retaining female service members and their talents, but also continuing to raise the standard beyond the "glass ceiling."

In 1978, Marilyn Loden, a management consultant and diversity advocate, came up with the metaphor "glass ceiling" to emphasize and describe the challenging "invisible barrier" women experience in their careers when moving into higher positions within an organization that is hierarchically male dominated (Kang, 2022, para.2). An example of this that is applicable to the military is the Blanket Combat Exclusion policy, which banned women from serving in ground combat units. In 2012, the DOD rescinded the

Blanket Combat Exclusion policy which then opened roles for female military service members (Williams, 2017). In turn, this step allowed women to gain equal "authoritative leadership positions" in all job opportunities, and roles previously reserved for their male counterparts enabled women. In some sense, it "shattered the glass ceiling" in military history (Williams, 2017, p. 3).

On International Women's Day (March 8, 2021), President Joe Biden praised DOD efforts in addressing issues that female service members face in the armed forces and the efforts made to accommodate them, such as those related to hair regulations and maternity uniforms (The White House, 2021, para.18). President Biden stated, "they all know that there's much, much more work to be done to ensure that women's leadership is recognized, and we have more diverse leaders, we reach the top echelons of command for all who are qualified, including all women, and that all women feel safe and respected in our military, period" (The White House, 2021, para 18).

Although female service members have opportunities to serve in equal capacities, and in so doing increase the gender diversity of the military, retaining women in the service is a significant challenge within the military, according to Reynolds and Shendruk (2018). According to GAO, the DOD's efforts to recruit and retain women [needs] to be treated as equally critical to maintaining a diverse force, without women there will not be a gender diverse force (GAO, 2020).

There are experiences that female service members encounter while serving that led to psychological issues impacting their mental health and that cause them to leave the military. Van Laar claims these experiences negatively impact "associated numbers that are important to the 'organizational outcome'" (1999, abstract), such as the service members' commitment, performance, retention, and readiness. We want to assess female retention through the lens of psychology. We will look at published research to consider how these psychological challenges influence female retention in the military. We want to look at the variables that are inhibiting female retention. We also want to assess what, if any, significant factors impact female service members' commitment, performance, retention, and readiness and are thus critical to understanding the psychological challenges women face while serving. Thus, the goal of this research is to assess if

psychological factors are being researched in peer-review journal articles and government documentations.

B. SCOPE OF THE PROJECT

This project is broken into two parts. First, we identified government and peer reviewed publications that addressed psychological impacts on female service members' performance, readiness, and commitment to the service. Based on this body of information, we identified critical issues and trends in the research concerning retention. The second part of the study discussed whether there is a connection between recent research, retention of female service members, and policies, as well as where psychological issues are addressed in the academic studies we considered. We used four keywords (i.e., female, military, retention, and psychology) to find articles in databases that addressed the retention of females in all military services. Specifically, we searched Web of Science, EBSCO, JSTOR, Congressional Research Service (CRS) Reports, and Government Accountability Office (GAO). Subsequently, we conducted a content analysis of articles we retrieved from these databases, which were published between 1978, when women fully integrated in the military, and the present day.

C. OBJECTIVE AND GOAL

Our initial intention was to identify the psychological issues that inhibited the retention of female military service members. In doing so, we wanted to understand how psychological factors might influence the rise in the number of women leaving the military. We achieved this goal by assessing peer-reviewed studies and government documents. The analysis of existing studies, and, perhaps more importantly, those factors not addressed in this body of literature, suggest that current attention to the psychological considerations may prove insufficient to retain female talent in the service. Nevertheless, the findings of this research are intended to bring awareness to military leaders and policymakers that various psychological factors have on female service members. One future outcome we hope to see is that this work might be used in some way to make supplemental changes to laws and policies affecting the retention of female service members.

D. RESEARCH QUESTIONS

This paper aims to address the following primary question:

(1) What role does psychology play in shaping female decisions to leave the service?

In addition, the paper aims to address the following secondary research questions:

(2) To what extent do academic publications address the psychological impacts on female service members' commitment, performance, retention, and readiness to serve?

(3) Where do opportunities lie for future research that can contribute to an understanding of the challenges faced by female service members as they consider whether to remain in the military?

(4) What recommendations based on this thesis project might contribute to future efforts regarding how the U.S. military could use psychology in thinking about female service members' retention?

E. OVERVIEW

The focus of this study is to see what factors play a role in females leaving military service and how those factors can be understood to better retain females in the military. In the following chapters, we will analyze the literature which discusses how women integrated into the military since 1978. We also discuss some relevant topics in this area of research, specifically pertaining to female servicemember retention. Then, we will compile the data on female service member retention which we collected from academic and governmental research databases. Next, we analyze the documents that met our search criteria. Finally, we discuss the results from our findings and respond to our one primary and three secondary research questions.

II. LITERATURE REVIEW

The purpose of this literature review is to identify variables and patterns that inhibit female military retention, using data from scholarly journals to better understand if there is a relationship between psychological challenges faced by female service members and the factors influencing attrition. For example, we discuss major milestone events such as the beginning of women's service in the military, the first integration of females in each military branch, the Women's Armed Service Integration Act, and the Combat Exclusion Policy. In the next section we turn our attention to the subject of psychology. We discuss how this project defines psychology and the present-day challenges of female service members understood through this lens. After that, we will then conclude with a review of the state of existing research on female servicemember retention.

A. WOMEN IN MILITARY HISTORY

Prior to the official integration of women in the armed forces, women had always served beside men from the American Revolutionary War to the most recent war in Afghanistan. During the Revolutionary War, women were not on the front lines, and some hid their gender identities to fight alongside men (DeSimone, 2021). Supporting roles included sewing torn uniforms, cooking, first aid assist, and cleaning around base and military weapons, such as cannons (DeSimone, 2021). During the U.S. Civil War, women were officially able to serve in the military with the title of nurse, and if they ran a "military hospital," they were given a rank and received pay from the military (Adrienne, 2021, para. 6). After the Revolutionary War, females continued their service through support roles during World War I, where female service members served in non-combatant positions as clerks, phone operators, or radio operators (DeSimone, 2021).

During World War II, women began to answer America's call to serve in further non-combatant roles in the Army's Women's Axillary Army Corps (WAAC), the Army's Women Auxiliary Ferry Squadron (WAFs)—later known as Women's Airforce

Service Pilots (WAPS)—the Navy's Women Accepted for Volunteer Emergency Service (WAVES), and the Coast Guard women reserve component also known as "Semper Paratus-Always Ready" (SPAR) (Blakemore, 2019, para. 7). Those noncombatant roles were as close as women could get to fighting near the front lines (Blakemore, 2019, para. 5).

On June 4, 1948, President Truman signed Public Law 625 Chapter 449, also known as the Women's Armed Services Integration Act, which permitted female service members to permanently serve in the U.S. military (Gorbulja-Maldonado, 2020). To have females serve, the following restrictions were in place: 1) women were not allowed to constitute more than two percent of the armed forces and 2) female service members were prohibited from roles that fulfilled combat obligations of any sort. This second piece was known as the Combat Exclusion Policy (Congressional Act,1948).

In 1993, Congress repealed the Combat Exclusion Policy, authorizing females to serve onboard a combatant ship and allowing women to fly combatant missions (Congressional Act, 1978). In 1994, Secretary of Defense Les Aspin approved the Direct Combat Exclusion Law which directly changed the Direct Ground Combat Definition and Assigned Rules doctrine. The rule allowed any service member eligible to qualify for positions that they wish to be assigned to. The caveat to that rule excluded women from joining units whose primary mission is to "engage in direct combat on the grounds" (Department of Defense [DOD], 1994, para. 4). The definition of "direct combat," according to the DOD Direct Ground Combat Definition and Assigned Rule, states "engaging an enemy on the ground with individual or crew served weapons, while being exposed to hostile fire and to a high probability of direct physical contact with the hostile force's personnel" (DOD, 1994, para. 5).

In 2011, women were authorized to serve in combatant roles on submarines (Moore, 2020). In 2016, the Secretary of Defense, Ashton Carter, declared that all combatant job opportunities that had not been traditionally available to women would be open to all females within all services. If women possessed qualifying scores on exams for the job and met relevant physical requirements, they could serve in the role (Perllerin,

2015). From working to aid the troops in the Revolutionary War, to flying in planes or fighting as boots on grounds during combat, females have proved themselves talent worthy and an asset to be retained.

B. DEFINING PSYCHOLOGY IN THIS PROJECT

This section will discuss how psychology will be used to assess the peer-reviewed articles and government documents in our research. Psychology has been defined as "the scientific study of mind and behavior"; however, it best outlines the path to advancing our knowledge (scientific study of behavior), while concentrating on comprehension of what that behavior is about, and how to make sense of it (study of the mind) (Statt, 1998, p. 110). This relationship considers both the environment and the individual, and how they relate to each other. To understand the relationship between female retention in the military and the significant factors that impact this decision, we must consider historical behavior toward women in service since 1978, when females were allowed to serve, up to the present day. We also want to see the relationship between the military's organizational culture and other social psychological influences on females' ability to perform and be in a state of readiness and commitment to the military.

C. PSYCHOLOGY TIMELINE IN THE MILITARY

The development of the field is most closely linked to early 1900s rival schools in German-speaking Europe, and the United States, where the discipline of psychology was most thoroughly established (Ash, 2005). Psychology as a profession would come to integrate an increased public awareness of specific social problems, leading to the development of new methodological instruments, such as intelligence tests and personality inventories, which have had a large feedback effect on research (Ash, 2005). This development suggests an internal and external relationship between society and, for the purposes of this research, the military, which may or may not influence the operations and decisions of an organization. The relationship between the subject and the environment, however, can affect an individual not only physically, but emotionally, and mentally as well.

Mental health can be defined as:

> a state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society, and meet the ordinary demands of everyday life. (Sabella, 2013, p. 62).

However, according to The World Health Organization (WHO),

> mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make contribution to her or his community. The positive dimension of mental health is stressed in WHO's definition of health as contained in its constitution: "Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." (Sabella, 2013, p. 62)

Furthermore, according to The World Health Organization, health is defined as "a state of complete physical, mental, and social well-being" suggesting that there is an interdependency between the three (Galson 2009, p. 189). However, the use of psychology as a tool for recruitment of individuals into specific roles in the military does not directly translate to maintaining peak performance, readiness, and commitment of service members.

Military psychology, according to Maheshwari, is a "discipline which is concerned with recruiting, training, socializing, assigning, employing, deploying, motivating, rewarding, managing, integrating, retaining, transitioning, supporting, counseling and healing military members" (Maheshwari, 2016, p. 14). After the events of World War I, psychology involved the widespread use of aptitude and vocational tests for worker selection and worker classification (Gomberg, 1957). The objective was to determine how, and how well, a candidate would fit and fill the needs of the employer, which would thus affect the operability of an organization. The following are applications of psychological research in the military environment.

(1) Recruitment, selection, placement, training and retention of military personnel.

(2) Prediction and enhancement of combatant performance in harsh environments.

(3) Human engineering design of complex weapon systems for effective use by soldiers, airmen and marines.

(4) Training procedures to mould well-honed military teams by maximizing specialized differential skills to permit success on tough missions.

(5) Soldier coping mechanisms for deployment to foreign lands, or to carry out extended hours of work, or to work under austere conditions.

(6) Soldiers' abilities to adjust to countless intricacies of military lifestyle.

(7) Collection and interpretation of large amounts of psychological data to assist military leaders and civilian authorities in making smart decisions and informed policies that affect millions of military members and their families.

(8) Providing advice on integrating people of diverse ethnic and social backgrounds into the workplace. (Maheshwari, 2016, p. 15)

The list suggests an emphasis on performance, readiness, and commitment to both sustain the military's operational capability itself as well as the connection between the organization, service members, and their families. This mutual benefit for the organization and the service members, or the "psychological contract," according to Pines (2002), is critical to the longevity of operations.

Outside of the military, employees' professional relationship with their employer is based on a written and unwritten agreement described by Pines as a "psychological contract" to articulate a mutual understanding of loyalty to the organization and vice versa, based on established roles and responsibilities (2002). For service members entering the military, the expectation of duties and responsibilities are laid out at contract signing, in training, and throughout a member's time in service. Throughout, there is an understanding that there is a significant risk to the life of the service member. However, not all risks are associated with the battlefield, on the front lines, or in a hazardous environment. And, as we will cover, some of these risks that have

psychological impacts that affect performance, readiness, and commitment both in the workplace and closer to home.

D. MASLOW'S HIERARCHY OF NEEDS IN THE MILITARY

Service members expect that their fundamental needs will be provided by the military. According to Maslow's Hierarchy of Needs (Triveda & Mahta, 2019), those physiological needs include those that are needed to physically function and thus fulfill their duties and responsibilities per regulation. These needs are often depicted or portrayed as the lowest level of a pyramid diagram comprised of food, shelter, clothes, rest, air, water, and sleep (see Figure 1). The latter needs are often referred to as biological necessities because they take precedence over all other requirements; these needs cannot be postponed for lengthy periods of time and must be properly met before the needs delineated in the next level in the hierarchy can be addressed (Trivedi & Mehta, 2019).

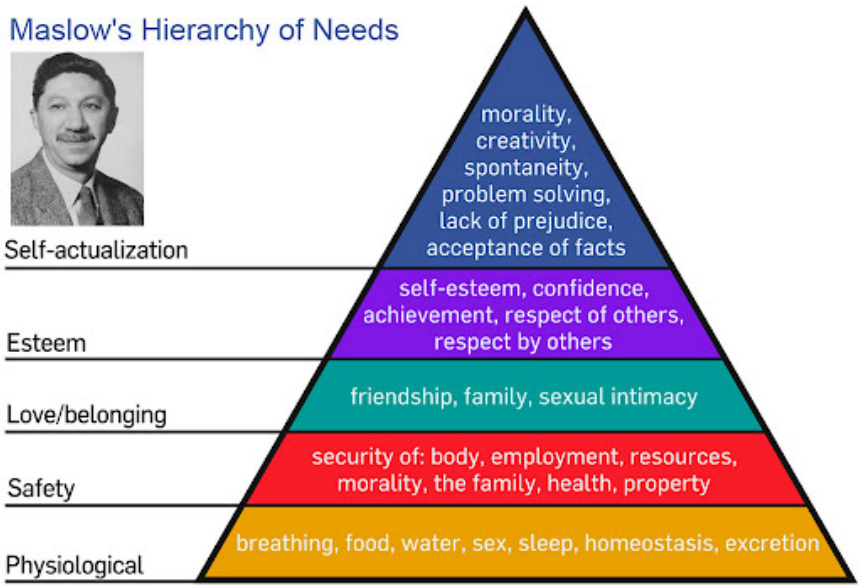

Figure 1. Maslow Hierarchy of Needs Pyramid.
Source: Trivedi and Mehta (2019).

This next tier involves security and safety needs: these refer to such things as physical safety, work security, old-age pensions, and even life insurance coverage (Trivedi & Mehta, 2019). These matters address the needs explained at contract signing and promised through various initiatives to retain service members including but not limited to bonuses, retirement benefits, and medical services and benefits. Trivedi and Mehta also describe the third-tier, love and belonging, as "social need" where employees have the desire to belong in a group that "accepts him [or her] with love and affection" (Trivedi & Mehta, 2019, para.10). The next level tier known as esteem; requires two forms in order to be satisfied: 1) "Self-confidence, respect, and competence" 2) "related to one's status, reputation, recognition and appreciation by others" (Trivedi & Mehta, 2019, para.11). The last and final tier is self- actualization, or a "desire to become what one is capable of becoming" (Trivedi & Mehta, 2019, para. 12). What should be noted though is that "individuals' most basic needs must be met before they become motivated to achieve higher level needs" (Trivedi & Mehta, 2019, para. 2), which suggests that an individual will not desire to reach a higher level or tier if the requirements for a specific tier are not fully met.

E. PSYCHOLOGICAL FACTORS AFTER THE MILITARY

According to the psychological agreement between the military and the service member, when a service member returns from a deployment, they should anticipate getting the support and assistance they require to be contributing members of society as well as the organization they served and sacrificed for. Yet the notion of not being fit for full duty, and the reintegration into society, has implications for a service member who is willing, but unable to continue serving the organization. The focus of using psychology for military applications shifted from streamlining recruitment for war efforts and weaponizing it on the battlefield, to being driven by the need to deal with large numbers of mentally ill veterans after World War II (Ash, 2005). This post-war effort would continue for following wars, most notably the Vietnam War. Previously, fit and fill (i.e., if a servicemember meets the basic requirements to fill a needed position) was used to determine if a candidate would be able to support operations from a recruitment and sustainment angle. This shift in direction suggests retention of a military service

member depended on the results of a post-war assessment. This focus would translate to later wars, specifically to the wars in Afghanistan and Iraq. Additionally, results of studies would provide specific evidence of the prevalence of Post-Traumatic Stress Disorder (PSTD), major depression, and/or brain injury among troops deployed (Ramchand, 2008).

PTSD "emerged as much from politics as from medicine"—it was a product of the activism of Vietnam veterans (Xenakis & Friedman, 2012, p. 8). It was tied to a political movement in the 1970s to pay compensation for Vietnam War veterans when it first appeared on the Diagnostic and Statistical Manual of Mental Disorders (DSM) in 1980 (Brock, 2006). DSM is a widely used resource by psychiatrists to diagnose psychiatric illnesses (Vahia, 2013). PTSD is defined as "a psychiatric disorder that may occur in people who have experienced or witnessed a traumatic event such as a natural disaster, a serious accident, a terrorist act, war/combat, or rape or who have been threatened with death, sexual violence, or significant injury" (American Psychiatric Association, 2013, abstract). For military service members, this phenomenon is often associated with combat-related events including deployments.

Mental health conditions are defined as a type of psychological disorder that affects the emotions of an individual, thinking, and [behavior]. Seeking mental health treatment outside of this operation or category can lead to a negative stigma which will prevent a service member from seeking attention for mental health (Acosta, 2014; Barrnett, 2022). Furthermore, mental illness can weave itself to an individuals' "physical health, parenting, work, childbearing, finances, caregiving, and common daily activities" (Galson, 2009, p. 189) affecting to a high degree the performance, readiness, and commitment of service members. With the conditions service members are faced with that not only challenge the ability to attain a certain level within Maslow's hierarchy, but also have a resulting impact on emotion, thinking, and behavior, the results of not having the psychological contract met only exacerbates the negative position of seeking treatment. This stigma is further compounded for women who must endure additional psychological challenges in a male-dominated organization. Furthermore, if the security of body and health of the individual are compromised, forcing female service members to

have to stay within the second tier of Maslow's Hierarchy, unable to advance to the upper-level tiers of love/belonging, esteem, and self-actualization in an organization that promotes comradery, leadership, and innovation because, according to Maslow's Hierarchy, females do not feel safe.

F. PRESENT-DAY PSYCHOLOGICAL CHALLENGES

Women have come a long way to serve the military. While men fought in the battlefields, women struggled to obtain an official position in the armed forces, to working side-by-side equally to males. It was not until 1967 that the policy changed from permitting women to hold the rank of General or flag- level positions to having female Generals or flag-level positions (Bensahel et al., 2015). Socially, in the media, the military is increasing its gender diversity by highlighting achievements as historical markers for the U.S. armed forces. Those historical markers highlight progress in the form of six female service members' rising to the ranks of a four-star Admiral or General and having the very first female Under Secretary of Defense, Michèle Flournoy (Mehta, 2020).

At the same time, media sources such as the New York Times have highlighted the psychological factors that affect females' and veterans' mental and physical struggles through their military experiences including, but not limited to the following:

- Physiological (basic needs of sleep)
- Sense of Belonging
- Safety
- Sexual orientation
- Serving in the military with family challenges
- Sexual Assault/Harassment

This list relates to Maslow's Hierarchy of Needs, which describes the psychological challenges that female service members face today. These challenges are

invisible barriers that prevent female service members from being physically and mentally committed to the service, performing their duties, remaining in the service, and being ready to serve in full capacity based on the stories that we will discuss.

In 2019, the New York Times published 40 submissions solicited from still-serving female military service members. These submissions described experiences and challenges faced while serving, including many psychological challenges. One story is about a Petty Officer First Class (PO1), Jean Corait, who reported to her first ship in 2004. She later stated, "I found out I was the first female enlisted Sailor to ever be stationed onboard. They did not even have a place for me to sleep" (Katzenburg, 2019, para. 10). Yet, it had been 26 years since females in the military were allowed on combatant ships when Petty Officer Corait arrived on her first ship. We believe that, in terms of law (rules and regulations), the military has approval processes for females to serve alongside men. However, in reality, it is not until females report to a military unit for the first time that it is discovered if adequate accommodations, such as sleeping arrangements, have yet to be arranged for them.

Similarly, the lesser treatment of females is shared by the Lesbian, Gay, Bisexual, and Transgender (LGBT) community within the military. In September 2011, the Don't Ask, Don't Tell (DADT) Military Policy ended. The end of this policy allowed Lesbian, Gay, and Bisexual service members to openly service. However, this end of policy excludes transgender service members if they have made their status known and could be medically discharged if suspected of being transgendered while in the service (Gates & Herman, 2014). In 2014, research showed that approximately 15,500 transgender service members were secretly serving in the military and 134,300 individuals who transitioned gender after service (Gates & Herman, 2014).

In January 2021, the Pentagon released new policies that allowed transgender people to serve in the military openly. This policy granted individuals the ability to re-identify their gender specifics and be authorized to serve in the military if they met all the appropriate standards and eligibility requirements, as well as being recognized in their self-identified gender (Wamsley, 2021). However, the impact of this policy would have negative ramifications affecting both units and service members. One example is of

Staff Sergeant Kate Cole who is now an openly transgender woman serving in the U.S. Army in a combat unit. Despite the policy change, she has faced discrimination from her unit and her relationships with her peers have been compromised (Katzenburg, 2019, para. 18).

In trying to understand if the incidents experienced by females in the military were isolated, comparisons were made to the private sector. Recent studies have also shown that women in the private sector discussed similarities in psychological experiences and psychological challenges to what female service members face when discussing family in the workforce. According to Benshahel et al. (2015), "our research identified ... key issues that women in the military and in the private sector face throughout their careers: promotion paths and rates of promotion; parenthood and career flexibility; mentors and sponsors. …workplace climate; and managing dual professional careers" (p. 13).

Being a woman in a male-dominated work culture can cause social and psychological problems for women throughout their careers, regardless of their field of work. A brief list of topics in the following paragraphs will fall into a similar subject area, discussing female challenges such as pregnancy, parenting, and motherhood.

In terms of security and safety needs, female service members not only have their obligation to the military but also to their families. Parenting can impact women's careers by the need for taking time off from work for maternity leave or having a required childcare plan in places where there are very few or no policies supporting the needs of family life (Bensahel et al., 2015). A study was conducted on female service members regarding the current maternity policy. The previous maternity leave policy stated that a female was allotted six weeks of maternity leave. The results of this study concluded that, "Pregnant officers, experienced mothers, and single women used less leave than nonpregnant women in the months leading up to birth" even with the additional days in the maternity leave policy, pregnant service members would still save their leave days to use postpartum (Bacolod et al., 2022, abstract). The fear of a female service member who recently gave birth losing their job security is challenging for such servicemembers. This challenge, as previously stated, has caused them to request additional days off from their

allotted time off to adjust to having a child and recovering entirely from birth. This impedes not only the safety tier but also their readiness and self-actualization of being in the best of themselves to return to the military environment after a birth event.

Likewise, the *New York Times* has some stories that address dual-military family challenges while being separated from each other due to service obligations. Kristi Farmer Hudson was a mother who had served in the U.S. Air Force and deployed overseas to Afghanistan while her eight-year-old daughter was being cared for by relatives stateside. Kristi was in a dual-military household with a husband who was also serving and were both at the time stationed in Germany. Ten months later, her daughter returned to Germany to be with her after deployment. Being away from her daughter was not easy for her (Katzenburg, 2019, para. 19). In another example, Lieutenant Colonel Somers, U.S. Air Force and mother of three, was deployed to Djibouti in 2020 and had a husband in the military. Somers and her husband are in leadership positions, making it difficult to find childcare for their children and therefore they must bring in relatives to help (Grose, 2020). Females who are dual-military or single mothers who were separated from their children have voiced their concerns about being away from their children due to military obligation, often leaving the services due to "limited stable and safe placement options for children" while deployed (GAO, 2020, p. 30). Returning to the subject of these two stories, the emphasis is not solely on female service members and the psychological impact reflected in Maslow's Hierarchy of Needs. In addition, the safety and physiology of the children of female service members are jeopardized. Will the children have someone to look after them, provide them with a roof over their heads, and ensure that they eat and sleep properly? Psychologically, this could potentially affect female service members' readiness and commitment to the military if they are worried about childcare.

Another challenge that females in the military are subjected to that impacts not only operational readiness through physical, mental, and emotional trauma but also trust in the organization is sexual assault. Sexual assault impacts the safety tier of female service members in Maslow's Hierarchy of Needs. Female Marine Florence Shmorgoner is a victim of sexual assault. She was afraid to report the assault because she did not want

to be labeled a troublemaker. Kristi Anthony, U.S. Marine, who also is a victim sexual assault in the military, discussed that females who join the military not only signed a contract to commit to the service but commented that "being a woman in the military is basically signing a sexual assault/harassment contract" (Katzenburg, 2019, para. 14). Eventually, Shmorgoner gained courage to report her assault, but the process took over a year to come to completion. Shmorgoner stated, "I was fortunate enough to go to counseling and see a psychologist and was found to have depression, anxiety disorder, and PTSD—all stemming from the assault. I struggled with my self-worth more than I would like to admit. Many days, I contemplated suicide" (Katzenburg, 2019, para. 14). Shmorgoner identified psychological factors through her experience from being a victim of sexual assault which has led her to undergo treatment to cope from a traumatizing event. The perceived notion of being labeled a troublemaker highlights a barrier to mental health care when needed that has psychological roots and could influence readiness, retention, etc.

G. STIGMA ON PSYCHOLOGICAL IMPACTS

The U.S. Equal Employment Opportunity Commission (EEOC) defines sexual harassment—this applies to all organizations—as "unwelcome sexual advances, requests for sexual favors, and other verbal or physical harassment of a sexual nature" (U.S. Equal Opportunity Commission [EEOC]. n.d., para. 1). The EEOC conducted a sexual harassment study among civilian sector employees in 2016. According to the study's findings, 70 percent of employees who experienced sexual harassment did not report the incident due to fear of retaliation or employee underreporting, including employee uncertainty about when an action crossed the line rendering it harassment (Clements, n.d.). This suggests the problem of harassment is both 1) important and 2) not limited to the military.

Sexual harassment is a psychological social issue for females in the military. Public Law 117-81 defines sexual harassment in the military as Military Sexual Trauma (MST), which means "a physical assault of a sexual nature, battery of a sexual nature, or sexual harassment during active military, naval, or air service" (Specialized Teams to

Evaluate Claims Involving Military Sexual Trauma, 2021, para. 4). In the military, there is a lack of confidence in and satisfaction with the military system when reporting sexual assault or harassment (Duplantis, 2020). More than a quarter of the victims chose not to come forward immediately with their experiences of sexual assault or harassment at the time of the incident. However, they reported it after they transferred to another command, were discharged from the military, or disclosed their incident through other means (medical examinations, therapy, etc.). They chose not to say anything because they might have thought their superiors or coworkers would view them negatively. Another one-third of victims who did not report their sexual assault or harassment immediately believed that doing so would not be justified or that the perpetrator would not be held accountable (Duplantis, 2020).

The 2003 data, below, represent the number of Soldiers and Marines from infantry units who reported on their experience with mental medical services. They were asked about what they consider is a "barrier" and stigmas that stops them from seeking treatment (Acosta, 2014):

> 65 percent reported that they would be seen as weak,
>
> 63 percent believed that others would treat them differently,
>
> 59 percent felt that members of their units would have less confidence in them,
>
> 51 percent felt that leaders would blame them for the problem,
>
> 50 percent felt that it would harm their careers, and
>
> 41 percent reported that seeking care would be too embarrassing (Acosta, 2014, p. 22)

Based on the data provided, we concluded that there would be a disconnect between psychological contracts of fairness and trust or a negative stigma in the eyes of their organization and peers if they were to report psychological needs for help. Researchers described this disconnect as a stigma in its own right, a barrier to seeking healthcare due to being in the military, as discriminating against the servicemember by the "general public or military organization" (Greene-Shortridge et al., 2007, p. 158).

This stigma ties into the belief that a military member is not operationally ready and unable to complete the mission if they are perceived to be weak or needing medical attention.

In the military, if a servicemember can perform in operations or evolution, be in a state of readiness, and commit to their service, they are a perfect image of a person who serves in the military (Booth-Kewley et al., 2017). If service members were to seek medical attention for mental health problems, they would be considered weak in their organization. Being vulnerable in the military organization would not uphold the public image of a strong military and raise concerns. Researchers have investigated seeking mental health and the impacts of mission readiness. The military is known to arm individuals with weapons to stand watch and protect government facilities and assets. If a service member is on prescribed medication for mental health, they could be removed from an armed watch or position. Seeking help, in this case, could raise a concern and stigma among other service members and leadership of being of limited use to their unit (Sharp et al., 2015).

Another barrier that arises from the stigma of being perceived as weak by using mental medical services is the military's overall psychological mindset as a masculine one. The military type of masculinity is known to be called "hegemonic," and the qualities of this masculinity describe an individual as a risk-taker, possessing physical toughness, aggression, violence, maintaining emotional control, and, last but not least, self-discipline (Hinojosa, 2010). An individual who seeks mental health would be unable to contain emotional control or lacks self-discipline, will not be valuable in a stressful environment such as the military, and can be perceived as weak in the military environment and impacts mission success (Reed-Fitzke & Lucier-Greer, 2019).

H. #METOO

Based on Maslow's Hierarchy of Needs, the safety tier has been taken away from female servicemembers in a way that it has media and lawmaker's attention. In April 2020, the disappearance and murder of U.S. Army female soldier Private First Class (PFC) Vanessa Guillén was being investigated at Fort Hood. PFC Guillén was sexually

harassed in her workplace by her supervisor, Specialist (SPC) Aaron David Robinson (Department of the Army [DA], 2021). After informing him that she would file a sexual harassment or assault case against him, Guillén was reported missing on April 20, 2020, by her unit. 68 days later her remains were found and after a week they were identified. Before she went missing, it was reported in an investigation that Guillén reported to her supervisors that she was sexually harassed twice. However, her supervisor failed to report the incidents and failed to take corrective action. It was also stated that the sexual harassment incident with SPC Robinson was not found in their investigation (DA, 2021).

While the nation and families mourn the loss of Guillén, the social media #Metoo movement gained steam as military victims of sexual harassment and assault spoke up and shared stories about their experiences in the toxic workplace culture in Fort Hood—the same base at which the Guillén case occurred. Maria Valentine, another Solider at Fort Hood, experienced a situation with someone of the opposite sex who had a "history of alleged harassment" (Coronado, 2020, para. 1) and was measuring her body mass index alone and unattended. According to the Department of the Army,

> Soldiers will be measured by two trained individuals of the same gender. If a trained individual of the same gender is not available to conduct the measurements, a female Soldier will be present when a male Soldier measures a female, and a male Soldier will be present when a female measures a male. (DA, 2019, p. 5)

In the instance cited here, not only did the member make Valentine uncomfortable but violated a doctrinal order. Valentine stated that what happened to PFC Guillén was not a shock to her and expressed that it was the same environment that she endured. When she later discovered the same male solider who conducted a body mass index was accused of rape after her experience with him, she regretted the moments when she could have filed a complaint against the male (Coronado, 2020).

President Biden signed the I am Vanessa Guillén Military Justice Improvement and Increasing Prevention National Defense Authorization Act on December 27, 2021, which effectively became law on January 1, 2022 (Acevedo, 2022). Before it was implemented as a law, it did take some time to get it signed by the President. The Vanessa Guillén Military Justice Improvement and Increasing Prevention Act (MJIAP) of

2020 was proposed to Congress to revamp sexual assault prosecution to under a different Chain of Command decision. The DOD and Senate had to work together to share the same vision when implementing the law within the military.

In September 2021, Secretary of Defense Lloyd Austin released a timeline created by the Pentagon's implementation plan of the MJIAIP Act. It was to take up to nine years to fully implement across each military branch a plan to include training and education through the services, as opposed to a shorter version of the Senate's implementation of making a complete change in six months to be effective immediately (Lloyd, 2021). In the aftermath, since the nation's attention towards Vanessa Guillén's case became viral, Senators immediately began to work on the policy to immediately pass it. It took roughly one year for the policy to become a law.

In 1991, the Tailhook Scandal attracted nationwide attention. The events involved 83 sexual assault victims. These victims were assaulted by Officers of the U.S. Marine Corps and the U.S. Navy. The incident became subject to critical scrutiny. Despite the national public attention from the media, military leaders and Congress "sat idly" on the reports (O'Malley, 2015). It took 30 years of continuous sexual harassment and assault against women for the I am Vanessa Guillén Military Justice Improvement and Increasing Prevention National Defense Authorization Act to become law. This necessary change to protect female service members and ensure the safety of troop members was long past due and highlights the concern that the level of urgency only increased after increased public scrutiny, raising the issue to an uncomfortable level for military leaders and policymakers.

I. CONCLUSION

As previously discussed in this proposal, females integrated into the military to balance men's workload, gain equality in military occupation, and personal gain. Nevertheless, the female retention rate is lower than for their male counterparts (Reynolds & Shendruk, 2018). Years have passed since the Women Armed Service Integration Act was established. Research has explored strategies for maximizing female retention as well as the effects of female service members' domestic lifestyle as a parent,

which highlights relevant psychological factors. However, research does not address the full range of issues involved in female recruitment and retention in the military.

Thus, it is necessary to consider whether published research on female retention considers psychological factors. Our questions about the existing body of knowledge include:

(1) Do the articles that focus on psychology help to shed any light on why women leave the military if they do address psychology?

(2) What retention data, if any, is reported?

(3) Is there a link between the fact that an incident went viral and caught the attention of both policymakers and the DOD during the same year, and the fact that there was an increase in policies aimed at retaining females in the military?

III. RESEARCH METHODOLOGY

This research aims to identify articles in research databases by using a set of keywords to identify psychological factors related to female service members' decision to leave the military. This chapter will review our research methods and how we carried out our research. We will then explore the five databases we decided to use for this study. Finally, we will review the constraints and limitations of our databases that we discovered during our research.

A. RESEARCH METHODS

The decision was made to identify articles with variables relevant to the subject of female retention in the military. GAO and CRS were chosen as government-centric databases to provide literature on whether the military addressed female retention and how. Web of Science, JSTOR, and EBSCO were chosen as databases to provide access to academic, peer reviewed literature as well as provide insight into what the military was not doing, could be doing differently, or should consider in terms of female retention in the military.

The Appendix details the method we used to conduct our research. These search procedures were designed for use with the five databases' search engines. Four keywords were identified to provide the best results for our research: "female," "military," "retention," and "psychology." These four keywords were chosen because they were closely related to the problem we sought to understand and were essential to narrowing down resources that would address our core problem related to factors impeding women from remaining in the military. These four keywords were our starting point for the search terms we entered into the databases. This initial search yielded 2,855 articles.

Based on the Appendix, all of the 2,855 articles identified in the search results from the five databases were individually screened and sorted into one of two bins. We referred to "Bin one" as "Relevant Articles." We defined relevant articles as the articles matching the four exact keywords of "female," "military," "retention," and "psychology" within the title, abstract, or body of the literature. Articles that did not meet the criteria of

the data collection procedures nor included the exact keywords were placed in the second bin known as the "Non-Relevant Articles."

The first step in identifying relevant articles was to see if the publication title contained all four keywords. We examined each title, abstract, and full text of the literature to see if these specific words were used. Unfortunately, this resulted in a meager collection of articles—screening the databases for the specific use of the four keywords within the generated articles yielded only five results. However, the process provided insight into recognizing and then searching for words that were both closely related to our original four keywords and recurring within the body of the literature. For example, the word female may have not been specifically used, but the words woman or women were used; the articles may not have specifically used the word psychology, but referenced psychological, trauma, PTSD, or related terminology in the body of work. Due to the low number of articles initially collected, we revised the screening process to include search terms analogous to the four keywords to increase the number of relevant articles. Examples of keywords that were identified to be relatable or analogous rather than exact, included but were not limited in the articles from the databases are included in Table 1.

Table 1. Associated Keywords for Criteria

Female	**Military**	**Retention**	**Psychology**
Woman or Women or Females	Veterans Sailors Soldiers Marine Airman Armed forces Army Navy Marine Corps Airforce Coast Guard Service Academies Recruits Midshipmen Cadets	Attrition or Turnover or Intent to leave Intent to stay	Post-Traumatic Stress disorder (PTSD) Trauma Harassment Assault Organizational culture Psychosocial Stress Psychological

By expanding our terminology, articles that we included in the first bin contained the exact four keywords or the analogous search terms in the title, abstract, or body of the literature. Articles that did not meet the exact keywords, nor included the analogous search terms, were placed in the second bin. This process of collecting articles to be evaluated for relevancy to our research study is explained in Annex 3. If the publication title referenced two or more exact keywords or contained two or more analogous terms, we applied the same process of screening the abstract. This method ensured that the body of the literature for the article being screened was considered and thoroughly evaluated before being discarded for not meeting the search criteria. Having two or more of the keywords referenced per Table 1 in the title provided the necessary requirements to continue evaluating the article under review in the abstract, and subsequently the body of the literature. As a result, an article that would have been rejected because it did not include all four keywords in the title or abstract was thoroughly reviewed for relevancy to the research study and then placed in the applicable bin. The inclusion of the associated keywords for criteria increased the number of articles generated from five to 121 in our "Relevant articles" bin.

The 121 articles that addressed the initial criteria were then further examined to determine how and to what extent the publications used psychology to address the issue of female retention in the military. We also reviewed whether there was a connection between treatment of psychological problems identified in the literature and whether the treatment of psychology had an impact on retention of female service members.

Additionally, the articles were screened for how the four keywords were being used and addressed. For example, there were seven instances where the words female or women were addressed in the body of the literature however, these seven articles referred to females as wives or spouses, not as military service members.

Another example is regarding PTSD, where three articles only referred to PTSD as dealing with medical challenges sustained from combat injuries. Similarly, 15 articles did not address psychology or its analogous search terms. However, they referred to females and women service members concerning the impact service has on childcare, family, and work-life balance. This process led to identifying the repetition of certain

words that depicted recurring themes. The themes were then used to "group" articles into four different categories as outlined in Annex 1. Based on what could best fit females' decision to leave, we categorized the groupings as "Job Dissatisfaction," "Poor Health Support," "Individual Personal Challenges," and "Career Obligations."

In this research, Job Dissatisfaction induces workplace stress, which affects an employee's physical and mental state, job satisfaction levels, and intention to stay or leave an organization (DeTienne et al., 2012, abstract). We described Poor Health Support in this research as inadequate care that impacts the service member and their well-being. This could result from limited or no access to health care, delay in treatment or treatment refusal, inaccurate diagnoses, and even quality service. The third group is Individual Personal Challenges. The problems and challenges that females encompass as a group in totality are sometimes unique to the limited group personnel. However, those unique experiences may have a psychological impact and eventually cause them to leave the military. These individual psychological challenges could pertain to family stress, workplace stress, addictions (substance or alcoholism), suicidality, sexual harassment, and sexual assault. Not every female faces every psychological challenge, but some do, and there are a wide variety of reasons that might cause these factors to influence a woman's decision to leave the service. Finally, we defined Career Obligations as career expectations to maintain and carry out the role and responsibilities of the military. Career Obligations can refer to military assignments (deployment and foreign assignments) or standards (such as DOD physical weight, fitness requirements, and military bearing). These Career Obligations are found to put psychological strains on female service members during their time in service that, causes them to leave.

By using this process, we ultimately narrowed down the results to 18 articles and recorded them in Annex 3 with 103 articles of the 121 screened articles being discarded. The 18 articles identified only fit in two of the groupings: Individual Personal Challenges and Career Obligations. Annex 3 lists the articles that contained the exact four keywords or analogous terminology in the title, abstract, or body of literature. These articles were documented and identified in six sections which we categorized as follows:

(1) Research Title—the title of the publication to identify possible duplicates

(2) Date of Publication—the year of publication to delineating the period under consideration (1978 to 2022).

(3) Authors—to reference the study for citation when discussing the article.

(4) Groups—we identified a grouping that best fits the article based on the themes in the articles collected.

(5) Keywords—based on the article's content we identified recurring themes.

(6) Database—to identify one of the five databases where the article was found.

B. RESEARCH DATABASES

The findings in this section were pulled from the five databases: three scholarly databases—Web of Science, EBSCO, JSTOR—and two government databases, GAO and CRS. The Appendix details a step-by-step process we used to conduct our searches. Annex 1 illustrates a Flow Chart that will discuss how we labeled our Bins and Groupings for each research article. Annex 2 describes each database and the results generated by our step-by-step procedures. Annex 3 lists the articles in the databases that met our research criteria. Annex 4 lists the articles in the databases that did not meet our research criteria.

1. Web of Science

Web of Science is a data hub owned and operated by Clarivate, consisting of multiple databases such as Web of Science Core Collection, KCI-Korean Journal Database, MEDLINE, and SciELO Citation Index. These four databases provide access to over 256 disciplines in science, social science, art, and humanity insight as an analytical tool for researchers (Web of Science, n.d.). A query with the keyword combination "female military retention psychology," produced 61 open accessed results. From our research 26 of the 61 results met all the criteria and applied to our research and 35 did not meet our criteria.

2. EBSCO

EBSCO Information Services is a global database hub that consists of eight databases that provides access to open credible content for research and development of disciplines in business, social, science, and Asian studies (EBSCO, n.d.). When entering the key phrases into any of the search lines in the EBSCO database search engine, the system suggested or implied comparable relevant words or themes. However, only the four-word combination was used and entered together in the main search field in order to maintain consistency with the other databases. The keyword combination "Female" and "Military" and "Retention" and "Psychology" resulted in two results.

3. JSTOR

JSTOR, or "journal storage," is a digital library and a research and teaching platform that assists in exploring information through its database of over 12 million academic journal articles, books, and primary sources across different fields (JSTOR, n.d.). The keyword combination of "female" and "military" and "retention and "psychology" resulted in 2,783 results within accessible content; there were seven articles out of the 2,783 initial results that meet our criteria while 2,776 did not.

4. CRS

The Congressional Research Service (CRS) Report is an independent "think tank" database focused on congressional research to investigate a matter to provide insight into information in policymaking for congress (Congressional Research Service [CRS], n.d.). In this database, we wanted to find any governmental research that addressed female service members' psychological challenges, and if there were any if there were any corresponding elements having an impact on retention. There were only four search results from CRS, but none of the four articles applied to our research following the search for "female" and "military" and "retention" and "psychology" in the body of the articles.

5. GAO

The GAO is an independent, nonpartisan organization that serves Congress and is frequently referred to as the "Congressional watchdog." The GAO evaluates how tax dollars are used and offers Congress and federal agencies factual, unbiased, and objective information to help the government cut costs and operate more effectively (Government Accountability Office [GAO], n.d., para. 1) . When conducting the query in the GAO database using the prescribed search parameters, five results were generated. Of the five results, only one met all criteria applicable to this research.

6. Databases Constraints and Limitations

During our research, we were limited and constrained by our initial methodology; we initially searched for the four exact keywords female, military, retention, and psychology. However, this method yielded only five articles for our research. We then expanded our research and changed our methodology to search relevant words associated with our four keywords which yielded 18 exact or closely related words.

We were also limited and constrained by articles that are not accessible and must be purchased to view or restricted access. For Web of Science, 112 articles were populated from the search. 61 of the 112 were accessible; however, 51 articles had restricted access or needed to be purchased to be viewed. The title and the abstract of the restricted access or must-be-purchased articles were accessible to us. The following are data collected on the 51 Web of Science restricted or must-be-purchased articles by assessing their titles and abstract:

- 1 met the criteria
- 20 were discarded for being irrelevant to our study
- 8 contained no female keywords
- 5 contained no retention keywords
- 1 contained no psychology keywords

- 3 contained no female and psychology keywords
- 10 contained no female and retention keywords
- 3 contained no female and psychology

The one article that did meet what we are looking for in terms of all the keywords or analogous related words was titled Psychotherapy Utilization, Preferences and Retention Among Women Veterans with Post-traumatic Stress Disorder. This article is about using psychotherapy to assist female veterans and, in the future, female service members on "efforts to promote patient centered, shared decisions regarding mental health treatment options could increase the efficacy and efficiency of treatment for PTSD among women" (Farmer et al., 2020, abstract).

Another limitation pertains to the publication dates of articles and other documents available from each database. For example, Web of Science has articles dating back to 1982. Anything published prior to 1982 will not be found in Web of Science concerning the keyword combinations "female" "military" "retention" and "psychology."

There are a few limitations related to how the databases looked for and grouped different combinations of words. For example, GAO would search for the keywords individually, whereas JSTOR would search for the keywords collectively. Instead of producing articles with all four keywords, the JSTOR search engine would produce articles with varying combinations of two or three of the four keywords. EBSCO's search engine, on the other hand, not only looked for the totality of the four words, but also suggested associated words linked to the four key search words; unlike JSTOR's results regarding related or associated words to the four search topics, the database search engine in EBSCO inferred or recommended similar words or topics. A drop-down menu opened when typing a keyword and provided a list of related words. For example, when the keyword "female" was typed, it generated "women," or "woman," or "females;" "military" generated "veterans" or "soldiers" or "armed forces;" retention generated "attrition" or "turnover" or "intent to leave" or "intent to stay;" the only topic that did not have alternative recommended words was "psychology." The suggestions by EBSCO's

search engine influenced how we conducted our screening of articles across all databases as the limitation of searching for the specific four keywords within the title, abstract, and body of the text did not generate a large enough pool to conduct research analysis for this study. By incorporating the recommended words into our search procedures in the Appendix and screening for them as analogous keywords relevant to our studies, our collection of articles increased resulting in a better understanding of the scope of the project.

We also found some articles that contained exact or closely related keywords. However, following our flow chart in Annex 2 they became irrelevant to our study due to the use of a keyword that defers from our study and are referenced in Annex 4 For example, one article by Carlozzi, was titled "TBI-CareQOL Military Health Care Frustration in Caregivers of Service Members/Veterans With Traumatic Brain Injury." The articles included all four keywords. However, when reading the title, the subject in this research was "caregivers" while reading the abstract, retention was used to identify the number of item factors based on survey questions from their research, and female was used as the gender of the caregiver (Carlozzi et al., 2020). However, psychology was used concerning mental health.

Another example is an article by McFadyen, titled "Examining the Impact of Workplace Supports: Work-Family Fit and Satisfaction in the U.S. Military." The article also mentioned all four keywords. However, the keyword "female" was used to reference a spousal role rather than a role as a service member. Additionally, the keyword psychology was not specially used in the literature. However, it was used to describe the effects on family due to the "satisfaction" of the military lifestyle (McFadyen et al., 2005).

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IV. RESULTS

The information gathered from the five databases—three scholarly databases (Web of Science, EBSCO, and JSTOR) and two government databases (GAO and CRS)—yielded a total of 2,855 results. These articles were the result of the following parameters entered into and searched for within the five databases: four keywords "female," "military," "retention," and "psychology," time frame from "1978" to "2022," and to have the option to access articles with to full text.

Initially, our research parameters required searching each database for the four exact keywords "female," "military," "retention," and "psychology" which resulted in only five articles. After revising our search procedures to incorporate analogous terminology outlined in Table 1, our results increased from five articles to 121. Based on our review of the content in the titles, abstracts, and body of the literature we narrowed the total number of relevant articles to 19; one article was identified as a duplicate which resulted in 18 usable articles for this research. The remaining 103 articles were discarded because they did not meet the search criteria of this research. However, 38 of the discarded articles addressed three of the four keywords and contained recurring themes in line with the 18 relevant articles.

The 18 relevant articles to this research fell into two of the original four groupings (15) "Individual Personal Challenges" and (3) "Career Obligations." Although there were four groupings used to sort the 121 articles, these two groupings were what applied to the relevant articles that satisfied the search requirements. The following recurring themes were found in 15 "Individual Personal Challenges: articles: military lifestyle, family stress/issues, workplace stressors, sexual harassment/assault, gender discrimination, and emotional distress. The themes of the three "Career Obligation" articles were: physical fitness, deployment, and training.

These groupings and themes not only emphasized the challenges and conflicts unique to female service members, including but not limited to military sexual assault, sexual harassment, and sexual discrimination, as well as family needs and impacts, but

more interestingly draws parallels to the second tier of Maslow's Hierarchy of Needs, which covers safety as the security of body, health, the family, and even morality, are negatively impacted. Because these securities are compromised, females are unable to feel a sense of belonging in the military whether through friendship, family, or sexual intimacy (third tier); achieve, respect by others, give respect for others, attain a level of higher confidence (fourth tier); or achieve self-actualization (fifth tier) and be a high functioning contributing member of the military—this is due to their safety compromised, psychological contract violated, and trust betrayed by the military.

The second tier of Maslow's Hierarchy of Needs comprises issues of "security." These pertain to issues of security of the body, employment, resources, morality, the family, health, and property" (see Figure 1); in comparison to the recurring themes of military sexual assault, sexual harassment, and sexual discrimination, as well as family needs and impacts found in the 18 applicable articles, this focus may suggest that female service members perceive there are threats to their safety. Furthermore, the psychological contract that was defined in Chapter II may at times be violated by the military in ways that are deleterious to military readiness. Even though eight of the articles discussed the difficulties associated with starting a family, moving, and being apart, the relevance of psychology here is that these difficulties are associated with psychological trauma and can be linked to the challenge of retention of female service members in the military. This is significant as it suggests there is a relationship between trauma experienced by female service members and the structure of the military, or rather the culture. To understand this relationship, what could be addressed is the male-dominated culture of the military.

For example, one of the articles collected involved interviewing Special Operations Forces (SOF) on the potential integration of women into SOF specialties. Many expressed the concern that men "would need to change their language due to fears of sexual harassment and sexual assault allegations" (Szayna, 2015, p. 162), suggesting that there is an accepted cultural norm and an agreed way of doing business that is not conducive to female service members. That is to say there is a cultural division instead of overall inclusiveness. The counter argument could be that SOF is a man's job, but that

would only perpetuate gender roles and enforce exclusivity. Including women into the group may or may not necessarily pose disruption and change to operations. But what it interestingly suggests is a threat to SOF's male culture. There was widespread agreement that integrating women into SOF units would have a significant negative impact. A quote from Szayna illustrates this tension:

> Three broad categories of impact were identified from the comments of participants: 1) impact on mission effectiveness, 2) impact on future missions, and 3) impact on cohesion and morale. There was also general agreement across the focus groups that there were too many drawbacks to integration, and that women did not add any capabilities that do not already exist. (Szayna, 2015, p. 152)

The collective response by interviewed SOF male service members overlaps the list of concerns regarding integration of women as it all narrows down to fear of change. It is men's thoughts about women, but women are not able to voice their own opinion. This exclusion of female service members, seen through the lens of Maslow's Hierarchy, sheds light on the challenges to attain the higher tier levels of love and belonging (third) and esteem (fourth) (see Figure 1). As previously addressed, these needs must be properly met before the next level of the pyramid can be attained (Trivedi & Mehta, 2019). However, our research suggests that in some ways female service members are still struggling to have their safety needs met, that even if the needs that are preventing inclusion into SOF of love/belonging, friendship, and family (third tier) and respect by others (fourth tier) are satisfied, females would still not feel included or respected as their safety is always in question.

Another challenge that female service members face in the military that appears to inhibit attainment of a higher tier in Maslow's Hierarchy of Needs is the masculine nature and culture of the military. Schaefer states that, from the outside looking in,

> according to female soldiers, the military culture retains a masculine orientation, leading to stereotypes and discriminations. Second, institutional limitations that stem primarily from the attitudes of some military commanders and religious conservatives continue to thwart the progress of women who have the motivation to enter combat occupations. (2015, p. 64)

The nature of the military can be characterized by its ability to meet the mission. However, when looking at it within the context of females being limited within the military and certain occupations, it can be inferred that the male-centricity of the organization is a barrier for female service members to contribute to what they can provide for the organization.

The articles we gathered also highlighted the point that tradition and reification serve to maintain male privilege or "hegemonic" masculinity. Samuels states that

> "a hegemonic man" is "a man IN power, a man WITH power, and a man OF power that evoke the very definitions of manhood we have developed in our culture and maintain the power that some men have over other men and that men have over women. (2003, p. 127)

According to Maslow's Hierarchy, the power over women corresponds to many of the challenges and conflicts unique to female service members, including but not limited to:

- job opportunities,
- career advancement,
- military sexual assault,
- sexual harassment,
- sexual discrimination,
- family needs, and
- retention in service

This connection between lack of safety and inclusion is further perpetuated by being viewed as inadequate in relation to male service members.

> The military's subjectification of women as "something else" other than soldiers contributes to a climate of sexual violence. Therefore, it follows that if women, like men, are "designated as warriors," the structures of gender discrimination will be dismantled, and sexual violence will be abolished. (Mesok, 2016, p. 44)

These challenges support the idea that the cultural dynamic that female service members are subjected to is a constraint not only with their careers in the military, but more importantly, their safety.

Of the 121 articles that were evaluated and found to meet the original criteria, 38 articles only addressed three of four of the keywords. These articles were also sorted under the same four groupings of "Job Dissatisfaction," "Poor Health Support," Individual Personal Challenges," and "Career Obligation" but ended up being discarded because they did not satisfy the search criteria. The results of the distribution of the 38 articles that only address three of four of the keywords were as follows: Job Dissatisfaction (2), Poor Health Support (9), Individual Personal Challenges (26), and Career Obligations (1). Once again, the overwhelming majority of attention for this set of articles was the Individual Personal Challenges grouping. Although these articles did not meet the four keyword criteria, they addressed similar themes found in the 18 relevant articles—particularly the relationship between female service members and the role they have with both family and the military. Fifteen articles did not address psychology in detail but highlighted the same conflict that one article addressed in which "the issue of women's participation draws our attention to another institutional area—the family—with which the policies and programs of the AVF (All Volunteer Force) are only poorly articulated" (Pinch, 1982, p. 584). In short, this relationship between the family, the service, and the role of women is ongoing and appears to be a significant challenge area that impacts performance, operational readiness, retention, and commitment to service.

Of the 38 articles that were discarded, two articles that were grouped under Job Dissatisfaction, and nine articles that were grouped under Poor Health Support, were not fully explored as they did not meet the search requirements and the two groupings that covered the areas of interest for this research study. However, these 38 articles contained three of the four keywords and more importantly discussed the same challenges of family that impact overall readiness from a psychological standpoint. One article written in 2014 stated that "the military has much to gain from linking the lives of spouses to military life early in the career. Without the support and emotion labor of spouses, the modern-day military loses manpower readiness" (Lundquist & Xu, 2014, p. 1078). But this article did

not specifically address female service members and did not specify gender when discussing spouses, which can apply to both male and female service members. But it did discuss the stresses associated with relocation, deployment, housing, and the decision to choose a family or career. The work-life balance is dependent on the supporting roles of the military as the employer to support not only the service member, but also the families of a female service member, and this is challenging as the culture and nature of the military involves relocation and separation. Both of these articles—the Pinch and Lundquist articles—from different eras, articulated the need for changes in policies and programs can be connected to Maslow's second tier and in this case, the safety of the family. The span of time highlighted the continued struggle that impacts overall readiness and the culture of the military that has not changed.

In short, the findings of our research shed light on the culture of the military and the impact it has on the career of female service members, on the family, and the psychological ramifications that ultimately influence the decision to leave the service.

V. RESPONSES TO RESEARCH QUESTIONS AND CONCLUSION

This research aims to identify the role psychology plays in shaping female service members' decisions to leave the service. Some military researchers have identified possibilities for female service members' attrition. However, our research suggests there is a psychological aspect to female attrition that we have yet to fully understand. A review of databases and articles concerning female military service members leaving the service is due to negative psychological factors in Job Dissatisfaction, Poor Health Support, Individual Personal Challenges, and Career Obligations. This study seeks to find what causes females to leave and how psychological factors may affect the retention of female service members. Based on our empirical research, our responses to the central questions of this study are as follows:

(1) What role does psychology play in shaping female decisions to leave the service?

Our research identified peer-reviewed articles that, in total, suggest that psychological factors heavily influence why female service members choose to quit the military. To survive, the most basic needs must be met in order to move on to the next higher tier of the pyramid, according to Maslow's Hierarchy of Needs (McLeod, 2018). We can conclude that the lower tier of Maslow's Hierarchy of Needs, also known as the "basic needs" or "physiological," where food, air, and sleep are essential for survival, were limited in our research. However, we identified one article throughout our research that mentions food insecurities. In the article, we discovered that due to a lack of financial stability experienced by some service members from their pay could lead to "anxiety, depression, and suicide ideation, which was in turn associated with intentions to leave" because of challenges with covering basic needs, like food (Beymer et al., 2021, p. 2051).

Additionally, our research results suggest that there is a conflicting relationship between Maslow's Hierarchy of Needs and where a female servicemember's struggle to maintain herself within the Safety tier of the pyramid. This conflicting relationship will

prevent her from realizing and achieving the next tier in the pyramid, which is love and belonging. According to Trivedi and Mehta (2019), Maslow's Safety tier encompasses "security of body, employment, resources, morality, the family, health, and property" (see Figure 1). For some—maybe many—female service members, the psychological trauma they endured in the military influences these areas of their psychological well-being. These include, but are not limited to, sexual assault and harassment, which are detrimental to one's physical and mental well-being, as well as family separation, which can have a negative impact on a person's emotional and physical health.

Female service members, according to one study (Mankowski, 2015), stated that females joined the military for opportunity (desire for skill development, training, and college financial support), a sense of being "called" to the military, as well as a list of variable reasons. The military provided them with security in their finances, training, and opportunities for leadership that they did not think they could have found in the private sector. What is interesting about this article is that those female service members or veterans who participated in the study did not feel deterred from enlisting after hearing about other service members reported negative experiences, and they did not identify as being deterred by reports of rising violence against women in the military or express concern about these allegations prior to enlisting (Mankowski 2015). Although this may suggest a disconnect between pre-service, in-service, and post-service experiences, the article maintains the subject of violence on women exists, but it does not delve into specific recommendations for policy changes that would impact retention and only notes reform is required. The article only briefly mentions in the end that policy changes in the way "the U.S. Department of Defense adjudicates violent crimes against service members" (p. 321) are needed. Mankowski further suggests that these recommended efforts identified in two separate surveys (Defense Department Advisory Committee on Women in the Services (DACOWITS) and GAO) would support service members and remove obstacles to fostering and maintaining a positive work experience in the service.

Another research article addressed the relationship between veteran females and PTSD stating that "female veterans have different trauma histories with greater sexual trauma" whereas the PTSD studies associated to men were tied to combat trauma

(Stricker, 2015, p. 103). Sexual trauma histories experienced by females also suggested that these victims subsequently (while still active duty and after separating from service) have elevated rates of mental health problems, especially posttraumatic stress disorder (Rosellini, 2017). Consequently, these factors contribute not only to attrition, but also to suicide attempts and demotion. What is important to note here is that female service members deal with elevated rates of mental health problems while still serving and are coping with the effects of experienced trauma; actual turnover, or attrition, would be viewed as "the most dramatic example of avoidance behavior" (Sims, 2005, p. 1149). Female service members leaving the military would be a way for them to no longer suffer in silence vice while in the service, fearing dismissal or retaliation against themselves and others. In this case, attrition, or leaving the service without addressing the physical and emotional safety of female service members, will not resolve the military's issue of not confronting the perpetrator of the victims or prevent sexual harassment and assault occurring in the military.

Additionally, one article goes on to address that "the relationship between sexual harassment and voluntary job-related behaviors (such as voluntary organizational withdrawal) is fully mediated by job-related attitudes (such as job satisfaction and organizational commitment)" (Sims, 2005, p. 1141). But this article does not address how to deal with these issues, much less delve into how to retain female military service members. Even more concerning, it does not address how to correct the root of the problem or how to enforce a "direct liability for the employer" (Sims, 2005, p. 1149).

(2) To what extent do academic publications address the psychological impacts on female service members' performance, readiness, retention, and commitment to the service?

We were looking for a relationship between the factors affecting performance, readiness, retention, and commitment to service and factors influencing attrition when reviewing and collecting relevant articles for our research. Based on our findings, we found literature based on leadership influence, organization acceptance of sexual orientation, and psychosocial relationship with service members and their environment. Performance, readiness, retention, and commitment are relevant to our study because they

demonstrate the service member's military needs to defend and fight for the nation. The importance of identifying these psychological effects can shed light on what deteriorates or enhances female service members' performance readiness, retention, and commitment to service during their time in the military, ultimately leading to their departure from the service or commitment to stay.

We found articles that suggest that military leadership support is a motivating contributor to female service members' performances, readiness, retention, and commitment to the service. The Army's leadership doctrinal manual, defines leadership as "the process of influencing people by providing purpose, direction, and motivation while operating to accomplish the mission and improve the organization" (DA, 2022, p. 4-25). Leaders are said to shape decisions for the "greater good of the organization" that have significant impacts to those around them, especially pertaining to "individual performance, personal and professional development, and retention" of service members (DA, 2022, p. 43). Our research suggests that if military leadership creates a safe and positive environment, this may have significant consequences for job satisfaction and ultimately the retention of female service members.

An example of positive leadership influence that is needed in the military for the greater good is the support and acknowledgement for members in the LBGT. According to Mahowald, the LGBT veteran service members who were challenged in serving during Don't Ask, Don't Tell policy have a higher percentage rate of "trauma-related disorders," and suicides are "15 times higher" than the overall number of veteran suicides (2022, para. 21). One article focused on current service members and veterans post-service during the DADT policy and how it has impacted their service. Researchers in this article stated that while in a military environment, "exclusion and discrimination" of lesbians, gays, and bisexuals may impact their trust in their fellow service members and contribute to a lack of psychological and physical health. The amount of support these service members receive from others and their leadership increased job satisfaction, performance, and readiness, and therefore increased retention (Carey et al., 2022). Increasing factors that play into service members' retention for the long term and potentially decrease suicide ideation during or after service.

Another finding in this study is the use of psychology in forms of psychosocial being studied in research. Psychosocial is a term used to encompass parts of the "mental, emotional, social, and spiritual well-being, as they connect to an individual's health and wellness" (Carnevale & Cheprasov, 2021, para. 2). Psychosocial can be divided into two terms: the individual and the needs of the individual. Second, the environment that the individual lives in conflicts with the individual's needs (Mcleod, 2018, para. 2). Psychosocial is essential to discuss because it ties back into Maslow's Hierarchy of Needs in the "Safety" and "Love and Belonging" tiers. These two tiers can form a relationship with oneself and surroundings (people, places, experiences). Through our research, we have identified articles where service members' environment, experience, and environment has impacted them during their time in service.

An example of how psychosocial is used in one research study was conducted on soldiers in the United Kingdom who required mental health treatment at the hospital and the outcomes of their service in the military after being hospitalized (Jones et al., 2009). Researchers investigated medical records of military personnel who went to the medical center for mental health reasons. The findings stated that females were among the highest numbers that sought medical attention for mental health and females who sought medical attention had more "positive outcomes" than males to be able to go back into the military environment (Jones et al., 2009). Similarly, another research study pulled from this study was conducted on Army enlisted Soldiers 12 months post-deployment in Iraq. The researcher in this article discussed how women are harder to retain in the services than their male counterparts and that the factors of deployment, including stress and psychological consequences, are understudied (Vasterling et al., 2015). Out of 740 active-duty records screened and interviewed, 18 percent of that number separated within 12 months of returning home (Vasterling et al., 2015).

(3) Where do opportunities lie for future research that can contribute an understanding of the challenges faced by female service members as they consider whether to remain in the military?

We encourage the DOD and future scholars to expand this body of research too by not only exploring the root causes of attrition but also working together to make

positive impactful changes to protect their safety and well-being. Based on the findings, the root cause of the following—sexual discrimination, harassment, and assault along with the trauma associated with those experiences, biases in the workspace, exclusion from certain roles and positions within the military, family issues, and separation from family for female service members—is the inequality of women in a male dominated organization. The inability to retain females in service suggests that an organization that has historically promoted male privilege, or "hegemonic" masculinity, effectively prevents the ability to make substantial changes and therefore cannot promote equality because "when women are not involved in designs and decisions, their needs can easily be overlooked, which effects convenience, safety, health, and livelihood" (Brown, 2020, p. 26). As females attain higher authority positions, we may see more policies that generate positive changes for female service members. Based on our findings, if the DOD looks into female psychological factors and the impacts of individual challenges, and the safety relationship between their environment and experiences, there might be opportunities for more information to be addressed to retain female service members.

(4) What recommendations based on this thesis project might contribute to future efforts regarding how the U.S. military could use psychology in thinking about female service members' retention?

Based on our research, there are very few articles that discussed "female," "military," "retention," and "psychology" together in one article that were relevant to our study. Some articles discussed only "female," "military," and "psychology" but may not mention retention or how to retain females in the service. Some articles in our findings did not mention the keyword "female" or compare genders (male or female) that could provide us insight into female retention or attrition. Future researchers might focus on the four keywords as a whole and can continue to contribute information. In that case, this will allow us to see how impactful psychology can be for female service members and their decision to continue to serve or leave. We also recommend exploring additional sources and databases to investigate female service members' data records, perhaps by collecting surveys from females in the military about their decisions to remain in the

military or to leave that addresses or at least incorporates psychology as a means of understanding.

We also recommend that future research investigate commands or units with higher ratios of female to male service members to have a broader perspective. Some research we found discussed that there is a higher parentage of females doing better than males in some aspects of retention. However, the articles also state that the number was high due to a small population of females being observed (Jones et al., 2009).

While conducting the literature review for this project, one recommendation we would like to address is that if we wanted to look more into the chronological timeline of female service members' military policies, we recommend that the House Armed Services Committee's work be looked at. The House Armed Services Committee is a legislative committee that meets to hold hearings from the public and members on policy issues or considerations on the bill in the proposal, mark up, and report legislation processes (House Armed Services Committee, n.d.). By looking into the policies, we can see what policies were generated to ensure that female service members could adequately serve comfortably in the services. The House Armed Services Committee would have been helpful for our project since they are a subcommittee with jurisdiction over the Department of Defense policies and programs for military personnel (House Armed Services Committee, n.d.). Similarly, future research could also seek information from the Senate Committee on Armed Services as another source for military bill proposals, reports, and policy updates.

We also found peer-reviewed articles that surveyed veterans or service members for their studies. If we focus mainly on psychological impacts, we recommend investigating service records to see if there is any evidence of psychological factors influencing why female service members leave the service. Another resource would be the National Archives and Records (NAVA), an official repository for records of military personnel discharged from the U.S. Air Force, Army, Marine Corps, Navy, and Coast Guard (National Archives, n.d.). These records include personnel who separated from the military with separation information about the type of separation, the character of service, authority, and reason for separation (National Archives, n.d.).

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APPENDIX. DATABASES SEARCH PROCEDURES

Web Of Science

(1) Type in your search bar http://www.webofscience.com

(2) In the home page, locate the documents tab

(3) Under the tab locate "search in" drop down and select "All Databases"

(4) Locate next to the search in and find the "Collections" drop down and select "All"

(5) Locate the box with the drop down the labeled "Topic"

(6) In the box next to it locate in the right side of the search box type in the keywords "Female Military Retention Psychology" and press "Enter" on your keyboard

(7) In the left-hand side located the "Refine Results" section.

(8) Under "Quick Filters" select "Open Access"

(9) Locate "Document Types" and select "Articles"

(10) Read the title; does it address "Female" "Military" "Retention" and "Psychology"?

(11) If yes, read the abstract if available

(12) If not available, evaluate the body of the literature to see if it meets the criteria

(13) If not, move on to the next article

(14) Proceed through all the results in the databases for the 4 keywords until the very last result generated.

EBSCO

(1) Type in your search bar https://www.ebsco.com/

(2) In the middle of the blue header, click "Access EBSCOhost"

(3) In the home page search box, type in the name, postal code, or city of your academic institution (you must have an account with a registered institution)

(4) Find your school/institution and click on the name

(5) A new tab/window will pop up; enter your credentials and password, and click "Sign in"

(6) Scroll down to the "Search Modes and Expanders" section and ensure the box under "Apply Equivalent Subject" is selected

(7) Scroll down to the "Limit Your Results" section and click the box under "References Available"

(8) In the "Published Date" section, enter "1978" for "Start Year" and "2021" for "End Year"

(9) Scroll back up to the search bar, and in the first search box, type in the keywords "Female Military Retention Psychology"

(10) To the right of the first search box is a green "Search" radio button; click it to begin the query

(11) On the left-hand side, locate "Source Types" and click "Academic Journals"

(12) Read the title; does the title reference any of the keyword "Female" "Military" "Retention" and Psychology"?

(13) If yes, read the abstract if it meets the criteria

(14) If yes, then add it to the data extraction list

(15) If not, we proceeded to the next step

(16) Does the abstract address all 4 topics?

(17) If yes, add to the data extraction list

(18) If yes, read the resource to evaluate the body of the literature to see if it meets the criteria

(19) If yes, add to the data extraction list

(20) If not, move on to the next article

(21) Proceed through all the results in the databases for the 4 initial keywords until the

JSTOR

(1) Type in your search bar https://www.jstor.org/

(2) In the home page search box type in the keywords "Female Military Retention Psychology" and press "Enter" on your keyboard

(3) On the left-hand side locate "Access Type" and click "Content I Can Access"

(4) Scroll down on the left-hand side and in the date section "from" type in "1978" and select "BCE." In the date section "To," type in "2022" and select "Apply"

(5) On the left-hand side locate the "Subject" section and select an individual Subject; the page will refresh with a list of applicable articles

(6) Read the title; does the title reference any of the keyword "Female" "Military" "Retention" and Psychology"?

(7) If yes, read the abstract if it is relevant, add it to the data extraction list

(8) If not, we proceeded to the next step

(9) Does the abstract address all 4 topics?

(10) If yes, read the resource to evaluate the body of the literature to see if it meets the criteria

(11) If not, move on to the next article

(12) Proceed through all the results in the databases for the 4 initial keywords until the very last result generated

CRS

(1) Type in your search bar http://crsreports.congress.gov

(2) In the Home search box type in the first keyword "female" and press "enter" on your keyboard

(3) Locate a second search box on the left-hand side that says, "search within results" and type in "military" and press "enter" on your keyboard

(4) Locate a second search box on the left-hand side that says, "search within results" and type in "retention" and press "enter" on your keyboard

(5) Locate a second search box on the left-hand side that says, "search within results" and type in "psychology" and press "enter" on your keyboard

(6) Locate the dates box and type in "01/01/78" in the first box and click on the second box and select "today"

(7) Above the results is a box that says "Include full text" check the box and wait for results

(8) Read the title; does it address "female" "military" "retention" and "psychology"?

(9) If not, skip to step 12

(10) If yes, read the abstract if available

(11) If not available, evaluate the body of the literature to see if meets the criteria

(12) If not, move on to the next article.

(13) Proceed through all the results in the databases for the 4 keywords until the very last result generated.

GAO

(1) Type in your search bar http://www.gao.gov

(2) In the home page search box type in the keywords "female military retention psychology" and press "enter" on your keyboard

(3) On the left-hand side locate "Filter results"

(4) Under filter results locate "By content type" and select "reports" and select "appropriation laws"

(5) Under "by content type" locate "by agency name" and select "department of defense"

(6) Locate "perform advance search" on the right-hand side of the web page under the site's search bar.

(7) Locate the "must include keyword" box on the left, next to it type in "female"

(8) Add a second "must include keyword" box on the left, next to it type in "military"

(9) Add a third "must include keyword" box on the left, next to it type in "retention"

(10) Add a fourth "must include keyword" box on the left, next to it type in "psychology"

(11) Locate the blue search button and click on it

(12) Read the title; does it address all 4 topics the keyword "female" "military" "retention" and psychology"?

(13) If yes, read the abstract if it meets our criteria,

(14) If yes, add to the data extraction list.

(15) If not, move on to the next article.

(16) Proceed through all the results in the databases for the 4 initial keywords until the very last result generated.

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SUPPLEMENTAL 1. FLOW CHART OF BINS AND GROUPS

Supplemental 1 is a flowchart based off our research that describes how we created bins and groups for our study. We would start from our selected database, to the four keywords “female,” “military,” “retention,” and “psychology” that we would want to search and follow the flowchart to see if the article was relevant or not relevant to our study. Those interested in obtaining a copy of the supplemental file may contact the NPS library.

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SUPPLEMENTAL 2. DATABASE KEYWORD FINDING FLOW CHART

Supplemental 2 describes how we determined the keywords that were closely related or analogous to our exact keywords. “female,” “military,” “retention,” and “psychology” in order to sort our categories for our study. We would start from our selected articles in our relevant bin, to the themes we would find in the article and the similarities that we would want to sort into a category for our study. Those interested in obtaining a copy of the supplemental file may contact the NPS library.

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SUPPLEMENTAL 3. DATABASE RELEVANT STUDY RESULTS

Supplemental 3 shows the results in our research that have met our research criteria. It is broken down into six columns: Research Title, Date of Publication, Authors, Groupings, Keywords, and Database. Those interested in obtaining a copy of the supplemental file may contact the NPS library.

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SUPPLEMENTAL 4. DATABASE DISCARDED STUDY RESULTS

Supplemental 4 contains findings in articles from our research that did not meet our criteria. It is broken down into six columns: Research Title, Date of Publication, Authors, Groupings, Keywords, and Database. Those interested in obtaining a copy of the supplemental file may contact the NPS library.

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