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Preventing Military Suicide Through Dance/Movement Therapy: A Literature Review

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Abstract

In 2022, 328 military members across the active component, Reserve, and National Guard died by suicide, the same as in 2021. In March 2022, Secretary of Defense Lloyd Austin III commissioned the Suicide Prevention Response Independent Review Committee to evaluate existing suicide prevention programs and strategies across the entire Department of Defense. This literature review aims to highlight the use of dance/movement therapy and other expressive therapies within the military, and how the arts have been utilized specifically for suicide prevention. Due to the lack of research on the use of dance/movement therapy, the articles included various studies of other expressive therapy interventions with military personnel, along with studies of the use of dance/movement therapy with depression and trauma. The literature review also examines research on arts-based suicide prevention programs. It was found that though expressive arts therapy for suicide prevention has not been extensively researched, the studies found that most participants experienced a reduction in depressive and traumatic symptoms, along with reduced suicidal ideation. Further research on the use of the arts and expressive arts therapies is warranted as more studies are released on the psychology of suicide.

Keywords: Military, suicide prevention, dance/movement therapy, mental health

Author Identity Statement: The author identifies as a Black woman who serves as a noncommissioned officer in the New Jersey Air National Guard, a component of the United States Air Force.

Preventing Military Suicide Through Dance/Movement and other Expressive Arts Therapies

Introduction

The issue of suicide amongst military personnel continues to be a prominent concern that has deleterious effects on not only members, but families, friends, and communities. According to the United States Department of Defense (DoD)'s (2022) most recent *Annual Report on Suicide in the Military: Calendar Year 2021*, 519 military members died by suicide. In addition, a total of 202 military family members (which includes spouses and dependents) died by suicide (Department of Defense [DoD], 2021). The report also notes that "active component suicide rates have gradually increased since 2011, although the 2021 rate was lower than the 2020 rate" (DoD, 2021). Thus, even though the wars in the Middle East have subsided, there is still an upward trend in the number of suicides and suicide attempts among servicemembers.

To address these pressing issues, each branch of service (Army, Navy, Air Force, Marine Corps, and Space Force) has established suicide prevention programs that provide unit and leadership-level training, completion and attempt reporting and monitoring, and public relations efforts to combat mental health stigmas. The Defense Suicide Prevention Office, established in 2011, oversees each of these initiatives. As such, all military members are required to attend at least one annual training in suicide prevention, which sometimes occurs in conjunction with other required training like sexual harassment and assault response and prevention. These efforts are currently not centralized, meaning that each branch of service develops its own programming and data analysis. In early 2022, Secretary of Defense Lloyd Austin III established the Suicide Prevention and Response Independent Review Committee (SPRIRC) to conduct an extensive review and analysis of suicide prevention programs, clinical and non-clinical, across the military. In December 2022, after analyzing and identifying overarching themes, factors, and issues that

lead to increased suicidality, the Committee released a final report entitled *Preventing Suicide in the U.S. Military: Recommendations from the Suicide Prevention and Response Independent Review Committee*, which details over 100 recommendations purported to decrease military suicide rates.

Aside from policy and organizational shifts, the effects of suicide rates have drastically impacted clinical and administrative staff members across the military health system (MHS). Of the many clinical challenges named, the SPRIRC found that there is a shortage of mental health providers across the DoD, with one-third of assigned positions at every military installation remaining unfilled (Suicide Prevention Response Independent Review Committee [SPRIRC], 2022). As with the rest of the population, as more and more members seek mental health services, therein lies an imbalance of supply and demand. One reason for this imbalance is the lack of breadth in mental health specialties within the military, which includes uniformed providers, civilians, and contractors. This is because TRICARE, the main insurance provider for military personnel, will only cover the services of psychologists, psychiatrists, licensed clinical social workers, and psychiatric nurse practitioners (SPRIRC, 2022). As a result, expressive arts therapists, who often practice as licensed mental health counselors (LMHCs) or licensed professional counselors (LPCs) are excluded from employment consideration and thus not able to provide services to military personnel.

Though expressive arts therapists have yet to be fully integrated into military mental health care, government agencies have long acknowledged the value of the arts for military members. In 2004, the DoD partnered with the National Endowment for the Arts (NEA) to offer "Operation Homecoming: Writing the Wartime Experience," which consisted of writing workshops for servicemembers and their families to write about their wartime experiences in the

Middle East and stateside (National Endowment for the Arts [NEA], n.d.). In 2012, the National Initiative for Arts and Health in the Military (which has since been reworded to "Across the Military") was launched following a 2011 summit entitled "National Summit: Arts in Healing for Wounded Warriors," which was held at Walter Reed National Military Medical Center in Bethesda, MD. Their goal was to facilitate collaboration between the federal government and civilian arts agencies to increase veterans' and servicemembers' access to the arts within the community (Americans for the Arts, 2020). In addition, numerous studies and research reports have been released detailing how expressive arts therapies have been effective in treating post-traumatic stress disorder (PTSD), traumatic brain injury (TBI), and other mental health concerns.

Given that expressive arts therapies have been cited for use with a myriad of mental health diagnoses and populations, it is surprising that little research has been done on the use of expressive arts therapies for suicide prevention. As expected, no such literature exists on expressive arts therapies and suicide prevention within the military context. Therefore, this literature review will examine military suicide risk factors as noted by recent statistics, analyze suicide prevention programs across the military, assess the status of military suicide prevention policies and strategies, and showcase the use of dance/movement and other expressive therapies with military personnel. This review aims to evaluate whether dance/movement therapy can be integrated into existing suicide prevention efforts to target mental health challenges that often lead to suicidality.

Methods

The premise for the study was the Suicide Prevention Response Independent Review Committee report published in 2022. I then conducted a Google search for all government policy documents and reports related to suicide prevention. These reports helped identify specific risk

factors that can increase the likelihood of suicidality. I utilized both Lesley Library and Google Scholar to find studies that reviewed and/or evaluated suicide prevention efforts across the military. I searched for other articles detailing the use of DMT and other expressive arts therapies with military personnel. I specifically searched for interventions used with actively serving personnel rather than veterans. This also included reviewing abstracts and sample descriptions to ensure that the studies were relevant to servicemembers. I also searched for articles detailing the use of expressive arts specifically to address suicidal behavior, not specific to the military population. After acquiring each document, I took handwritten notes on each article. After doing this, I was able to create three distinct themes within the research, which serve as the subheadings within the literature review.

Literature Review

The following literature review will be written in three sections to explore military suicide data, how the DoD has historically responded to suicides, and how the expressive arts therapies can be used to address this concern. The first section will detail the most current data on military suicide and research on the risk factors, some unique to the military profession. The second section will detail past and present suicide prevention response efforts within the DoD, including recent policy changes. The last section will review a myriad of expressive arts therapy programs with military members, particularly those which addressed trauma, and interventions with other populations.

Military Suicide Risk Factors

Each calendar year, the DoD releases an annual report on suicide in the military, including both completions and attempts, through the Defense Suicide Prevention Office. Statistics from the fourth quarter of 2022 were published in March 2023. According to this

report, 124 service members across the active component, reserves, and National Guard died by suicide (Clark, 2023). In sum, 328 suicides were reported in 2022, which is the same total as in 2021 (Clark, 2023). Looking at all these statistics, the military suicide rate has not shown any significant signs of decline in the last two years.

The *Department of Defense Annual Report on Suicide in the Military: Calendar Year 2021* revealed more detailed data and trends on suicide and suicide attempts collected from the Department of Defense Suicide Event Report (DoDSER) system, including demographics and risk factors. First, over 90% of all reported suicides were completed by male service members. Regarding race, most identified as White. In addition, the highest suicide rates were amongst personnel aged 30 or younger. Between the enlisted force and officer ranks, most suicides were completed by enlisted personnel. Lastly, the most common method of suicide, similar to previous years, was a firearm. In summary, service members who die by suicide are most likely to be male, White, enlisted, and under age 30. Service members are also more likely to use a firearm than any other method of suicide (DoD, 2022). This is not to ignore or minimize the rates of suicide in other demographics but only serves to highlight the highest percentages within the statistics. There were also 1,329 suicide attempts within the active component reported in the DoDSER system "among 1,262 unique individuals," meaning that 67 of these individuals had two or more attempts (DoD, 2022, p. 45).

The DoD's annual report also calls attention to other common factors that are present, such as mental health diagnoses and contextual factors. It was reported that in 46% of suicides and 54% of suicide attempts, a mental health diagnosis was also reported, with the most prominent disorders being trauma- or stressor-related (26%), alcohol use (18%), and depressive (18%) (DoD, 2022). In terms of contextual factors, relationship difficulties were the most

reported stressor in both suicide and suicide attempt reports, followed closely by legal or administrative issues (e.g., members under investigation or with disciplinary concerns) (DoD, 2022).

Pruitt et al. (2019) studied DoDSER data for the years 2012 to 2015. They noted that military suicide rates are often compared to suicide rates within the general US population but posited that this comparison is erroneous due to differences in demographics. First, service members are, on average, younger than most in the general population. Secondly, the military is made up of a higher percentage of males than the general population. When discussing behavioral health history, the researchers' findings closely matched the DoD's calendar year 2021 annual report numbers in that 49.1% had a previous mental health diagnosis (Pruitt et al., 2019). However, there were slight differences in the data in comparison to current statistics. First, substance use disorders comprised 24.6% of diagnoses, compared to 18% in 2021. Additionally, PTSD made up 8.3% of the reports in sharp contrast to the 26% noted in the DoD annual report (Pruitt et al., 2019). This demonstrates that mental health diagnoses of trauma are now statistically more present in suicide cases than alcohol or substance use disorders. Also, similar to the DoD annual report, the researchers found relationship stressors, specifically failed intimate relationships, were the most commonly reported stressor in suicides (Pruitt et al., 2019). The researchers cautioned against generating conclusions based on the data alone, noting that there may be errors in reporting and that the results presented have not been compared to a control group.

Other studies have attempted to uncover additional risk factors that have little to do with demographics, relationship status, or mental health history. Bryan et al. (2014) conducted a study on the relationship between moral injury and what they coined "self-injurious thoughts and

behaviors" (SITB). They cite the definition of moral injury as an "event in which an individual perpetuates, fails to prevent, bears witness to or learns about acts that transgress deeply held moral beliefs and experiences" (Bryan et al., 2014, p. 154). To add, the transgression "shatters moral and ethical expectations that are rooted in spiritual, cultural-based, organizational, and group-based rules about fairness and the value of life" (Litz et al., 2009 as cited in Bryan et al., 2014, p. 154). The researchers also noted the following conclusions about moral injury:

> Early empirical work suggests that experiences characterized by betrayal (e.g., leadership failure, betrayal by peers or by civilians), acts of disproportionate violence (e.g., revenge), excessive violence or cruelty toward civilians (e.g., needless destruction of property, assault), and violence among peers (e.g., military sexual trauma) are often associated with the signs and symptoms of moral injury, which include guilt, shame, social problems, spiritual/existential issues, self-deprecation, and emotional distress (Drescher et al., 2011, as cited in Bryan et al., 2014, pp. 154-155).

Previous researchers have attempted to measure the experience of moral injury by creating the Moral Injury Event Scale (MIES) that assesses three factors: personal transgressions ("Transgressions-Self"), witnessing the transgressions of others ("Transgressions-Others"), and "Betrayals" (Bryan et al., 2014, p. 155). Traumatologists believe that in addition to the symptoms previously mentioned, self-depreciation—specifically, believing one is a burden to others—is a risk factor for SITB (Bryan et al., 2014). To test these hypotheses, they recruited 151 Army and Air Force service members who were receiving outpatient mental health services at two different military clinics. After completing initial surveys, participants were administered a series of assessments, including the MIES, lifetime suicidality interviews, the Beck Scale for Suicide Ideation, the Patient Health Questionnaire-9 (PHQ-9), the PTSD Checklist-Military Version

(PCL-M), and the Negative Focus Subscale of the Future Dispositions Inventory to assess hopelessness and pessimism (Bryan et al., 2014). Upon analyzing the data, they found that Transgressions-Self and Transgressions-Other had the most significant relationship with SITB, with Transgressions-Self being the strongest as it "entails inner conflict and emotional distress about one's own acts and decisions that are perceived to be immoral" (Bryan et al., 2014, p. 158). From this, researchers concluded that military personnel who "express distress at the 'rightness' or 'wrongness' of their actions" have a higher risk for more severe suicidal behavior (Bryan et al., 2014, p. 158).

As Bryan et al. (2014) noted, burdensomeness has been associated with increased suicide risk. Crowell-Williamson et al. (2019) investigated this further while also examining other factors such as workplace bullying and a specific aspect of Thomas Joiner's interpersonal theory of suicide called "thwarted belongingness," defined as "feelings of loneliness and disconnection from others" (Crowell-Williamson et al., 2019, p. 2150). The researchers sampled 470 active duty personnel from the US Army and Marine Corps from two stateside military installations who were actively seeking treatment for suicidal ideation. Out of this sample, 40% had at least one deployment to a combat zone. Each member was administered the Beck Scale for Suicide Ideation-Current, the Bullying Survey to assess their experience with bullying, and the Interpersonal Needs Questionnaire to determine their level of connectedness to others (Crowell-Williamson et al., 2019). The results indicated that perceived burdensomeness was a significant predictor of suicidal behavior and that workplace bullying was indirectly associated with a higher risk of suicidal ideation. They concluded that altering the individual's negative cognition of burdensomeness by focusing on their ability to contribute to their units in a meaningful way may lessen the likelihood of suicidality (Crowell-Williamson et al., 2019, p. 2154).

Another factor often associated with military suicides is the presence of PTSD. However, the research has not been able to definitively link the two phenomena. Holliday et al. (2020) conducted a literature review of 48 research articles published from 2010 to 2018 that studied the link between PTSD and suicidality. They found that most studies focused on veterans rather than military personnel and that many of them showed high levels of bias in their design. Overall, the results were mixed, with some research indicating a strong relationship between PTSD and suicidality, while others demonstrated a weak or non-existent correlation.

While most military suicide research has focused on risk factors, Nock et al. (2013) highlighted protective factors that decrease the likelihood of suicidality in military members. They noted three main categories of protective factors: social support, psychological, and mental health treatment. Social support includes family (especially children), friends, religious affiliation, and unit cohesion. Psychological protective factors include such features as resilience, self-esteem, hope and optimism, and a sense of meaning and purpose. When referring to mental health treatment as a protective factor, the writers cited the availability of treatment and the use of evidence-based practices, such as Dialectical Behavior Therapy (DBT), cognitive therapy, and Collaborative Assessment and Management of Suicidality (CAMS). Despite these findings, the authors advocated for further research on the effects of both risk and protective factors on suicidality, as they believe there is more to be uncovered (Nock et al., 2013).

Department of Defense Suicide Prevention Strategies, Policies, and Research

The DoD (2015) released the *Defense Strategy for Suicide Prevention* (DSSP), modeled after the *National Strategy for Suicide Prevention* (Office of the U.S. Surgeon General, 2012) that was published by the US Department of Health and Human Services. Up until 2015, the

DoD used the national strategy until leaders realized that a suicide prevention strategy tailored to military personnel was necessary. The DSSP mission statement reads as follows:

> Reduce suicide in the Department of Defense through education of Military Community Members about suicide risk and related behaviors; promotion of health, resilience and help-seeking behavior; research, development and delivery of effective programs and services; and removal of all barriers to care. (DoD, 2015, p. i)

The DSSP (DoD, 2015) maintains the four strategic directions of the national strategy, which are:

- *Healthy and Empowered Individuals, Families, and Communities*—"create environments and build skills that will promote the health of members…and reduce risk for suicidal behaviors and related problems" (p. 6)
- *Clinical and Community Preventative Services*—"preventive services, including suicide assessment and preventive screening by primary care or other healthcare providers, are crucial to…connecting individuals at risk for suicide risk to available clinical services…" (p. 13)
- *Treatment and Support Services*—"ensure that individuals…at risk for suicide receive clinical evaluation and care to identify and treat mental health and medical conditions, and specifically address suicide risk" (p. 19)
- *Surveillance, Research, and Evaluation*—"used to assess the evidence basis or effectiveness of programs, policies, services or other interventions, thereby adding to the knowledge base…" (p. 30)

Multiple policies and reports have been released since. The White House (2021) published *Reducing Military and Veteran Suicide: Advancing a Comprehensive, Cross-Sector, Evidence-Informed Public Health Strategy* detailing five primary goals: (1) "improve lethal

means safety, (2) enhance crisis care and facilitate care transitions, (3) increase access to and delivery of care, (4) address upstream risk and protective factors, and (5) increase research coordination, data sharing, and evaluation efforts" (pp. 8-9). The DoD also released two suicide prevention policies between 2020 and 2023. DoD Instruction (DoDI) 6400.09, *DoD Policy on Integrated Primary Prevention of Self-Directed Harm and Prohibited Abuse or Harm* details specific policies for preventing self-harm and abuse, which outlines different elements of prevention that cover not only suicidal behavior, but also domestic violence, and sexual harassment and assault (DoD, 2020). DoDI 6490.16, *Defense Suicide Prevention Program* (2023), establishes the policies and procedures for suicide prevention programs across the armed forces, including the reporting of suicides or suicide attempts and the evaluation of suicide prevention programs (DoD, 2023). Each of the policies serves to streamline DoD procedures and executive-level initiatives, create uniformity between the branches of service, and establish overarching guidance for data collection and programming.

While national suicide prevention strategies tend to focus more on desired outcomes, some research studies have tried to highlight what deems a program or initiative effective. Harmon et al. (2016) reviewed studies of five past suicide prevention programs in the Army, Navy, and Air Force. The researchers found that out of 17,100 articles found within their search, only five specifically evaluated the effectiveness of suicide prevention programs. Most of them had significant issues in methodology, including the lack of a control or comparison group, and could not support their claims of effectiveness. However, of the five programs reviewed, one program demonstrated fidelity. It was conducted by the Air Force in 1997, where over 5 million airmen, who served from 1990 to 2002, were separated into two groups, one being the control group and the other being the treatment group. The program included numerous components,

including leadership training, community collaboration, education, and preventive services. It also included provisions that prevented information disclosed during mental health sessions from being used against the airman if they are under investigation (now called the Limited Privilege Suicide Prevention Program). This program resulted in a 33% reduction in completed suicides, along with significant reductions in accidental death, homicide, and domestic violence. After reviewing all five programs, researchers concluded that, overall, there is a lack of sufficient data to evaluate the effectiveness of suicide prevention initiatives. However, they advised that programs ought to be tailored to specific populations, accounting for facets of military culture when using more civilian-centric interventions (Harmon et al., 2016).

Aside from analyzing overall effectiveness, other researchers have studied the cognitions that accompany suicidal ideation and proposed specific treatment methodologies. Bryan and Rozek (2018) reviewed seven clinical trials whose objectives were to evaluate suicidality and PTSD post-treatment. They found that the use of brief cognitive behavioral therapy (BCBT) along with crisis response planning (CRP) resulted in significant declines in suicidal behavior. The authors cited six elements, first devised by Rudd, Williamson, and Trotter in 2009, to be crucial in effective suicide-specific treatment:

- *Conceptual model of suicide*—"…explain[s] why a person engages in suicidal behavior and what should be done to prevent suicidal behavior”
- *Clinician fidelity*—"…enables clinicians to administer procedures in a consistent manner that reliably targets the central mechanisms underlying suicide risk”
- *Patient adherence*—"…target patient engagement and motivation and articulate what is expected of patients…”

- *Skills training*—"…teach patients to use specific strategies to undermine the factors that contribute to their suicidal thoughts and behaviors"
- *Patient responsibility and autonomy*—"…empower patients to employ skills, strategies, and procedures within their own lives, and invites feedback from patients regarding the utility of these activities"
- *Clear guidance for crisis resolution*—"…teach patients how to identify emerging crises and provide clear steps to follow in order to resolve them, [including] self-management skills as well as easy access to sources of support…" (as cited in Bryan & Rozek, 2018, p. 28)

Bryan and Rozek (2018) also mentioned several studies that focused on the neurological factors of suicidality, highlighting the different areas of the brain related to emotion regulation. They drew comparisons between the civilian population and military personnel when discussing distress tolerance, an aspect of emotion regulation. With civilians, the lack of distress tolerance increases the risk of suicide, but with military members, it is the *perception* of the lack of emotion regulation and inability to cope with distress often leads to suicidal ideation. Aside from distress tolerance, the authors noted that service members prone to suicidal behaviors often experience high levels of autonomic nervous system arousal, lack flexibility in thinking, and have difficulty problem-solving. Therefore, the authors posited that emotion regulation and cognitive flexibility as the main mechanisms necessary to decrease suicidal behavior. As previously stated, the researchers recommended the use of BCBT and CRP. In BCBT, clinicians can choose from a myriad of different techniques and procedures to teach relaxation, mindfulness, and cognitive reappraisal training to address both emotion regulation and cognitive flexibility. CRP allows the practitioner to help the client identify tools for responding to crises

and high-stress situations. Both modalities also help the individual identify their reasons for living, which can help dissipate negative, suicide-oriented cognitions. They also suggested that these treatments take place on an individual basis rather than in groups (Bryan & Rozek, 2018).

When examining Army suicide, Griffith and Bryan (2018) focused their study on three distinct levels of prevention that are typically present in healthcare: primary, secondary, and tertiary. This study centers on the Army because it has had and continues to have the highest suicide rate of all six branches. Primary prevention aims to promote public awareness through far-reaching educational campaigns. Secondary prevention consists of identifying those who are at an elevated risk for suicidal behaviors. Finally, tertiary prevention attempts to slow the progression of a mental health condition, in this case, through psychotherapy and the prescription of psychiatric medication. The writers classified most DoD suicide prevention programs as primary prevention, naming such programs as Comprehensive Soldier and Family Fitness (Army), Comprehensive Airman Fitness (Air Force), Sailor Assistance and Intercept for Life (Navy), and Combat Operational Stress Control (COSC), which is an Army-developed program to address predictable responses to combat trauma and other adverse events. The Air Force has also adopted COSC and tailored it to the specific needs of airmen. Each of these programs centers on developing and maintaining resilience and mission readiness with a heavy emphasis on coping skills. While a plethora of primary and tertiary prevention strategies are currently in use, the researchers assert that more secondary prevention is needed. This would entail screening and identifying members who have the potential for elevated suicide risk, such as those who have a history of childhood trauma (Griffith & Bryan, 2018).

Griffith and Bryan (2018) also detail several widely-accepted assumptions about suicide risk that, in reality, may not accurately represent the totality of the issue. First, the authors

reviewed multiple studies indicating that resilience training may not be as effective or may even have a negative effect on those with a higher level of risk, depending on the method of delivery. Next, they mentioned other studies which concluded that campaigns focused on bringing awareness to the signs and symptoms do not equate to actual suicide prevention. Lastly, they dispute the assumption that lessening the stigma of seeking mental health treatment will reduce suicide. Rather, they pointed to research arguing that reluctance to seek treatment has more to do with their perceptions of its effectiveness rather than negative perceptions of mental health care. Thus, to enact a greater level of secondary prevention, the writers proposed a more comprehensive screening measure to identify risk factors present in an individual's life, which could lead to increased suicide risk even if the member denies current ideation. They also suggested that within suicide awareness training, which focuses primarily on detecting risk in others, there should be a component that teaches members how to detect increased risk within themselves. This added material would describe various life stressors that could increase risk, as well as possible psychological and behavioral reactions (Griffith & Bryan, 2018).

Expressive Therapies for Suicide Prevention

This section will explore the use of dance/movement therapy and other expressive therapies (a) within the military context, (b) for specific mental health concerns, and (c) as a method of suicide prevention. While some studies focused on the use of expressive therapies within clinical settings, others covered interventions in non-clinical settings. Both are important in evaluating all the different environments where expressive therapies can be integrated into suicide prevention programs.

Expressive therapies in the military

Between 2011 and 2012, the National Endowment for the Arts (NEA) led the establishment of the Creative Forces ®: NEA Military Healing Arts Network, which is a partnership between the DoD, the Department of Veterans Affairs (VA), and state and local arts agencies (Atkins & Blumenfeld, 2021). Since 2013, the NEA has received steady increases in funding to support expanding programs. In fiscal year (FY) 2022, NEA funding increased from $167.5 million in FY 2021 to $180 million (National Endowment for the Arts, n.d.). Creative Forces ® described its mission as follows:

> [Creative Forces ®] places creative arts therapies at the core of patient-centered care at clinical sites throughout the country, including telehealth services, and increases access to community arts activities to promote health, well-being, and quality of life for military servicemembers, veterans, and their families and caregivers. (NEA, n.d.).

Since 2011, multiple studies have been released detailing the use of expressive therapies with military personnel. One such study analyzed the use of art therapy with military members struggling with TBI and PTSD. In their review of art therapy literature, Berberian et al. (2019) found the following common themes related to doing art therapy with combat veterans: "(a) progressive exposure; (b) externalization for processing; (c) reactivation of pleasure; (d) promotion of self-efficacy through mastery; and (e) formulation of a reconsolidated narrative" (p. 353). Current research also highlights how military culture (e.g., group cohesion) is replicated in group art therapy settings, increasing its effectiveness and potentially preventing or slowing the development of PTSD and suicidality. The study took place at the National Intrepid Center of Excellence at Walter Reed National Military Medical Center in Bethesda, MD as part of its four-week intensive outpatient program. The program integrated various art therapy activities,

including mask-making during week 1 to montage paintings in week 4 (Berberian et al., 2019). The researchers analyzed 240 montage paintings and generated codes to coincide with the themes observed. They uncovered three prominent themes: the members enjoyed the art-making process, shared their art with peers or their individual therapists, and the ability to articulate their medical conditions (Berberian et al., 2019). They also conducted a comparison between the themes represented at week 4 within the montage paintings and week 1 within the mask creations. Increases in the following themes were present: "(a) increased self-awareness and socialization; (b) increased patriotism; (c) increased pleasure from art making; (d) greater awareness of psychological distress; and (e) decreased reporting of depression and anxiety" (Berberian et al., 2019, p. 357).

Another study focused on "war writing" as a way for military members to process their traumatic experiences and make sense of what occurred. Haen (2019), a drama therapist and son of a Vietnam War veteran, examined eight memoirs written by or on behalf of soldiers (all between 2013 and 2018) who served in Iraq and Afghanistan. The researcher then identified data that "offered direct understanding of the psychological experiences of soldiers, with the aim of selecting passages related to emotions, reflections on the wartime experience, and the emergence of and efforts to cope with trauma" (Haen, 2019, p. 86). After two cycles of coding, the following themes and subthemes emerged:

- two worlds (away and home)
    - confronting American obliviousness
    - addicted to combat
    - finding danger in the ordinary
- teach you with pain

- the ideal hero/be a man
- male intimacy/belonging
- old me, new me
    - monster
- the inevitability of death
    - haunted (Haen, 2019, p. 87).

The researcher proposed that reading these narratives can lead to a higher level of understanding within the mental health field. He suggests that therapists would be better equipped to not only work with military personnel but with any person living within the context of violence. Lastly, the author theorizes that writing and other arts-based approaches provide an opportunity for service members to communicate their past experiences nonverbally and, by doing these activities in a group setting, may even provide the intimacy and cohesion that may have been lost upon returning from war (Haen, 2019).

While art therapy has been extensively studied and implemented in military mental health settings, dance/movement therapy (DMT) conversely has yet to receive such emphasis. Fisher (2019), a board-certified dance movement therapist who has worked in various military medical facilities, cites the lack of evidence-based research as a reason for the diminishing of value and lack of understanding of DMT. The study took place within the larger TBI/PTSD program at the National Intrepid Center of Excellence with the goal of "understanding the veteran's experience of DMT and to gain deeper insight into how DMT may be therapeutically effective with this population" (Winters Fisher, 2019, p. 53). The author collected both qualitative (client written self-reports) and quantitative data (clients' ratings on different assessments) throughout the four-week DMT-based wellness program. The program included 12 groups and two individual

sessions. Upon analyzing the data, the researcher identified keywords and themes common within the participants' responses: "awareness, relaxation, balance, control, and mind-body" (Winters Fisher, 2019, p. 55). Though she found that participants experienced a shift between weeks 1 and 3 of the program, the reason for the shift could not be clearly identified. The researcher also illuminated concerns regarding the description of the program after examining 18 months of surveys regarding the program. She discovered that messaging about mind-body practices and their purpose had been inconsistent and, thus, caused confusion amongst patients as to the specifics of the program. She concluded that clearer descriptions and messaging about the program is warranted. She concluded that the mind-body program could not function independently but remains an integral part of the larger TBI program (Winters Fisher, 2019).

Dance/movement therapy for depression and trauma

As previously noted, trauma-related and depressive disorders are the top two mental health diagnoses among servicemembers who died by suicide (DoD, 2022). In terms of diagnoses, depression has been widely studied within the field of DMT, though experts in the field continue to advocate for further research. The following three studies, all conducted in Europe (Finland and Lithuania) examined the effectiveness of DMT on depressive symptoms. A 2014 study by Finnish researchers Punkanen et al. (2014) evaluated the effectiveness of a short-term DMT intervention. They focused specifically on the working-age population because of the socioeconomic effects that depression has on this age group, their attachment behaviors, and overall quality of life. They outlined the group DMT intervention, which included improvisation, exercises in body awareness, and reflection through visual arts, writing, or verbal processing. The interventions took place over 10 weeks, with two 60-minute sessions per week. The therapist (not one of the researchers) chose themes prior to the intervention but also allowed for

participants' desired themes to be included. Some of these themes were "exploration of boundaries, somatic resources (core and periphery of the body), symbols, pleasant and unpleasant emotions, mindfulness and body awareness, enriched movement experiences, and safety and touch" (Punkanen et al., 2014, p. 495). Overall, all participants experienced a decrease in their scores on the Beck Depression Inventory (BDI). The researchers made the following conclusions:

> Body- and movement-based treatment models have a specific effect on emotional skills, such as identifying and expressing emotions…The body awareness helped the participants become more aware of bodily sensations that are related to different emotions, [while] movement improvisations provided a safe physical mode of expressing strong and difficult emotions, such as anger. (Punkanen et al., 2014, pp. 496-497).

They acknowledged two limitations of the study, which were the lack of a control group and no follow-up tests to assess the long-term impact of the program.

Hyvönen et al. (2020), inspired by the Punkanen et al. (2014) study, investigated the addition of DMT to the standard treatment of depression (not specified within the article). A total of 109 individuals were divided into two groups: DMT + treatment as usual (TAU) and TAU only. The DMT+TAU members participated in a 10-week DMT group that met twice per week, with each session lasting 75 minutes. They also completed multiple assessments, including the (BDI) I; the Clinical Outcomes in Routine Evaluation—Outcome Measure (CORE-OM), which measures "four dimensions of wellbeing, problems, life functioning, and risk for aggressive/suicidal behavior"; and the Symptoms Check List-90 (SCL-90) that assess various aspects of mental health (Hyvönen et al., 2020). The authors found that scores on each of the assessments decreased in comparison to the control group. They concluded that the addition of

DMT to the participants' usual treatment contributed to more positive outcomes (Hyvönen et al., 2020).

Another study examined not only DMT's effects on psychological symptoms but also participants' physical capabilities, including physical capacity and flexibility (Andrejeva et al., 2023). In this study, which took place in Lithuania, participants were women between ages 18 and 45 who experienced either mental health diagnoses and/or symptoms of chronic stress. The writers used both psychometric assessments along with measures of physical ability. To measure physical capacity, they administered a six-minute walk test. To measure psychological symptoms, they utilized the Hospital Anxiety and Depression Symptom Scale (HADS). And finally, to measure participants' level of fatigue and pain, they used the Fatigue Impact Scale and the Visual Analog Scale for Pain. The 20 participants were divided into two groups, where one received physical therapy exercises and the other received DMT based on bachata dance. Both interventions lasted two weeks. The authors found that overall, both programs showed an increase in physical capacity and flexibility, along with an improvement in psychological symptoms. Statistically, the DMT group yielded higher improvements in most areas than the physical therapy program. The authors noted that the study included only women and advised that a subsequent intervention should be performed with men. Though they did not name this as a limitation, the DMT program was led by a physical therapist, not a dance/movement therapist (Andrejeva et al., 2023). Thus, there were no mental health professionals to provide additional input on the mental states of the participants.

Though DMT has continuously demonstrated its efficacy within trauma treatment, limited studies exist that directly examine the use of DMT with trauma survivors. Two studies offer possible protocols for DMT with trauma survivors, while another details a specific program

developed and used with trauma survivors. Dieterich-Hartwell (2017) proposes that interoception, defined as "the sense of the physiological state of the entire body, including an emotional and mood state awareness," is key to the treatment of trauma (Dieterich-Hartwell, 2017, p. 40). She supports this position by conducting a thorough review of the neuroscience involved and how DMT can positively affect the brain's processes that were compromised by trauma. The proposed model has three components: safety, regulating hyperarousal, and attending to interoception (Dieterich-Hartwell, 2017). Safety includes the therapist creating a safe environment, empathetic mirroring of client movements, and kinesthetic attunement. It also includes giving clients agency within the movement process. Regulating hyperarousal includes psychoeducation on what is happening physiologically within the body, along with grounding exercises, breathwork, and repetitive movement (e.g., tapping or rocking). It may also be necessary to "up-regulate" through movement when a client is in a dorsal vagal state (shut down or immobilized), which can be achieved through the use of planes (i.e. sagittal) or the use of props. Finally, attending to interoception entails noticing bodily sensations or tension, and their intensity or frequency of change and sending breath to an area in need. As clients get more comfortable, they may be able to verbalize any observations and make connections to their experiences. The author does not specifically dictate how a therapist implements the model, which provides flexibility based on the clients' needs (Dieterich-Hartwell, 2017).

Similarly, Federman et al. (2019) proposed another DMT trauma treatment model, which they called the Movement Assessment and Treatment Manual for Trauma (MAMT). This model facilitates and assesses body movement during the recollection of traumatic memories. It can also be used to "assess the level of clients' physical tension due to trauma and as a therapeutic intervention…[and] allows stressful traumatic information that is embodied to emerge, giving

unconscious experience shape and meaning, and enabling it to be labeled" (Federman et al., 2019, p. 79). In a previous study, the same group of researchers identified three main themes within trauma-related body movement: illustrative (movements that coincide with speech); rhythmic gestures (synchronized with *lexical prosody*), and regulative movements (which include repetitive movements to offset anxiety during recollection, comforting through self-touch, or the cessation of movement/freezing) (Zana-Sterenfeld et al., 2019). These movement patterns serve as the basis for the MAMT. The four phases of the MAMT are as follows:

- *warm-up*—"activating body parts in order to become aware of bodily sensations, getting to know the space around, and establishing relationships";
- *relaxation*—"a place to relax in and return to for rest and comfort when the situation becomes too painful [through] techniques that utilize breathing, grounding, and body awareness…";
- *search for inner bodily and emotional resources*—"to help the client gain a sense of control, self-confidence, and empowerment, both bodily and emotionally"; and
- *attentive listening to the body*—"integrate body expressions, sensations of arousal, and bodily resources (safe place, self-soothing)" (Federman et al., 2019, pp. 80-81).

Overall, the MAMT, like Dieterich-Hartwell's model above, centered on the client's felt sense of safety, which allows for the exploration and processing of traumatic experiences both verbally and non-verbally.

Unlike the previous two models presented, Bernstein (2019) developed her model, entitled *Empowerment-Focused Dance/Movement Therapy* within the context of her work with sex trafficking survivors at a program in Kolkata, India. She began the article with a discussion on the importance of taking a culturally sensitive approach to DMT and how practitioners need

to adapt their interventions to be inclusive of the different facets of clients' cultures, traditions, values, and beliefs. With this in mind, she defined Empowerment-Focused DMT as "a trauma recovery approach that mobilizes the full potential of expressive dance in the healing process…[and] engages the client through accessing their inner strengths to build emotional capacities, self-esteem, and psycho-physical resources" (Bernstein, 2019, p. 194). This multidisciplinary method included several components, including the introduction of diverse movements and music, the use of metaphors and imagery, improvisation, building community, healing developmental trauma, reframing harmful narratives formed during the traumatic event, the use of visual arts, and training clients to lead sessions within their respective communities. Similar to the methodologies presented by Dieterich-Hartwell (2017) and Federman et al. (2019), this approach aims to use creative expression to help the client process their traumatic experiences while instilling hope for the future.

Arts-based suicide prevention programs

Though suicide is a heavily studied subject, research on using expressive arts and/or expressive therapies to address suicidal behavior is extremely limited. Of the studies chosen, one details the use of expressive therapy (art therapy) while the others are meta-analyses of arts used in or as suicide prevention programming. In their meta-analysis, Davico et al. (2022) evaluated 35 studies from around the world and found that the three main types of interventions were based on theater, role-playing, and multiple art forms. An overwhelming majority of these programs were within the context of training programs for professionals (called "gatekeepers"), hence the prominence of role-playing. Only one study noted decreases in suicide ideation and attempts, which occurred in the Saving and Empowering Young Lives in Europe (SEYLE) program. This program entailed training gatekeepers, students, and teachers on suicide prevention skills, which

include role-playing. Overall, the researchers found that incorporating the arts within suicide prevention programs enhanced awareness and promoted self-efficacy (Davico et al., 2022).

Sonke et al. (2021) conducted a similar meta-analysis of nine studies of non-clinical arts-based suicide prevention programs. Four main art forms were present within their analysis, which were film and television, mixed arts, theater, and quilting. Three of the studies chosen focused on the risk of self-harm and suicidality, while the others demonstrated an increase in mental health awareness and the likelihood of communicating when one wants to seek help. The authors noted the need for culturally sensitive community-based programs that center on suicidality within BIPOC communities. They concluded that the arts "can elicit social and behavioral responses that transcend typical barriers to providing support for those at risk…[and] mitigate stigma, social isolation, and lack of suicide awareness by crossing boundaries of place and culture" (Sonke et al., 2021, p. 61S).

One example of an expressive therapy program for the explicit purpose of suicide prevention was implemented with Yezidi young women and girls in Iraq (Abdulah & Abdulla, 2020). When the Islamic State in Iraq and Syria (ISIS) invaded Iraq in 2014, they engaged in systemic ethnic cleansing targeting the Yezidi population in the Kurdistan region of Iraq. Young girls were abducted from their homes and used as sex slaves to ISIS fighters. Abdulah and Abdulla (2020) conducted a two-month art therapy program within an internally displaced person (IDP) camp called Sharya from December 2017 to February 2018. Participants were young girls and women aged 10 to 27. Abdulla trained them in the use of various art materials and the meanings of colors and encouraged them to focus on the positive aspects of their lives. To measure suicidality, the researchers used the Suicide Behaviors Questionnaire-Revised (SBQ-R) and the Beck Scale for Suicide Ideation (BSSI). Upon completion of the program, participants

showed a significant decrease in suicidal ideation, and no plans to attempt suicide (Abdulah & Abdulla, 2020).

Discussion

Research shows that dance/movement therapy and expressive therapies can decrease the presence of certain risk factors pertaining to suicidality among military personnel. This literature review focused on the use of the arts and expressive arts therapies with military members, how DMT and expressive therapies have been used with specific diagnoses often tied to suicidality (e.g., depression and PTSD), and examples of arts-based suicide prevention programs outside of the military. Though research on the arts within suicide prevention is limited, this literature review contributes to ongoing efforts to improve suicide prevention programs within the military.

The purpose of this literature review was to evaluate whether DMT and other expressive therapies could be used to reduce suicidal ideation and behavior. After participating in an expressive therapy intervention, most clients showed a decrease in depressive symptoms (Hyvönen et al., 2020; Punkanen et al., 2014). In the studies centered on expressive therapies within the military, several themes were identified, including increased self-awareness, externalization of inner experiences, self-efficacy, nonverbal processing of traumatic events, and a sense of community when creating art amongst peers (Berberian et al., 2019; Davico et al., 2022; Haen, 2019). Findings suggested that arts-based interventions targeting depressive and traumatic stress symptoms may lead to a decrease in suicidal ideation and related behaviors. With service members, incorporating the arts and arts therapies can also strengthen the protective factors outlined by Nock et al. (2013), including social support, psychological protective factors, and coping skills. Expressive therapies and non-clinical arts programming may also meet the intent of specific pillars of the Defense Suicide Prevention Strategy, particularly *Clinical and*

Community Preventative Services and *Treatment and Support Services* (DoD, 2015). Based on the protocols presented by Dieterich-Hartwell (2017), Federman et al. (2019), and Bernstein (2019), programs should include elements of fostering safety (both with the therapist and amongst other members), emotional regulation, and nonverbal expression. Based on the Andrejeva et al. (2023) study, the physical aspect of DMT may also be appealing to members of the armed forces as it can help enhance overall fitness, which is a benchmark of the military profession.

Though the results of each study showed promise, each presented with limitations. Many lacked control groups, which meant that comparison was not possible. Thus, effectiveness could not be accurately measured. Almost all the literature failed to measure the long-term effectiveness of any arts or expressive therapy intervention, so it was unclear whether participants experienced reduced symptomology or suicidal ideation long after the conclusion of the study. Many of the studies on expressive therapies were conducted on relatively small samples and with largely homogenous demographics. In other words, some interventions were conducted with a sample size of mostly women, one branch of service, or with one predominant race (usually White). This suggests that more effort must be made to include more diverse populations within research studies to ensure diversity, equity, and inclusion. Among the meta-analyses focused on past military suicide prevention programs, most programs reviewed took place in the early 1990s and 2000s, which means they are not reflective of the current climate within the armed forces nor the current research on suicidality. They do not consider the current landscape of the military, which include more recent conflicts, recruiting, and entry requirements.

As stated before, research on integrating the arts and expressive therapies within suicide prevention is limited. Expressive arts therapists working in a military setting, whether inpatient or outpatient, may consider enacting a suicide prevention program. When I worked as a mental health technician at Joint Base Andrews, MD, the clinic held a weekly group called Risk Management, which focused on recognizing warning signs of a crisis and coping with triggers associated with suicidal ideation. Only members who identified as having suicidal ideation (categorized as "high interest") were granted admission to this group. Using these concepts as a foundation, a dance/movement therapist can evaluate whether the use of dance and movement decreases suicidal ideation and/or strengthens coping mechanisms by increasing self-awareness and enacting mind-body techniques for grounding and emotional regulation. Future studies should also evaluate the suicide prevention training that members are required to complete annually. Anecdotally, most service members agree that the training is in dire need of improvement; however, researchers could uncover what improvements are needed.

As the federal government continues to refine suicide prevention strategies and increase funding for the arts, there are likely to be more opportunities to increase the presence of expressive therapies within military mental health clinics and community-based programs. Even though further research is warranted, expressive therapy interventions centering on co-occurring symptoms could reduce the likelihood of suicide, as engagement in the arts can strengthen protective factors, provide healthy coping mechanisms, and increase resilience.

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