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TRANSITIONING FROM MILITARY TO CIVILIAN LIFE:  
AN EXAMINATION OF ACCULTURATION IN VETERANS PREVIOUSLY DEPLOYED  
TO WARZONES

A Thesis  
Presented in partial fulfillment of requirements  
for the degree of Master of Arts  
in the Department of Psychology  
The University of Mississippi

By

KATHERINE A. LUCAS

May 2023

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## ABSTRACT

The transition of veterans from military to civilian life may be conceptualized as a cultural transition (i.e., acculturation). This is based on the idea that the military contains its own culture quite distinct from that of the U.S. civilian population. For veterans, this transition presents psychological and social challenges and potential difficulties consistent with those seen in immigrants transitioning to a new country from their respective countries of origin. These psychosocial difficulties are especially pronounced in combat veterans, who experience higher rates of psychopathology compared to veterans who have not experienced combat. The current study examines the impact of warzone deployments on veterans' acculturation process. Secondary and tertiary goals of this study examine the roles of risk factors (psychological distress) and protective factors (meaning in life) in the acculturation process. The previously adapted measures of military acculturation (see Tkachuck, 2019 and Tkachuck et al., 2022), a measure of psychological distress (DASS-21; Lovibond & Lovibond, 1995), and a measure of meaning in life (the PIL-SF; Schulenberg et al., 2011) are examined across groups of veterans who have and have not previously been deployed to warzones. The analyses control for potential covariates such as length of service, branch of service, number of deployments, deployment location, and time since discharge. A significant difference was found between veterans with and without previous warzones deployments in the sociocultural and psychological adaptation factors of acculturation. However, there was no significant difference in acculturation orientation, perceived cultural distance, psychological distress, or perceived meaning in life. Results of the

present study suggest that warzone deployment history may be a risk factor for greater difficulty in psychological and sociocultural adaptation amongst veterans.

*Keywords:* Veterans, combat, acculturation, meaning, purpose, psychological distress

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**Transitioning from Military to Civilian Life:  
An Examination of Acculturation in Veterans Previously Deployed to Warzones**

**I. INTRODUCTION**

Military culture as a factor contributing to the success or hindrance of veterans integrating into civilian life has been a focus of recent research (McCaslin et al., 2021; McCormick et al., 2019; McCutcheon, 2022; Pease et al., 2015; Tkachuck, 2019; Tkachuck et al., 2022). This area has established acculturation as a framework for describing the influence of military culture on the transition to civilian life. Tkachuck (2019; Tkachuck et al., 2022) argued that the United States military contains a culture unique from the civilian population. Therefore, the transition from the military to civilian life can be conceptualized as a transition between cultures, similar to the immigrant experience described in previous models of acculturation. Tkachuck and colleagues (2022; Tkachuck, 2019) adapted the Demes and Geeraert (2014) measure of acculturation to be more applicable to military populations and examined its psychometrics with a sample of United States veterans without active military affiliation and who were enrolled in universities within the U.S. The psychometric properties of the adapted measures supported the conceptualization of the military transition as one of acculturation and supported the use of these adapted measures in veteran populations.

Additional research on veteran acculturation has examined the role of meaning in life in the acculturation process. McCutcheon (2022), using the sample provided in Tkachuck (2019; Tkachuck et al., 2022), argued that meaning in life (i.e., a sense of value and significance in one's life) plays a crucial role in the process of acculturation due to the adjustment of purpose

and identity required in the transition from military to civilian culture. McCutcheon (2022) found that meaning significantly predicted psychological adaptation in veterans even when controlling for variables such as time since discharge and weekly time spent with other veterans.

Psychological distress was found to mediate the relationship between meaning in life and psychological adaptation. The findings of McCutcheon (2022) offer support for meaning in life as a protective factor against poor acculturation in veterans, with an improved transition to civilian life in the area of psychological adaptation. Additionally, the findings suggest that increased psychological distress is a risk factor for poor acculturation in veterans, with potentially increased difficulty in transitioning to civilian life.

Whereas McCutcheon (2022) and Tkachuck and colleagues (2022; Tkachuck, 2019) studied a sample of veterans with varying degrees of deployment history and combat exposure, the current study moves this program of research forward by examining the influence of deployment, specifically warzone deployment, on acculturation and the risk and protective factors related to acculturation. Given the unique cultural exposures veterans with warzone deployments experience, they are at an increased risk for combat-related post-traumatic stress disorder (PTSD), psychopathology, and additional negative outcomes following the transition to civilian life from military culture.

## **a. Introduction to Military Culture**

### ***i. Culture Definition and Overview***

Differences of opinion on how to define the concept of culture have persisted across disciplines due to the increasingly broad nature of the term. Culture has been defined as the enduring behaviors, ideas, attitudes, and traditions shared by a large group of people and passed

to future generations (Myers, 2005). Another definition has included group-typical behaviors shared by members of a community and transmitted through social learning (Laland & Hoppitt, 2003). Recent definitions have focused on functional, working, dynamic definitions of culture.

One proposed definition of this sort states:

Culture is usually recognizable by common behaviors and understandings and serves as a way for members within and outside of that group to communicate better. ... Further, culture is not necessarily tied to a specific area or region but instead could relate to social, organizational, or other cultures (Rieger, 2020, p. 145).

This definition focuses on the role of culture not only at a nation-wide level but how it can differ between groups within a population, such as the United States military. The idea that culture is not limited to a unified national culture is not new; there has been research on the impact of subcultures for decades. Numerous subcultures have been identified within countries across the world, with subcultures ranging from groupings based on region to ethnicity to political orientation (Kaasa et al., 2014; Lieske, 1993; Zolotukhin et al., 2020). The study of these subcultures has been used to increase understanding of various behaviors and produce targeted interventions. One way this has been seen is in identifying cultural protective factors in African American youth to help reduce rates of violence (Wallace et al., 2018). Another example is the evaluation of attitudes within specific subcultures to determine risk factors for increased rates of suicide and self-harm (Kothadia et al., 2021). The effects of shared versus differing subcultures on daily interactions has also been evaluated (Montoya & Briggs, 2013).

The idea of subcultures within a country and increased risk or protection due to subcultural influences is not new, and the military has been identified as a culture within the United States for some time now (Burk, 1999; Redmond et al., 2015; Walker, 2018). Research

has looked at the role of culture in the military with regards to mental health, social support, clinician competency, etc. (Adler & Sowden, 2018; Atuel & Castro, 2018; Hall-Clark et al., 2019; Isserman & Martin, 2021; Wilson et al., 2019). However, assessment of culture in veteran reintegration to civilian life is continually developing.

## *ii. Military Values and Laws*

Generally, culture definitions overlap in the inclusion of behaviors and beliefs that are shared and taught throughout a population. One example of culture in practice can be seen within the United States military, which holds a culture distinct from that of the United States civilian population. The military has its own established history, values, traditions, language, customs, and laws (Herndon et al., 2016; McCormick et al., 2019; Meyer, 2015). Military law is one area where there is a clear distinction from living as a civilian. Within the military, service members are not only expected to uphold the laws applicable to the whole of the United States, but also are bound by the Uniform Code of Military Justice, a unique set of federal laws pertaining to military personnel (Absher, 2022). One of these laws include obeying orders from a superior officer, which is determined by the chain of command.

The chain of command is an integral part of the military structure (Military OneSource, 2020). Following the chain of command is a core value ingrained into service members beginning in the first days of training. Each service member has one individual to whom they report problems or concerns. There are strict rules forbidding “jumping” the chain of command by reporting to a higher officer. Exceptions are only made in serious situations where the superior officer cannot address the concerns adequately (e.g., abuse by the superior officer; Halverson, 2010; Pagan Carbone, 2020). While civilian workplaces typically have organizational flow charts of those in charge, it is rare that the hierarchy is enforced to the extent of the military

chain of command. Ignoring requests of supervisors in civilian workplaces may result in disciplinary action, or, in severe cases, termination of employment. However, maximum penalty for a failure to obey orders includes dishonorable discharge, forfeit of pay/allowances, and confinement for two years (Department of Defense, 2015). Only orders that are deemed unethical, immoral, or illegal are exempt from the legal expectation to follow direct orders. Although the action of disobeying even unethical orders may be difficult due to the social pressure to follow orders without question. Orders are issued from higher ranking officers, and upon delivery they are expected to be carried out without question or hesitation. Challenging an order from a superior officer is considered a serious offense; hesitating in following orders may risk the lives of fellow service members (Dempsey, 2021; Halverson, 2010). Therefore, challenging an order, even an unethical one, may lead to a loss of trust among fellow service members who later may be relying on others' quick enactment of orders for survival. The reliance on order enactment and trust between service members allows for units to work as a collective and is integral to the military structure.

In a warzone, following orders without question is vital to not only maintaining good standing in one's role, but protecting lives. Here the priority of the mission is not an abstract value but involves making the decision to uphold the mission each moment of the day. The officers in charge take on a great deal more stress as their decisions may mean the difference between life and death, for their soldiers and for themselves as well (Dempsey, 2021; Elliot et al., 2021). Meanwhile, service members of equal rank hold responsibility for their comrades' lives in carrying out their assigned role. Deviation from the mission as priority can lead to a lack of trust from fellow soldiers, which is essential for cohesion among the unit. Lack of upholding

mission priority also may create dissonance between actions and the values that have become integral to the military identity.

Service members internalize military values from the onset of training. The goals of these values are to create a dedication towards protecting a nation or national identity (Cole, 2014; Elliot et al., 2021; McCormick et al., 2019). In Demers' (2011) study, veterans reported a strong sense of military culture. For example, many participants reported behaving consistently with certain military values, such as "we are warriors." These values contribute towards a code of conduct that is central to military culture. Statements such as "I am an American, fighting in the forces which guard my country and our way of life. I am prepared to give my life in their defense" make up the armed forces code of conduct. This code of conduct frequently becomes a central part of service members' self-identity, as it is so pervasive throughout military service (Department of Military Science, n.d.; Elliot et al., 2021).

These cultural components show variation even amongst the branches (i.e., sub-cultures) of the military. Taking values for example, the armed forces emphasize values of honor and integrity in their service members. The military core values across the board aim to create a cohesive organizational identity that allows for individuals from various backgrounds to find common ground in their focus on upholding the standards of this military identity (Military Leadership Diversity Commission, n.d.). However, the individual branches of the military hold their own, similar though distinct, core values working towards this same purpose. The Army lists its values as loyalty, duty, respect, selfless service, honor, integrity, and personal courage. The Navy states values of honor, courage, and commitment. Lastly, Air Force values include integrity first, service before self, and excellence in all they do (Military Leadership Diversity Commission, n.d.; Halverson, 2010; Pagan Carbone, 2020; Pelsner, 2021). These values are



distinct across the subcultures of the military, individually taught to each branch's new recruits at the onset of training along with much of the Code of Conduct. However, each set of values reflect the general theme of honor and integrity, common across the four branches and emphasized to each soldier during training. This is one example of how the military holds a culture that is rich in complexity and mirrors the traditional, national view of culture (e.g., a larger American culture with many subcultures, based on race/ethnicity, geographic location, etc.).

### ***iii. Comparing and Contrasting Military and Civilian Cultures***

A common distinction between civilian and military culture is in the orientation of civilian culture towards individualism and military culture towards collectivism. This is a common distinction between cultures (e.g., the United Kingdom is more individualistic, and Denmark is more collectivistic) that can also be applied to the military and civilian cultures within the United States. Civilian culture in the United States is primarily individualistic, where self-image is defined by the individual rather than the group. This culture emphasizes independence, uniqueness (e.g., personal expression through style of dress), and overall success of the individual. Meanwhile, the military operates under a collectivist culture, where duty to the group and harmony within the group is emphasized (Romanuik & Kidd, 2018; Truusa & Castro, 2019). Within the collectivist culture of the military, there is little room for individual autonomy. Rather, there is a focus on cooperation, interdependence, and conformity. This can be seen through the uniforms service members wear, laws and training based on acting in the interest of the unit, and the emphasis on obedience to those in positions of power (Cole, 2014; Elliot et al., 2021). This emphasis on the collective strengthens the military identity within service members.

The impact of the collectivistic versus individualistic distinction is heightened by the potential separation of the military and civilian populations and the varying structures of civilian and military life. Reserves and National Guard differ from active-duty status members in values and lifestyle, as they are integrated into civilian culture. While they still have occasional exposure to military culture, training a few weeks out of the year, they are primarily involved in civilian life with civilian support systems (Elliot et al., 2021; Herndon et al., 2016). However, the lifestyle of service members and their families can be isolated from outside influence, even within their home country, because military bases provide their own grocery stores, shopping centers, restaurants, dry cleaners, day care, schools, hair salons, and other amenities (Halverson, 2010). This leaves little need for service members or their families to travel off base unless desired, fully immersing families in the military culture and providing little exposure to the differences of civilian life—differences that include even the nuances of daily life. Contrary to much of civilian life, the military culture is strictly planned and structured. Daily lives of service members are structured to reduce unknown variables surrounding who is where, doing what, and at what time (Dempsey, 2021; Elliot et al., 2021; McCormick et al., 2019; Romanuik & Kidd, 2018). This differs from civilian life in the uniformity. Individual civilians may choose to live a structured, planned life, however their schedules are often their own to plan. Within the military context, structure is not a choice, but an expectation, and schedules are uniform across those with similar duties or in the same units.

The rigid structure of the military culture is intended to create a clear, organized plan to mitigate risk and reduce unknowns. Structured planning even of individuals' daily lives, allows the military to operate more efficiently and with fewer variables. Soldiers know what to do and when, where, and how to do it. There is little question of expectations and duties (Elliot et al.,

2021; Romaniuk & Kidd, 2018). This collectivist culture is a core piece of the United States military, as it prioritizes the mission over the individual. Success of the group and achievement of the goal is paramount. However, for veterans, this shift in mindset between individualism to collectivism leads to a foundational difference in worldviews that can exacerbate the difficulty of service members adapting to civilian life following periods of service (Truusa & Castro, 2019; Weiss & Coll, 2011).

#### ***iv. Challenges Adapting to Civilian Life Post Military Service***

Clearly, the United States military contains a culture distinct from that of the larger civilian population, and this military culture has been credited as necessary for the continuation of the United States military (Greene et al., 2010). However, the transition from military culture to civilian culture following a period of service is characterized by a range of potential issues. For example, difficulties in the military to civilian transition are negatively associated with social support and positively associated with psychological distress, physical injury, and employment difficulties (Chan, 2019; Pease et al., 2015; Wewiorski et al., 2018). These results of the civilian transition may hinder reintegration and affect quality of life and suicide rates amongst veterans, especially during the initial stages of transition (Sokol et al., 2021). Even among veterans without diagnosed physical or psychological disorders, roughly 25% of veterans report difficulties in social functioning, self-care, or other major life domains following the transition from military to civilian life (Sayer, 2011). In Demers' (2011) study, participants reported difficulties returning home (e.g., "crisis of identity") with reports of feelings of alienation from their friends and family, internal conflict of wanting to be alone but also wanting to be with others, and an unease with not being busy.

In addition, many clinicians treating military members for PTSD are civilians and approach therapy with a limited understanding of the cultural discrepancies previously highlighted, which can negatively impact treatment for those veterans who do seek treatment. Although clinicians may utilize evidence-based treatments (i.e., prolonged exposure therapy; Steenkamp, 2020; Peterson et al., 2021), their lack of cultural competency in delivering these treatments to the veteran population may impact the effectiveness of the treatment. Reger et al. (2008) describes in depth the distance between military and civilian culture and the need for civilian clinicians to treat veterans with cultural competence (e.g., learning frequently used acronyms and terms, understanding values and customs, addressing views of mental health in the military). Without consideration to military culture, a civilian psychologist will be unlikely to adequately assess the presenting difficulties and their origins (Cole, 2014; Herndon et al., 2016; Meyer et al., 2022).

Ahern (2015) elaborated on the difficulties veterans face during the transition between military and civilian cultures and what cultural aspects clinicians should consider by identifying three themes: *military as family*; *normal is alien*; and *searching for a new normal*. These themes describe the difficulties of transitioning between cultures as a separation from one's family, as many individuals within the military form a sense of family among those with whom they serve. Therefore, in veterans the transition to civilian life is commonly accompanied by a feeling of loss in regard to this military family. Additionally, the idea of *normal as alien* is similar to the "crisis of identity" described above where individuals feel isolated in their military experience. The return to civilian life is a searching process which, when successful, results in a sense of support and belonging in veterans. However, there is an expectation amongst veterans and their families that life will return to "normal" (i.e., a semblance of pre-military life) following discharge from

the military. With this expectation that civilian life should be considered “normal”, military members may experience feelings of disconnectedness with those around them when embracing civilian life does not feel as seamless as expected. This disparity between the expectation that returning to civilian life equates to returning to pre-military life and the reality of reintegration leads to *searching for a new normal*. McCutcheon (2022) describes this feeling of searching for a “new normal” as a search for meaning within their new civilian life.

#### ***v. Meaning in Life***

Another more specific difficulty that veterans face in the transition from military to civilian cultures is a perceived loss of meaning. Meaning in life is a concept in part popularized by Viktor Frankl in the early to mid-20th century. Viktor Frankl was a prominent psychiatrist and neurologist living in Vienna. He played an influential role in the development of the field of psychology throughout the 20<sup>th</sup> century. Frankl posited that a core feature of humanity is a drive to discover meaning within one’s life, referred to as the *will to meaning* (Frankl, 1946). Exploring the concept of meaning in life became a cornerstone of Frankl’s work, logotherapy, which contributed greatly to the existential-humanistic psychology movement and the field of positive psychology broadly speaking (Schulenberg, 2016; Schulenberg et al., 2008). Frankl argued that the discovery of a meaning or purpose in life provides people with reason(s) to live, and that working towards a meaningful life is necessary to have a life that is “worth” living. Specifically purpose has been conceptualized as a sense of direction and goals in life as driven by one’s values and beliefs (McKnight & Kashdan, 2009). This portion of meaning encompasses a future orientation that focuses in on the reasons for continuing to live one’s life. Under Frankl’s conceptualization of purpose, there is not required one overarching purpose, but rather there are often many overlapping purposes for living. A sense of purpose provides significance to one’s

actions in the present in working in the direction of these goals (George & Park, 2013; Martela & Steger, 2016).

Meaning in life has been associated with various positive outcomes following traumatic experiences, such as post traumatic growth (PTG), resilience, and satisfaction with life (Boullion et al., 2020; Karatas & Tagay, 2021; Mostarac & Brajkovic, 2022; Weber et al., 2020). Amongst individuals who have experienced traumatic events (e.g., natural disasters), those who identify a greater purpose in life, or having a life “worth” living, have also identified higher resiliency (Aliche et al., 2019; Arslan et al., 2020; Ostafin & Proulx, 2020; Weber et al., 2020).

Additionally, PTG is marked by not only a resiliency to traumatic events, but a view of positive psychological changes through the experience (Finegold et al., 2022; Taku et al., 2021).

Individuals who have experienced trauma were more likely to report PTG if they also perceived their life as meaningful (Abu-Raiya & Sulleiman, 2021; Aliche et al., 2019; Boullion et al., 2020; Mostarac & Brajkovic, 2022; Weber et al., 2020). Overall, presence of perceived meaning in life has been associated with increased positive outcomes. These associations are not only displayed within the general population but have been evident in military personnel with combat and noncombat-related trauma.

As noted prior, McCutcheon (2022) describes veterans transitioning to civilian life as searching for meaning. The feelings of isolation and disconnectedness from civilian culture and the “crisis of identity” described by Ahern (2015) mimic the feeling found in a perceived loss of meaning. Additionally, a perceived loss of meaning in life in veterans has been associated with increased treatment seeking from a range of professionals, including both mental health professionals and clergy members (Fogle et al., 2020; Fontana & Rosenheck, 2005). The perceived loss of meaning is associated with increased severity of PTSD and depression in

veterans following reintegration to civilian life (Owens et al., 2009; Steger et al., 2015). Contrarily, the presence of perceived meaning in life in veterans is associated with fewer and less intense instances of depression, lower rates and severity of suicidal ideation, and improved psychological adaptation compared to veterans with little perceived meaning (Blackburn & Owens, 2014; Issacs et al., 2017; McCutcheon, 2022; Straus et al., 2019). For these reasons, some questionnaires on veteran reintegration have begun to include perceived meaning in life as a potential indicator of post-service adjustment (e.g., the Military to Civilian Questionnaire; Sayer et al., 2011). Additionally, a greater sense of meaning in life has increasing support as a protective factor specifically against combat-related risks to veterans, with associations between greater perceived meaning in life and lower risk for suicidal ideation (Corona et al., 2019; Kinney et al., 2022; Straus et al., 2019).

#### ***vi. Role of Combat in Veteran Reintegration***

Following combat deployment, service members face additional challenges in returning to civilian life. Deployment involves the movement of military members from their home stations, therefore combat deployments involve the movement of service members to combat zones (Department of Veteran Affairs, 2015). Service members that have been deployed to warzones have experienced the training and integration into military culture that service members experience broadly. Combat-deployed service members are then further isolated from the United States civilian population by deployment to a foreign country. These service members are thrust into an often-volatile situation where safety is not guaranteed and trust within the group and reliance on the military structure is essential (Herndon et al., 2016; Kintzle et al., 2018). These experiences alone exacerbate the ingratiation of service members into military culture compared to non-combat deployed service members.

Additionally, combat-deployed service members not only have to navigate the difficulties of adjusting to civilian culture when returning home, but they often struggle to find their place within civilian life to a greater extent than non-deployed veterans, due to their combat-related experiences (Herndon et al., 2016; Truusa & Castro, 2019; Verkamp, 2021). Veterans with warzone deployments must adapt in the transition from military to civilian life similarly to most veterans, however they must also adapt to life outside of a warzone. Many of the experiences of warzone deployed service members are not relatable or understandable by civilians or even by other veterans without a warzone deployment. The relationships they had prior to military service are often strained as their friends and family expect the service member to be the same person as they were before their deployment, without understanding the changes that occur within an individual following the high stress of combat and the experiences gained within the combat environment (e.g., witnessing death and extreme violence, continuous concern for safety of self and others; Elliot et al., 2021; Herndon et al., 2016; Kintzle et al., 2018). Other civilian relationships can be difficult to cultivate as the issues considered critical in daily civilian life (e.g., maintaining social relationships, money management, marital conflict) may appear less important compared to the high stakes (i.e., life and death) issues a service member faced in combat. This discrepancy can leave a service member returning to civilian life, feeling isolated in their experiences to an even greater extent than non-combat veterans.

As alluded to previously, the literature has consistently shown that combat exposure through deployment to warzones can have a lasting impact on veterans, leading to a variety of mental health issues, and specifically PTSD. Combat exposure increases the risk of mental health issues both immediately following combat and in terms of lifetime prevalence (Brinker et al., 2007; Kintzle et al., 2018; Sokol et al., 2021). Hoge et al. (2004) identified that among veterans



recently returning from combat, rates of PTSD significantly exceeded rates of PTSD in the general population with evidence of three to four percent prevalence in the general population and up to 15 percent prevalence in combat veterans. Even generally amongst veterans diagnosed with PTSD, veterans with combat-related PTSD are more likely to have more severe PTSD symptoms and lower remission rates than veterans with non-combat related PTSD (e.g., sexual assault, natural disaster; Brinker et al., 2007; Macia et al., 2020). Lee et al. (2019) assessed the long-term impact of combat on veterans' mental health through a longitudinal study. The researchers found that, over the lifespan, combat veterans displayed more systematic change than non-combat veterans, with initially poorer mental health, improvements during mid-life, then drastic decreases in mental health as veterans aged past 60 years old. This finding emphasizes the lifetime effect that combat may have on veteran mental health and associated psychological distress.

As discussed in the previous section, veterans with PTSD often have poorer outcomes from therapy than non-veterans with PTSD, which can in part be explained by a cultural disconnect between civilian therapists and veteran patients—along with military attitudes regarding mental health treatment, delay in treatment seeking, etc. Veterans who have been deployed to warzones are not only more likely to need treatment for PTSD, but they are also more likely to experience a greater cultural disconnect within therapy and suffer greater ill effects from insufficient treatment (Burek, 2018; Meyer et al., 2022). Warzones are almost always immersed within another country and culture, or even multiple cultures. When soldiers are deployed to these areas without knowledge of the host country's culture and the various sub-cultures (e.g., cultures based in religion, race/ethnicity, SES), the consequences can be dire, including ruined relationships with inhabitants and unnecessary loss of life. For example, upon

entry to Iraq during the Iraq War (2003-2011), soldiers initially used the American hand signals for “stop” and “go”. In Iraqi culture, these signals are reversed. When Iraqi civilians followed the signals as they pertained to their culture, shots were fired and lives were lost (Greene et al., 2010). In this situation, an understanding of and adherence to Iraqi culture would have saved lives. Therefore, soldiers deployed to warzones must become knowledgeable of and partially embrace (at minimum) the local culture in order to improve relations with local communities and better ensure the success of the mission. This exposure adds yet another layer to the cultural adaptation that must occur when veterans deployed to warzones return to civilian life, which is distinct from the transition of non-deployed veterans. The concept of acculturation, which historically deals with the contact between two or more cultures, may be applied in order to understand this complex, cultural adaptation from military to civilian life as a whole and how it increases in difficulty for previously deployed veterans.

## **b. Acculturation**

The concept of acculturation has previously been applied to describe the process of transitioning between cultures. Acculturation is the process of cultural and psychological change that occurs with contact between two or more cultures at a group or individual level (Berry, 2005). This contact between cultures, and the subsequent acculturation, can involve changes at societal or individual levels. At the societal level this change can include things like the introduction of new foods, exposure to new religions, access to additional goods and services, etc. At the individual level changes may include things like customs, habits, language, and values (e.g., learning a new language to communicate in a new country, attending different social events/holiday celebrations popular within the new country; Bornstein, 2017).

The concept of acculturation is often used to encompass the transition of immigrants (e.g., skilled workers, international students, sojourners, refugees) from their lands of origin to living their lives in new countries (Sheikh & Anderson, 2018). Acculturation includes the process of learning to adapt to a new home and a new culture while determining which aspects of one's original culture to carry forward into this new life. The acculturation process can take many forms and successful adaptation does not present identically with every individual or in every culture (Berry, 2015; Lindert et al., 2022; Lopez-Class, 2011). Successful acculturation is associated with increased sense of belonging, improved quality of life, and increased satisfaction with life (Berry & Hou, 2016; Kim et al., 2019; Yoon et al., 2013). However, not all individuals adapt successfully.

Ineffective acculturation—typically due to difficulties in adapting to the new culture—results in a concept known as acculturative stress. Acculturative stress encompasses the challenges related to adapting to a new culture and has been associated with a variety of social and mental health concerns (Berry, 2005). This stress can arise from a multitude of factors including learning and understanding new cultural norms, resolving conflict between old and new cultural practices, facing negative stereotypes and prejudice against immigrating individuals, etc. (Lindert et al., 2022; Sirin et al., 2013). In historically studied populations, ineffective acculturation and subsequent acculturative stress are associated with various mental health concerns and risk factors, including poor social support, anxiety, and depression (Gebregergis et al., 2020; Schwartz et al., 2010; Sirin et al., 2013). A meta-analysis of acculturative stress and mental health symptoms among Hispanic immigrants to the U.S. found consistent results of increased depression, anxiety, and general psychological stress associated with greater acculturative stress (Miller de Rutté et al., 2021). Additionally, acculturation and

ethnic identity have been associated with quality of life among Chinese immigrants to the U.S., with poor acculturation and strong ethnic identity being associated with worse quality of life following the transition (Lieber et al., 2001). This relationship between acculturation, ethnic identity, and quality of life was further supported in a meta-analysis conducted by Balidemaj and Small (2019).

The effect of acculturation-related problems can even influence subsequent generations. For example, in a study of first- and second-generation immigrant students, acculturative stress was associated with increased mental health concerns, such as anxious/depressive symptoms, sleep difficulties, and related social withdrawal (Chapagai & Martyn-Nemeth, 2022; Sirin et al., 2013). Refugees in particular have historically more difficulty with acculturation due to the abrupt, forced, and traumatic nature of their relocation (Safdar et al., 2023; Skeikh & Anderson, 2018). Other groups that tend to experience increased acculturative stress are immigrants that transition from more collectivistic cultures to more individualistic cultures, in large part due to the major differences in these cultural styles (Schwartz et al., 2010). The process of this acculturation and potential for acculturative stress have been conceptualized by various models. Examples include Arends-Tóth and van de Vijver's model (2006), Ward and Geerart's model (2016), and Borenstein's specificity principles (2017; see the review by Juang and Syed, 2019). One widely used model, perhaps *the* most widely used model presently, is Berry's model of acculturation (Berry, 1992, 2005).

#### ***i. Berry's Model of Acculturation***

Early descriptions of acculturation focused on unidimensional models that viewed acculturation as a scale with the old, *home* culture on one end of the spectrum and the new, *host* culture on the other (Berry, 1992, 2005). As acculturating individuals moved towards one

culture, they were seen as moving away from the other. However, this was incongruent with the reality of immigrating individuals, who often found ways to incorporate both cultures and commonly adjusted towards the host culture in certain aspects or settings, while holding on to their home culture in other ways (e.g., attending Fourth of July celebrations while also engaging in holidays from home such as Diwali; Skeikh & Anderson, 2018). Due to this discrepancy between the conceptualization of acculturation and what happens in actuality, Berry (1992) suggested an alternative model.

Berry's (1992) model describes acculturation at both group and individual levels. The group level focuses on the contact between two groups of differing cultures, which occurs typically through methods such as military invasion, mass immigration, or international trade/negotiations. This aspect of Berry's model stresses the impact of all interactions between cultures, ranging from immersion (e.g., immigration, refuge-seeking) to simply having contact (e.g., trade, travel) with other cultures (Berry, 2017; Skeikh & Anderson, 2018). The second focus of Berry's model is on individual acculturation. Individual acculturation deals with the contact between an individual and another individual or group with differing cultures. The main difference in this focus is that the emphasis is on the effects on an individual as a result of cultural interaction rather than the effect on an entire group of people.

In Berry's (1992) model for individual acculturation, now widely considered a "gold standard" in this literature, there are two components, or strategies, with respect to the acculturation process. These components include attitudes and behaviors that are displayed in daily intercultural interactions. Individual attitudes encompass the desire to integrate into the host culture, while behaviors involve the degree that home cultural practices are maintained in relationship to cultural practices of the host culture (Berry, 2017).

Berry (1992, 2005) described these two components, attitudes and behaviors, as being cross-sectional, with attitudes towards home/host culture intersecting with behavior towards engaging in home/host cultural practices. Thus, the intersection results in a model, or figure, with four quadrants, termed *assimilation*, *separation*, *integration*, and *marginalization* (see Figure 1)<sup>1</sup>. Assimilation refers to the adoption of one's host culture while distancing oneself from the home culture. Contrarily, separation is categorized by the maintenance of one's home culture without adoption of the host culture. Historically, integration, the adoption of one's host culture identity in addition to the maintenance of one's home culture identity, is considered ideal because it is associated with fewer negative mental health outcomes (e.g., depression; Choy et al., 2021). Marginalization, alternatively, refers to a lack of adopting one's host culture identity in addition to the loss of one's home culture identity. Marginalization is particularly problematic as it has been associated with the most negative mental health outcomes in comparison to the other quadrants, including higher rates of depression and anxiety (Choy, 2021; Skeikh & Anderson, 2018). However, these four outcomes are only available if the dominant cultural group does not limit potential acculturation strategies. Berry (2017) describes dominant group limitation in terms of integration, which can only be used as a method of acculturation if freely chosen, which in turn is only possible if the dominant culture is inclusive of cultural diversity. In this case, the dominant culture must be willing to allow both inclusion of immigrating individuals (e.g., lack of segregation within education and the work force) and practice of various cultures (e.g., allowance of religious freedom). Without these pieces, acculturating individuals will be forced to choose one of the other acculturation strategies.

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<sup>1</sup> All tables and figures are included in the Appendix.

While Berry's (1992, 2005) model is a gold standard in the acculturation literature (Karim, 2021; Ma & Xia, 2021; Schmitz & Schmitz, 2022; Schwartz & Zamboanga, 2008; Ward & Kus, 2012), there are limitations evident in this approach and the assessment of this approach. For instance, as outlined in Tkachuck (2019), Berry's model of acculturation overlooks the role of psychological distress that can occur as a means of cognitive dissonance created from behaving in one manner (e.g., oriented towards home and host cultures) but desiring a different orientation (e.g., primarily home orientation). The application of Berry's model is also limited in the methods of assessing acculturation, with little consideration for how the different dimensions can be observed (i.e., the presentation of assimilation versus integration) and how behaviors change across contexts (i.e., assimilating to the host culture in a professional context but retaining home culture in a religious context). With consideration for these challenges, the assessment of acculturation has pushed forward in examining the acculturative process. By way of example, Demes and Geeraert's measures of acculturation (Demes & Geeraert, 2014; Tkachuck, 2019; Tkachuck et al., 2022) used Berry's model as a basis for assessing the acculturation process within various populations. Demes and Geeraert's (2014) measures and Tkachuck's (2019, Tkachuck et al., 2022) adapted measures address acculturation orientation, psychological adaptation, perceived cultural distance, and sociocultural adaptation.

## ***ii. Demes and Geeraert's Measures of Acculturation***

Demes and Geeraert (2014) created a measuring tool that assesses the extent to which one's acculturation process is regarded as successful. The instrument is comprised of four smaller scales, which include foci on acculturation orientation, psychological adaptation, perceived cultural distance, and sociocultural adaptation. These scales were designed as

estimates of acculturation and potential for acculturative stress, with greater adaptation assessed across scales associated with improved well-being in a range of domains.

**Acculturation Orientation.** Of the four scales, acculturation orientation is the most directly linked to Berry's model of acculturation. This instrument uses a bidimensional model to look at an individual's orientation towards maintaining their home cultural practices as well as the extent of engagement in cultural practices of their host culture (Palladino et al., 2020; Tkachuck et al., 2022). Acculturation orientation, as conceptualized by Demes and Geeraert (2014), treats orientation towards home and host cultures as two independent scales, meaning for example, it is possible to be highly oriented towards both one's home and host cultures. In line with Berry's model that these two cultures can be held simultaneously, Demes and Geeraert decided to measure these two constructs separately under the umbrella of acculturation orientation.

**Psychological and Sociocultural Adaptation.** Demes and Geeraert (2014) created two measures of adaptation to assess acculturation, including psychological adaptation and sociocultural adaptation. The reasoning for this distinction was based on the work of Searle and Ward (1990), researchers who showed that psychological adaptation and sociocultural adaptation are two separate processes of acculturation that independently impact acculturative stress. Psychological adaptation deals with the feeling of belonging within a culture. This concept looks at the degree to which someone is comfortable or happy in the new culture versus feeling anxious and/or out of place. Sociocultural adaptation, alternatively, deals with the practical and behavioral processes related to adapting to a new culture, including the behaviors that are necessary to effectively navigate through a culture on a day-to-day basis.



**Perceived Cultural Distance.** Perceived cultural distance examines to what extent the home and host cultures are similar. Greater cultural similarity is associated with a greater ease of transitioning between cultures, with less acculturative stress and related negative effects (Albada et al., 2021; Demes & Geeraert, 2014). This concept focuses on the day-to-day similarities (e.g., social norms, language, natural environment) between cultures perceived by the acculturating individual. Some areas that may affect daily life include climate and food/eating, where if both cultures are in generally warm climates and eat similar foods with mealtimes at the same point in the day, they would be rated as more similar on these categories. Cultures that are less similar (e.g., warm climate to cold climate) will require more adaptation as there is less perceived overlap between the two cultures. Therefore, perceived cultural distance is related to sociocultural adaptation, as primarily the differences in cultures (rather than the similarities) will require practical, daily adaptation.

### **c. Military to Civilian Transition as an Acculturative Process**

More recently, this process of acculturation has begun to be adapted to veterans in their transition from military culture to civilian culture. The application of this construct to the military transition is supported by the difficulties of transitioning between collectivist (i.e., military) and individualist (i.e., civilian) cultures. In addition, it is suspected that the transition to civilian life is exacerbated by the cultural shift. Examples include when skills that are valued in a military context (e.g., sensitivity and responsiveness to threats) may be maladaptive in a civilian context (e.g., intense reactions out of proportion to an event; McCaslin et al., 2021). Therefore, an understanding of the transition from military to civilian culture is aided by taking a culturally sensitive approach whereby the process of acculturation is applicable (Greene et al., 2010; Koenig et al., 2014; Reger et al., 2008; Tam-Seto et al., 2019).

In the original study in the program of research described throughout this paper, Tkachuck and colleagues (Tkachuck, 2019; Tkachuck et al., 2022) adapted and developed military acculturation measures from Demes and Geeraerts' (2014) measures of acculturation, which were originally created for the general population. The findings of Tkachuck and colleagues emulated the psychometric properties displayed in the development of Demes and Geeraerts' (2014) acculturation measures, thus providing support for the military versions of these forms. Tkachuck et al.'s (2022) military versions of these measures, like Demes and Geeraerts' (2014) measures, each assess one of the four factors of acculturation: acculturation orientation, psychological adaptation, sociocultural adaptation, and perceived cultural difference. The scores on these four scales provide information as to various aspects of acculturation for military members transitioning to civilian life, based on the aforementioned four factors.

Following the work of Tkachuck and colleagues (2022), McCutcheon (2022) examined the collected data to assess for potential risk and protective factors for veterans in the acculturation process. McCutcheon (2022) found that increased perceived meaning in life may act as a protective factor against poor acculturation and the risks associated with acculturative stress. This finding has been supported in the literature for acculturation among immigrating individuals, where enhanced perceived meaning in life was associated with improved acculturation (Pan, 2011; Pan et al., 2008). McCutcheon (2022) also suggested that psychological distress acts as a risk factor for poor acculturation, with increased psychological distress mediating the relationship between meaning in life and psychological adaptation. Similar to meaning in life, the relationship between psychological distress and acculturation has found support in the broader acculturation literature (Oppedal et al., 2005; Santos et al., 2020; Sundquist et al., 2000).

The similarities in findings between McCutcheon (2022) and the general acculturation literature further supports the idea of veteran reintegration as a cultural transition. However, at this time, the adapted military measures have been used to look at acculturation in a general veteran sample. Due to the potential for increased cultural exposure and difficulties in adapting to civilian life in veterans deployed to a warzone (Brinker et al., 2007; Lee et al., 2019), it is prudent to assess acculturation, specifically considering the context of combat. Given this need for further development in the research, the current study assesses acculturation, psychological distress, and meaning in life as a factor of combat exposure.

#### **d. The Current Study**

Previous studies examining veteran acculturation have focused on the veteran population as a whole without consideration for the role of potential combat experience (i.e., warzone deployment). This general focus was beneficial for the purposes of those studies to validate the measures of military acculturation and assess the role of perceived meaning in life in relation to the process of acculturation (McCutcheon, 2022; Tkachuck, 2019; Tkachuck et al., 2022). However, given the impacts of acculturation on adaptation and veteran psychotherapy outcomes, the increased need for psychotherapy for veterans deployed to warzones, and the increased cultural exposure of combat veterans through deployment locations, it is pertinent to evaluate the potential difficulties that combat veterans face with respect to acculturation (Brinker et al., 2007; Steenkamp et al., 2020). Determining how warzone deployments relate to veterans' process of acculturation can have treatment implications with increased attention to cultural competency in a population with historically low rates of success in therapy. Additionally, within the current program of research, psychological distress is an evident risk factor for acculturative stress in veterans, while higher levels of perceived meaning in life is an evident protective factor against

acculturative stress (McCutcheon, 2022). Examining the relationship of warzone deployment with these risk and protective factors can further explain the effects of warzone deployment on acculturation and inform treatments for veterans in therapy. This information also has research implications as the idea of applying the acculturation concept to the military population is relatively new, and an underlying goal of this study is to galvanize deeper exploration into how the transition between military and civilian culture affects veterans' reintegration into society.

This study primarily evaluates the four military acculturation scales (acculturation orientation, psychological adaptation, sociocultural adaptation, and perceived cultural distance) in a veteran sample, with specific regard for considering veterans previously deployed to warzones in contrast to veterans without previous experience deploying to warzones. Additionally, this study analyzes a measure of psychological distress and a measure of perceived meaning in life considering the veteran sample data, specifically veterans having been previously deployed to warzones in comparison to veterans without these experiences. Both analyses were conducted with consideration for potential confounding variables such as branch of service, history of parental service, time since discharge, and time since moving off base.

## **Hypotheses**

*Study Goal 1: To evaluate the effect of potential combat exposure through warzone deployment on the various factors of acculturation in the transition from military to civilian life.*

Hypothesis 1a: Veterans who have been deployed to warzones would score significantly higher on *acculturation orientation* towards military culture than those who have not been deployed to warzones.

Hypothesis 1b: Veterans who have been deployed to warzones would score significantly lower on *acculturation orientation* towards civilian culture than those who have not been deployed to warzones.

Hypothesis 1c: Veterans who have been deployed to warzones would score significantly lower on *psychological adaptation* than those who have not been deployed to warzones.

Hypothesis 1d: Veterans who have been deployed to warzones would score significantly lower on *sociocultural adaptation* than those who have not been deployed to warzones.

Hypothesis 1e: Veterans who have been deployed to warzones would score significantly higher on *perceived cultural distance* than those who have not been deployed to warzones.

*Study Goal 2: To evaluate the effect of potential combat exposure through warzone deployment on factors that have displayed risk for poor acculturation (i.e., psychological distress).*

Hypothesis 2a: Veterans who have been deployed to warzones would score significantly higher on a measure of *overall psychological distress* than those who have not been deployed to warzones.

Hypothesis 2b: Veterans who have been deployed to warzones would score significantly higher on an index of *depression* than those who have not been deployed to warzones.

Hypothesis 2c: Veterans who have been deployed to warzones would score significantly higher on an index of *anxiety* than those who have not been deployed to warzones.

Hypothesis 2d: Veterans who have been deployed to warzones would score significantly higher on an index of *stress* than those who have not been deployed to warzones.

*Study Goal 3: To evaluate the effect of potential combat exposure through warzone deployment on factors that have displayed protection against poor acculturation (i.e., meaning in life).*

Hypothesis 3: Veterans who have been deployed to warzones would score significantly lower on perceived *meaning in life* than those who have not been deployed to warzones.

## **II. METHODS**

### **a. Participants and Procedure**

This study is the third in a program of research conducted as part of a larger, systematic examination of veteran populations. The current methodology and analyses are therefore based on the procedures of the original study in this program which evaluated the psychometric properties of adapted measures of military acculturation (Tkachuck, 2019; Tkachuck et al., 2022). Due to the initial focus on veteran acculturation, the original study included only those individuals who had served active duty in the United States armed forces, but at the time of taking the survey either had no military affiliation or were serving in the National Guard or reserve post-active duty (i.e., active-duty veterans).

As noted in the original work (Tkachuck, 2019; Tkachuck et al., 2022), participants were recruited from various social media sites and United States universities. As recruitment occurred through universities, participants were required to be enrolled in university-based courses at the time data were collected. Universities were selected based on their disclosure of having a veteran organization or military/veteran representative within their facility. Following university and administrator approval, a scripted email detailing the study and including a link to the online survey was distributed to veterans by administrators of participating universities. Participants followed the link to review and complete the consent form prior to proceeding with the survey.

The survey contained several demographic questions, the four acculturation measures (acculturation orientation, sociocultural adaptation, perceived cultural distance, and psychological adaptation), and other related psychological measures. Once participants

completed the demographics questionnaire and met the inclusion criteria as determined by the questionnaire, the acculturation measures were presented in a randomized order. The additional psychological measures, presented after the acculturation measures, included the Depression Anxiety and Stress Scale—21 items (DASS-21), the Purpose in Life test—Short Form (PIL-SF), and multiple questionnaires that are not included in the relevant research. The original study and primary follow-up study used different groupings of these measures, varying on the basis of the study protocol. The first study (Tkachuck, 2019; Tkachuck et al., 2022) focused on the acculturation measures, while the second study (McCutcheon, 2022) focused on the relationship between perceived meaning in life, psychological distress, and the psychological adaptation domain of acculturation. Due to the focus of the current study on acculturation differences, psychological distress, and perceived meaning in life in deployed and non-deployed veterans, only the scores from the four acculturation measures, the DASS-21, and the PIL-SF were analyzed. These measures are described in detail below. Upon completion of the battery of measures, participants were offered the opportunity to enter their email address into a raffle for a \$50 Visa Gift Card. Participants who opted to enter the raffle clicked on a link that directed them to enter their email address in a separate form, one not linked to their survey responses.

## **b. Measures**

### ***Demographics Questionnaire***

A questionnaire was given to participants to gather data on background and demographic characteristics. Information collected included age, gender, marital status, and military background and experiences (e.g., deployment to a warzone, number of warzone deployments, military branch, time since discharge). These data are presented in Table 1.

### ***Brief Acculturation Orientation Scale—Military Version***



The Brief Acculturation Orientation Scale—Military Version (BAOS-MV) is a military adaptation of Demes and Geeraerts’ (2014) measure, adapted by Tkachuck (2019; Tkachuck et al., 2022). The BAOS-MV includes eight items in which participants rate on importance, ranging from 1 (strongly disagree) to 7 (strongly agree). The scale includes two dimensions that measure home (items 1-4; e.g., “Have military/veteran friends”) and host (items 5-8; e.g., “Have civilian friends”) cultural orientations. Scores on the two dimensions are assessed separately with higher mean scores on each dimension representing greater orientation towards the home and/or host cultures. Mean scores are calculated by averaging the scores of the four questions included in each domain. Tkachuck (2019; Tkachuck et al., 2022) showed good inter-item reliability ( $\omega_{home} = .84$ ;  $\omega_{host} = .84$ ), within-factor correlations ranging from .38 to .70, and between-factor correlations ranging from -.18 to .20. In the current sample, the BAOS-MV yielded a Cronbach’s alpha of .84 on the *home* subscale and a Cronbach’s alpha of .84 on the *host* subscale, indicating good internal consistency by conventional interpretive standards for both subscales (DeVellis, 2003). See Appendix A for the BAOS-MV.

### ***Brief Psychological Adaptation Scale—Military Version***

The Brief Psychological Adaptation Scale—Military Version (BPAS-MV) is the military adaptation of Demes and Geeraerts’ (2014) measure of how an individual feels specifically in response to living as a civilian. This measure includes eight items in which participants rate each item from 1 (never) to 7 (always) in relation to how they felt over the previous two weeks. Higher mean scores represent greater levels of perceived psychological adaptation. Mean scores are calculated by averaging the ratings on each of the eight items, with items 2 through 7 being reverse coded. Example items include “Excited about being a civilian” and “Nervous about how to behave in certain situations.” Tkachuck (2019; Tkachuck et al., 2022) showed sufficient inter-

item correlations, with correlations ranging from .20 to .76, and good reliability ( $\omega = .88$ ). In the current sample, the BPAS-MV yielded a Cronbach's alpha of .87, indicating good internal consistency (e.g., DeVellis, 2003). See Appendix B for the BPAS-MV.

### ***Brief Sociocultural Adaptation Scale—Military Version***

The Brief Sociocultural Adaptation Scale—Military Version (BSAS-MV) is the military adaptation of Demes and Geeraerts' (2014) measure of sociocultural adaptation. In this measure respondents rate the level of difficulty they have had adapting to civilian life across 12 areas, including friendships, family life, and values and beliefs. The response format ranges from 1 (very difficult) to 7 (very easy). Mean scores are calculated by averaging ratings on the 12 items and higher mean scores represent greater levels of sociocultural adaptation. Tkachuck (2019; Tkachuck et al., 2022) showed good reliability ( $\omega = .92$ ) and acceptable inter-item correlations with correlations ranging from .26 to .89 between all 12 items. In the current sample, the BSAS-MV yielded a Cronbach's alpha of .92, indicating excellent internal consistency (e.g., DeVellis, 2003). See Appendix C for the BSAS-MV.

### ***Brief Perceived Cultural Distance Scale—Military Version***

The Brief Perceived Cultural Distance Scale—Military Version (BPCDS-MV) is the military adaptation of Demes and Geeraerts' (2014) measure of cultural comparison. This measure prompts respondents to rate how different or similar the host and home cultures are across 12 categories (e.g., climate), with response options ranging from 1 (very similar) to 7 (very different). Mean scores are calculated by averaging scores on each of the 12 items. Higher mean scores represent greater perceived differences between home and host cultures. Tkachuck (2019; Tkachuck et al., 2022) found good reliability ( $\omega = .86$ ) and sufficient inter-item correlations with correlations ranging from .17 to .76. In the current sample, the BPCDS-MV

yielded a Cronbach's alpha of .86, indicating good internal consistency (e.g., DeVellis, 2003). See Appendix D for the BPCDS-MV.

### ***Depression Anxiety and Stress Scale—21 items***

The Depression Anxiety and Stress Scale—21 (DASS-21; Lovibond & Lovibond, 1995) is a 21-item measure of psychological distress as categorized by symptoms of depression, anxiety, and stress. Each subscale includes seven items rated on a 4-point Likert-type scale ranging from 0 (never) to 3 (almost always). Example items include “I couldn't seem to experience any positive feeling at all” for the depression subscale, “I was worried about situations in which I might panic and make a fool of myself” for the anxiety subscale, and “I found it hard to wind down” for the stress subscale. Scores are calculated by doubling the total for each subscale. Subscale scores range from 0 to 42, with interpretive guidelines for each subscale derived from Lovibond and Lovibond (1995). Guidelines include ranges for normal (0-9 for depression; 0-7 for anxiety; 0-14 for stress), mild (10-13 for depression; 8-9 for anxiety; 15-18 for stress), moderate (14-20 for depression; 10-14 for anxiety; 19-25 for stress), severe (21-27 for depression; 15-19 for anxiety; 26-33 for stress), and extremely severe (28+ for depression; 20+ for anxiety; 34+ for stress; Lovibond & Lovibond, 1995). In use of the DASS-21 with veteran populations Held and colleagues (2019) found mean scores of 16.79 for depression, 13.98 for anxiety, and 20.18 for stress while Krpalek and colleagues (2020) found mean scores of 16.30 for depression, 8.60 for anxiety, and 20.0 for stress.

The DASS-21 has sufficient inter-item correlations for each subscale with correlations ranging from 0.47 to 0.71 for depression items, 0.37 to 0.66 for anxiety items, and 0.63 to 0.79 for stress items (Sinclair et al., 2012). The subscales also yield good internal consistency reliability coefficients ( $\alpha = 0.91$  for depression;  $\alpha = 0.80$  for anxiety;  $\alpha = 0.84$  for stress; Sinclair

et al., 2012). Additionally, an overall score indicating psychological distress is sometimes calculated for research purposes (Evans et al., 2022; McCutcheon, 2022; Zanon et al., 2020). This overall score is determined by totaling the initial item responses and doubling the final score. Overall scores range from 0 to 126. Evidence for an overall cutoff score varies, with support for scores indicative of clinically significant levels of distress ranging from 28 and higher to 36 and higher (Evans et al., 2020; Tran et al., 2013). The overall score along with subtest scores were calculated for use in this study. In the current sample, the DASS-21 overall yielded a Cronbach's alpha of 0.95, indicating excellent internal consistency reliability. The depression subscale yielded a Cronbach's alpha of 0.93, indicating excellent internal consistency reliability. The anxiety and stress subscales both displayed good internal consistency reliability, yielding Cronbach's alphas of 0.84 and 0.89, respectively (e.g., DeVellis, 2003). The DASS-21 is an easily accessible, publicly available measure and therefore is not included in this study's appendices.

### ***Purpose in Life test—Short Form***

The Purpose in Life test—Short Form (PIL-SF) is a brief adaptation of the original Purpose in Life test (PIL; Crumbaugh & Maholick, 1964, 1969). Schulenberg et al. (2011) employed factor-analytic procedures to reduce the original 20-item PIL to a 4-item brief measure of purpose in life, addressing some validity concerns with the original measure. The PIL-SF includes two items assessing perceived meaning in life and two items assessing perceived purpose in life. A 7-point Likert-type scale is used for each item, with differing anchors for each item. For example, the item “I have discovered” includes ratings from 1 (no mission or purpose in life) to 7 (clear-cut goals and a satisfying life purpose) with 4 being neutral. Scores are calculated by summing the total of each of the four ratings. Higher scores are associated with

greater perceived meaning and purpose in life. Schulenberg et al. (2011) analyzed the psychometric properties of the PIL-SF and demonstrated support for convergent validity through significant correlations with the original PIL ( $r = .75$ ). Support was also shown for the predictive validity of the PIL-SF with other positive factors such as life satisfaction, self-efficacy, and resilience ( $r$ 's ranging from .45 to .63; Schulenberg et al., 2011; Schulenberg et al., 2016). The PIL-SF has displayed mean scores ranging from 18.93 (Zhu et al., 2021) to 22.77 (Rubio-Belmonte et al., 2022). These psychometric properties were also supported in veteran populations with correlations displayed between the PIL-SF and resilience ( $\beta = 0.21$ ), gratitude ( $\beta = 0.19$ ), and optimism ( $\beta = 0.14$ ; Fischer et al., 2023). Fuehrlein and colleagues (2018) examined the PIL-SF in veterans and found a mean score of 21.4 ( $SD = 4.5$ ) while Corona and colleagues (2019) found a mean score of 21.52 ( $SD = 4.98$ ) in their examination of the PIL-SF in veterans. In the current sample, the PIL-SF showed a Cronbach's alpha of .88, indicating good internal consistency reliability (e.g., DeVellis, 2003). See Appendix E for the PIL-SF.

### **c. Data-Analytic Plan**

#### ***Multivariate Analysis of Covariance (MANCOVA)***

A MANCOVA was performed using the four acculturation scales to determine to what extent acculturation factors are related to soldiers having been deployed to a warzone ( $n = 177$ ) versus soldiers not having been deployed to a warzone ( $n = 107$ ), controlling for branch of service, history of parental service, time since discharge, and time since moving off base. The MANCOVA was conducted to reveal mean differences between combat experience and each of the four factors of acculturation. A statistically significant higher mean score in the group with previous warzone deployment experience compared to a lack thereof on the BAOS-MV home culture dimension would support *Hypothesis 1a* (combat experience is related to higher scores on

the home culture dimension of acculturation orientation). A statistically significant mean difference with lower scores for the group with previous warzone deployment experience compared to a lack thereof on the BAOS-MV host culture dimension would support *Hypothesis 1b*, in which combat experience is related to lower scores on the host culture dimension of acculturation orientation. A statistically significant lower mean score in the group with previous warzone deployment experience compared to a lack thereof on the BPAS-MV would support *Hypothesis 1c* (combat experience being related to worse psychological adaptation). A statistically significant lower mean score in the group with previous warzone deployment experience compared to a lack thereof on the BSAS-MV would support *Hypothesis 1d* (combat experience being related to worse sociocultural adaptation). Lastly, a statistically significant higher mean score in the group with previous warzone deployment experience compared to a lack thereof on the BPCDS-MV would support *Hypothesis 1e*, in which combat experience is related to greater perceived cultural distance.

A second MANCOVA was conducted to assess the second study goal, determining whether there are mean differences in combat experience on measures of psychological distress. This MANCOVA was performed with the DASS-21 overall score and individual subscale scores to determine to what extent psychological distress is related to soldiers having been deployed to a warzone ( $n = 177$ ) versus soldiers not having been deployed to a warzone ( $n = 107$ ), controlling for branch of service, history of parental service, time since discharge, and time since moving off base. A statistically significant higher mean score in the group with deployment experience compared to without deployment experience on the DASS-21 overall score would support *Hypothesis 2a* (combat experience being related to increased psychological distress). A statistically significant higher mean score in the group with deployment experience compared to

without deployment experience on the DASS-21 depression score would support *Hypothesis 2b* (combat experience being related to increased depression). A statistically significant higher mean score in the group with deployment experience compared to without deployment experience on the DASS-21 anxiety score would support *Hypothesis 2c* (combat experience being related to increased anxiety). Lastly, a statistically significant higher mean score in the group with deployment experience compared to without deployment experience on the DASS-21 stress score would support *Hypothesis 2d* (combat experience being related to increased stress).

#### ***Analysis of Covariance (ANCOVA)***

Finally, an ANCOVA was conducted to assess the third study goal, assessing the presence of mean differences in combat experience on a measure of perceived meaning in life. This ANCOVA was performed with PIL-SF scores to determine to what extent meaning in life is related to soldiers having been deployed to a warzone ( $n = 177$ ) versus soldiers not having been deployed to a warzone ( $n = 107$ ), controlling for branch of service, history of parental service, time since discharge, and time since moving off base. A statistically significant lower mean score in the group with deployment experience compared to without deployment experience on the PIL-SF would support *Hypothesis 3* (combat experience being related to decreased perceived meaning in life).

### III. RESULTS

#### a. Power

The original study (Tkachuck, 2019; Tkachuck et al., 2022) examined power for conducting an analysis of factor loadings and psychometric properties for the four acculturation measures. The original study aimed to collect at least 200 veteran participants to be powered for medium to large factor loadings while considering the possibility of non-normal distributions and the risk of missing data (Tkachuck, 2019; Tkachuck et al., 2022). There were 364 veteran participants included in the original study, resulting in adequate power to conduct a factor analysis and determine psychometric properties. The primary follow-up study (McCutcheon, 2022) conducted another power analysis based on the goals of that study and given the original sample. The study focused on conducting a hierarchical linear regression to determine the relationship between meaning in life, psychological distress, and acculturation in terms of psychological adaptation. The study was adequately powered for this goal (McCutcheon, 2022). The current study includes 284 veteran participants from the original 364 participants. Given the deviation in sample size and goals from the previous studies, a reformulated power analysis was conducted for the current study using G\*Power 3.1 (Faul et al., 2009). The reformulated power analysis focused on the proposed multivariate analysis of variance required to test for the seven proposed hypotheses. Results of the power analysis indicated that a minimum of 194 participants would be required for the current study to be adequately powered, assuming a medium effect size of  $f = .25$ , a power of .80, and a statistical significance of  $p < .05$ . This reformulated power



analysis suggests that the current sample size of  $N = 284$  was more than sufficient to power the proposed data-analytic plan.

### **b. Data Screening**

The original study (Tkachuck, 2019; Tkachuck et al., 2022) screened data for accuracy errors, missing data, outliers, and multivariate assumptions in *R*. A total of 490 participants initiated the survey with 96 not meeting study criteria (i.e., did not serve in the military, were currently active duty, were National Guard with no previous active-duty service, or did not disclose military status). An additional 19 participants were noted in the original study as not completing beyond the consent form and therefore were removed from the sample. Tkachuck (2019; Tkachuck et al., 2022) also screened for missing data and outliers with no cases excluded due to missing data and 11 multivariate outliers identified and subsequently removed. This resulted in the original study's final sample of 364 participants. The current study analyzed the screened data from Tkachuck (2019) in IBM SPSS Statistics (Version 26). Using this program, an additional 80 participants were excluded due to not disclosing deployment history, resulting in the current sample of 284 participants. A new analysis of the data was conducted to assess for reliability, outliers, and missing data within the current sample. As mentioned previously, each of the acculturation measures showed acceptable internal consistency within the current sample (with values noted to be good or excellent). Item distributions were assessed, and no outliers were identified. Within the included participants there were no data missing from any of the four acculturation measures. The current data met assumptions of linearity, normality, homogeneity, and homoscedasticity.

### **c. Demographics**

The original sample consisted of 364 veterans after excluding participants who did not meet study criteria for the definition of a veteran and completion of the four acculturation measures. An additional 80 participants were excluded from the current study due to missing deployment demographic data. As presented in Table 1, the current sample ( $N = 284$ ) consisted primarily of participants identifying as male ( $n = 231$ ; 81.3%), with fewer female respondents ( $n = 51$ ; 18.0%). Two participants (.7%) did not disclose their gender. The participants also predominantly identified as White ( $n = 218$ , 78.5%; Latinx  $n = 19$ , 6.7%; Black/African American  $n = 14$ , 4.9%; Asian  $n = 7$ , 2.5%; Native American/Hawaiian  $n = 4$ , 1.4%; Pacific Islander  $n = 1$ , .4%; Multiracial  $n = 14$ , 4.9%; Not Disclosed  $n = 7$ , 2.5%). Additionally, participants entered ages ranging from 21 to 72 years old ( $M$  age = 37.05;  $SD$  age = 10.6), with the majority of participants (71.1%) reporting an age between 25 and 44 years old.

### ***Service Status***

As presented in Table 1, the current sample consisted of 284 United States veterans, 262 of whom endorsed no current military affiliation and 22 of whom reported currently serving in the National Guard or Reserves. Of the 284 participants, 177 reported having been deployed to a war zone and 107 indicated never having been deployed to a war zone. In addition, the participants reported their branch of service as the following: Army ( $n = 127$ ), Marines ( $n = 62$ ), Air Force ( $n = 47$ ), Navy ( $n = 43$ ), National Guard/Reserve ( $n = 20$ ), and Coast Guard ( $n = 3$ ). Of the 284 participants, 16 reported more than one branch affiliation with one participant reporting three different branches of service. Participants were also asked the number of years since they had been discharged from the military. The majority of participants ( $n = 94$ ) selected the option of 10+ years between being discharged and taking the survey, but selected answer choices ranged from one to 10+ years. Among participants that identified experiencing a previous

warzone deployment, the majority ( $n = 93$ ) selected one warzone deployment, but answer selections ranged from one to eight deployments. Additionally, out of the 284 participants, 134 reported having at least one parent who also served in the military. No statistically significant differences emerged between deployment status and the demographic variables displayed in Table 1.

#### **d. Descriptive Statistics**

An analysis of the means, standard deviations, minimum/maximum scores, and correlations between measures was conducted for each of the forms employed in the current study. These analyses were conducted for the sample as a whole, as well as for each subsample (i.e., those respondents who deployed to a warzone in relation to those respondents who did not) in order to screen for potentially significant differences between subsample descriptives. In terms of correlations, each measure was significantly correlated with the expected measures in both the anticipated positive and negative directions. For example, PIL-SF scores displayed significant positive correlations with the measures of psychological adaptation ( $r = .52$ ) and sociocultural adaptation ( $r = .49$ ), while each of these three measures' scores displayed significant negative correlations with the DASS-21 overall ( $r_{pil-sf} = -.60$ ;  $r_{bpas} = -.67$ ;  $r_{bsas} = -.59$ ) and subscale scores. See Table 2 for a comprehensive display of between-measure correlations.

The acculturation measures exhibited mean scores and standard deviations consistent with the larger sample examined in Tkachuck et al., 2022 (Tkachuck, 2019; McCutcheon, 2022). The overall sample ( $N = 284$ ) for the BAOS-MV home subscale displayed a mean of 4.88 and a standard deviation of 1.28. The subsamples were consistent with these descriptives. The group with a previous warzone deployment ( $n = 177$ ) displayed a mean of 4.91 and a standard deviation of 1.26 while the group without a warzone deployment ( $n = 107$ ) displayed a mean of

4.82 and a standard deviation of 1.32. The BAOS-MV host subscale also produced consistent descriptive statistics between the total sample ( $M = 4.96$ ;  $SD = 1.14$ ), warzone deployment group ( $M = 4.84$ ;  $SD = 1.20$ ), and no warzone deployment group ( $M = 5.16$ ;  $SD = 0.99$ ). Additionally, both measures of adaptation, the BPAS-MV ( $M_{total} = 4.26$ ;  $SD_{total} = 1.17$ ;  $M_{deploy} = 4.14$ ;  $SD_{deploy} = 1.16$ ;  $M_{no\ deploy} = 4.45$ ;  $SD_{no\ deploy} = 1.16$ ) and the BSAS-MV ( $M_{total} = 4.34$ ;  $SD_{total} = 1.21$ ;  $M_{deploy} = 4.17$ ;  $SD_{deploy} = 1.16$ ;  $M_{no\ deploy} = 4.64$ ;  $SD_{no\ deploy} = 1.24$ ), were consistent across groups. The last of the acculturation measures, the BPCDS-MV, also appeared to display similar descriptives with a total group mean of 5.17 and a standard deviation of 1.08, a previous warzone deployment mean of 5.23 and a standard deviation of 1.02, and a no warzone deployment mean of 5.05 and a standard deviation of 1.17. Further details on the descriptive statistics can be found in Table 3 for the total sample and Table 4 for the subsamples with respect to whether the respondent was deployed to a warzone.

In examining the DASS-21, the current sample displayed scores consistent with previous veteran research (Held et al., 2019; Krpalek et al., 2020). The total sample resulted in an overall mean score of 37.25 and a standard deviation of 26.02, a depression mean score of 12.21 and a standard deviation of 10.46, an anxiety mean score of 9.30 and a standard deviation of 8.37, and a stress mean score of 15.74 and a standard deviation of 9.91. The mean scores when compared to the DASS-21 cutoff scores, fall within mild levels of severity (Lovibond & Lovibond, 1995). Of the total sample, 59.5% of participants scored within normal to mild levels of severity for depression. Meanwhile 58.5% for anxiety and 64.1% for stress fell within the normal to mild levels of severity. Mean scores also displayed mild levels of severity within the subgroups, previous warzone deployment ( $M_{overall} = 38.11$ ;  $SD_{overall} = 26.42$ ;  $M_{dep} = 12.10$ ;  $SD_{dep} = 10.10$ ;  $M_{anx} = 9.62$ ;  $SD_{anx} = 8.51$ ;  $M_{stress} = 16.40$ ;  $SD_{stress} = 10.45$ ) and no warzone deployment ( $M_{overall} =$

35.83;  $SD_{overall} = 25.40$ ;  $M_{dep} = 12.39$ ;  $SD_{dep} = 11.07$ ;  $M_{anx} = 8.78$ ;  $SD_{anx} = 8.15$ ;  $M_{stress} = 14.65$ ;  $SD_{stress} = 8.88$ ). Further details on the descriptive statistics can be found in Table 3 for the total sample and in Table 4 for the subsamples defined by warzone deployment experience.

Lastly, the descriptive statistics of the PIL-SF resulted in a total sample mean score of 20.79 and a standard deviation of 5.15, a previous warzone deployment mean score of 20.73 (a standard deviation of 5.00), and a no warzone deployment mean score of 20.88 (a standard deviation of 5.41). The current descriptive statistics are at the expected levels displayed in previous research specifically on veterans, that displayed mean scores of 21.40 ( $SD = 4.5$ ) and 21.52 ( $SD = 4.98$ ), indicating that the current sample perceives similar levels of meaning in life to the general veteran population (Corona et al., 2019; Fuehrlein et al., 2018). Further details on the descriptive statistics can be found in Table 3 for the total sample and Table 4 for the subsamples.

#### **e. Study Goal 1 Testing: Deployment History and Acculturation**

A multivariate analysis of covariance was conducted to assess the relationship between previous deployment status (deployed to a warzone versus not deployed to a warzone; dependent variable) and the five measures of acculturation (acculturation orientation-home, acculturation orientation-host, psychological adaptation, sociocultural adaptation, and perceived cultural distance), which were entered as covariates. Branch of service, history of parental service, time since discharge, and time since moving off base were controlled for within the analysis.

The multivariate results displayed statistically significant differences in acculturation based on deployment history,  $F(5, 266) = 2.28$ ,  $p = .047$ , Wilk's lambda = 0.959, partial eta squared = .04. Further univariate testing revealed statistically significant results for psychological adaptation ( $F(1, 270) = 4.05$ ,  $p = .045$ , partial eta squared = .02; *Hypothesis 1c*)

and sociocultural adaptation ( $F(1, 270) = 8.98, p = .003$ , partial eta squared = .03; *Hypothesis 1d*), indicating statistically significant differences in adaptation to sociocultural factors and psychological factors with more difficulty displayed by veterans previously deployed to warzones compared to veterans not previously deployed to warzones. The multivariate results were not statistically significant for acculturation orientation towards home ( $F(1, 270) = 0.37, p = .543$ , partial eta squared < .01; *Hypothesis 1a*), acculturation orientation towards host ( $F(1, 270) = 4.94, p = .027$ , partial eta squared = .02; *Hypothesis 1b*), or perceived cultural distance ( $F(1, 270) = 1.18, p = .279$ , partial eta squared < .01; *Hypothesis 1e*). This indicates that there is not a statistically significant difference for each of these variables amongst veterans that have previously deployed to warzones compared to those who have not previously deployed to warzones.

#### **f. Study Goal 2 Testing: Deployment History and Psychological Distress**

A second MANCOVA was conducted to assess the relationship between previous deployment status (deployed to a warzone versus not deployed to a warzone; dependent variable) and the global and subscale scores measuring psychological distress (overall psychological distress, depression, anxiety, and stress), which were entered as covariates. Branch of service, history of parental service, time since discharge, and time since moving off base were controlled for within the analysis.

The multivariate results did not display a statistically significant relationship between psychological distress and deployment history,  $F(3, 268) = 2.01, p = .167$ , Wilk's Lambda = .98, partial eta squared = .02. This indicates that there is not a statistically significant difference in psychological distress or its components amongst veterans that have previously deployed to warzones compared to those who have not previously deployed to warzones.

**g. Study Goal 3 Testing: Deployment History and Perceived Meaning in Life**

An analysis of covariance (ANCOVA) was conducted to assess the relationship between previous deployment status (deployed to a warzone versus not deployed to a warzone; dependent variable) and perceived meaning in life scores. Branch of service, history of parental service, time since discharge, and time since moving off base were controlled for within the analysis. The univariate results were not statistically significant for perceived meaning in life scores ( $F(1, 270) = 0.45, p = .503, \text{partial eta squared} = .002$ ), indicating that there is not a statistically significant difference in perceived meaning in life reported amongst veterans that have been previously deployed to warzones compared to those who have not previously been deployed to warzones.

## IV. DISCUSSION

The current study assessed the influence of previous warzone deployments on acculturation, as exposure to combat through warzone deployment is associated with higher risk of acculturative stress, psychological distress, and functional impairments (e.g., depression, difficulty finding employment, lack of social support) following the transition to civilian life (Brinker et al., 2007; Kintzle et al., 2018; Lee et al., 2019; Macia et al., 2020). An examination of correlations and sample means was conducted along with the statistical analyses to compare potential risk and protective factors for acculturative stress, attempting to identify variables that vary with warzone deployment and that would potentially aid in the explanation of the relationship between warzone deployment and acculturation.

### a. Describing the Current Sample

A correlation matrix was created to examine the relationship between measures in the current sample. Correlations within the current sample displayed significant associations in the expected direction for each measure. For example, the measures of psychological adaptation and sociocultural adaptation were significantly, positively correlated with each other and with perceived purpose in life, however all three variables were significantly, negatively correlated with the overall measure of psychological distress and each of the subscales. These correlations do not indicate unusual or unexpected interactions between measures and support the inclusion of each of these measures for evaluation with the current sample of veterans.

The current sample displayed means ranging from 4.26 to 5.17 on each of the factors of acculturation. While these means fall above the midpoint of the scale, the practical significance



of these data are unclear at this time given the lack of available norms. Due to a dearth of research using acculturation measures with military samples, further research is warranted in order to determine the practical value or clinical utility of the present descriptives within the general veteran population.

With regard to the other measures used in the current study, in this case referring to the DASS-21 scores, the total sample and subsamples displayed means within the mild range for depression, anxiety, and stress when compared to the cutoff ranges established by Lovibond and Lovibond (1995). These means are lower than previous mean scores for veterans falling within the moderate range for each subscale as displayed by Held and colleagues (2019;  $M_{dep} = 16.79$ ;  $M_{anx} = 13.98$ ;  $M_{stress} = 20.18$ ) and Krpalek and colleagues (2020;  $M_{dep} = 16.3$ ;  $M_{anx} = 8.6$ ;  $M_{stress} = 20.0$ ). The mean scores for the DASS-21 overall and subscale scores are indicative of individuals who are not reporting clinically significant levels of psychopathology as assessed by the indices of the measure. In other words, the sample overall appears to be high functioning, without the presence of clinically significant levels of depression, anxiety, or stress.

As for perceived meaning in life, the current sample displayed levels of perceived meaning falling within previously reported scoring ranges (18.93 to 22.77; Rubio-Belmonte et al., 2022; Zhu et al., 2021) and comparable to previous studies on veteran's perceived meaning in life (Corona et al., 2019; Fuehrlein et al., 2018). These scores are indicative of an "average" level of perceived meaning (i.e., sense of purpose in life, a life "worth" living; Frankl, 1959/2006).

#### **b. Study Goal 1: Deployment History and Acculturation**

The statistical analyses for *Study Goal 1* examined the relationship between deployment history and four factors of acculturation. The results for the primary statistical analyses supported

significant differences between veterans with and without a history of warzone deployment generally in the acculturation measures, indicating that these groups differ in terms of effective navigation of acculturative stressors and achievement of positive acculturation outcomes. However, further examination of the four factors of acculturation in addressing the hypotheses under *Study Goal 1* displayed mixed results on the significance of the relationship between deployment history and each domain of acculturation. Acculturation orientation towards home culture and towards host culture did not significantly differ amongst veterans with varying deployment histories, indicating that *Hypothesis 1a* and *Hypothesis 1b* were not supported. This lack of significant difference suggests that veterans with previous warzone deployments did not differ from those without previous warzone deployments on the amount that they hold on to military values and traditions. Similarly, these two groups did not differ in the amount that they embraced civilian culture following the transition from military to civilian life. While this finding is not consistent with the hypothesized results, there is limited information on acculturation orientation in veterans to root these findings into context. The current study did not assess the use of the plentiful veteran programs, support groups, and social connections by both groups in working to merge their military and civilian lives, which may contribute to a lack of significant difference. Additionally, acculturation orientation assesses the importance given to civilian culture but does not provide information on how successfully veterans have adapted to civilian culture.

The question of successful adaptation is in part answered by the assessment of sociocultural and psychological adaptation. Further findings of the primary statistical analyses suggested that individuals with a history of warzone deployments are more likely to experience difficulties in sociocultural and psychological adaptation than those without warzone deployment

histories, supporting *Hypothesis 1c* and *Hypothesis 1d*. A difference between groups on sociocultural adaptation suggests that amongst veterans with the potential for combat experience, the process of adapting to the necessities of daily life is more difficult. Veterans with lower sociocultural adaptation are more likely to experience difficulties with routine social interactions, maintaining careers, and completing daily tasks (Keeling et al., 2018; McCaslin et al., 2021). Additionally, the difference between veteran groups on psychological adaptation suggests that veterans with previous warzone deployments differ in experiencing feelings of acceptance and belonging within civilian culture. Veterans with lower perceived psychological adaptation are more likely to feel out of place and isolated within civilian culture and less likely to perceive and/or experience the support necessary for successful adaptation (Herndon et al., 2016; Truusa & Castro, 2019; Verkamp, 2021).

A significant difference in adaptation based on warzone deployment is consistent with expectations that combat exposure would interfere with the practical and psychological needs that must be met in order to successfully adapt to civilian culture. The direction of the difference in suggesting that adaptation is less successful following warzone deployment is also in line with expectations that the additional cultural exposure through warzone deployment in another country would interfere with adaptation but would not be evident in acculturation orientation or perceived cultural distance. This would likely be due to the broad questioning of adaptation in the BPAS-MV and BSAS-MV while the BAOS-MV and BPCDS-MV directly compare with military culture and would not account for the added influence of culture from the deployment location, which has required additional acculturation processes (Greene et al., 2010). Future research could assess the influence of deployment location culture on adaptation through comparison of adaptation scores amongst deployed veterans with and without combat

experience. Furthering research on deployment location culture could help to determine whether the influence of warzone deployment on adaptation is due to combat exposure and traumatic experiences, or whether it is primarily driven by the added cultural exposure. The current study considers that the group with no warzone deployment may have had non-warzone deployments, however non-warzone deployments and combat exposure were not directly assessed in the original study, limiting the ability to determine the driving factors of the displayed effects on adaptation. However, as there is limited research regarding veteran acculturation to civilian life, the significant difference in adaptation—both psychological and sociocultural—provides valuable information on veterans with warzone deployments who are suggested to be “falling through the cracks” with respect to successfully transitioning to civilian life. The findings related to adaptation differences indicate the importance of focusing on veterans with warzone deployments for intervention and parsing out the factors that hinder successful adaptation to civilian life to a greater extent than veterans without warzone deployment.

Lastly, the primary analyses did not support a significant difference amongst veterans with varying warzone deployment histories on perceived cultural distance, failing to support *Hypothesis 1e*. This lack of significant difference suggests that veterans with previous warzone deployments did not differ significantly from those without previous warzone deployments on the extent to which they perceive civilian and military culture to be similar or different. While these findings suggest that these two groups do not significantly differ as to perception of military/civilian culture similarity, a lack of significant difference does not determine whether veterans generally view military culture as similar or discrepant from civilian culture. The findings only suggest that deployment history does not play a significant role in how similar or different the cultures are perceived to be to one another.

### **c. Study Goal 2: Deployment History and Psychological Distress**

The analyses addressing *Study Goal 2* examined the relationship between deployment history and psychological distress, which included analyzing an overall measure of distress (i.e., the DASS-21) along with its individual scales for depression, anxiety, and stress symptoms. Differences in psychological distress amongst veterans with varying deployment histories were not statistically significant in the analyses, indicating that *Hypothesis 2a*, *Hypothesis 2b*, *Hypothesis 2c*, and *Hypothesis 2d* were not supported. This lack of statistically significant differences suggests that veterans with previous warzone deployments do not differ in their experience of psychological distress in comparison to veterans who have not experienced warzone deployments. These findings are incongruent with previous research that suggests an increased likelihood of psychological distress amongst combat veterans (Brinker et al., 2007; Hoge et al., 2004). Additionally, this is not consistent with the findings of statistically significant differences between groups in sociocultural and psychological adaptation, which are associated with psychological distress (Miller de Rutte et al., 2021; Schwartz et al., 2010; Sirin et al., 2013).

The results of the first two study goals suggest that while adaptation is evidenced to be more difficult for a population with a history of warzone deployment, the same was not found in psychological distress to the expected degree. This study did not directly assess for combat exposure or traumatic experiences through warzone deployment. Having more specific information as to the nature and extent of such combat-related experiences would illuminate the findings, as fewer traumatic experiences or less intense combat exposure would be more likely to align with a general veteran population on psychological distress. Additionally, having a sample that had been deployed but not had significant combat exposure would still have the difficulties adapting that are expected from the increased cultural exposure and cultural adaptation described

earlier in the study without as much of the impact on psychological distress (Blais et al., 2009; Greene et al., 2010; Sayer et al., 2021).

These findings could be explained by factors other than deployment or adaptation contributing to distress (e.g., financial stress, substance use, loss of identity) or protective factors (e.g., social support, perceived meaning in life; Blackburn & Owens, 2014; Chan, 2019; Demers, 2011; Pease et al., 2015; Wewiorski et al., 2018) buffering the relationship between adaptation and distress. Future research may better explain these findings by assessing for mediating or moderating factors influencing the relationship between adaptation and distress. This research could indicate what factors should be emphasized to protect against psychological distress even when experiencing adaptation difficulties. Furthermore, these sample data were collected from veterans currently enrolled in university courses, which may suggest improved management of distress and adaptation compared to the general veteran population. It is possible that the current sample was not inclusive of combat veterans experiencing clinically significant psychological distress, due to the requirements of engaging in university courses for instance. Further research recruiting a more generalizable sample of veterans and directly testing the relationship between combat exposure, adaptation, and psychological distress may help to explain these findings.

#### **d. Study Goal 3: Deployment History and Perceived Meaning in Life**

The statistical analysis addressing *Study Goal 3* assessed the influence of deployment history on perceived meaning in life. No statistically significant difference was found between veterans with varying warzone deployment histories in their ratings of perceived meaning in life, revealing that *Hypothesis 3* was not supported at this time. A lack of significant difference between groups suggests that veterans with previous warzone deployments do not perceive more or less meaning in life compared to those without previous warzone deployments. Given the lack

of significant difference in psychological distress based on warzone deployment, the current results relating to perceived meaning in life are unsurprising. Psychological distress and meaning in life have been shown to be negatively correlated, which is displayed in the current study (Blackburn & Owens, 2014; Owens et al., 2009; Steger et al., 2015). Additionally, perceived meaning in life has been supported as a protective factor against psychological distress (Corona et al., 2019; Kinney et al., 2022; Straus et al., 2019). Therefore, perceived meaning in life would not be expected to differ based on deployment history without a significant difference displayed based on psychological distress. However, the results were contrary to expectations the veterans with warzone deployments would experience more difficulty with both psychological distress and meaning in life.

The study limitations potentially contributing to a lack of significant difference based on deployment history in regard to psychological distress, likely also influence the results for perceived meaning in life. Without specific data on combat exposure and traumatic experiences, data which were not gathered as a part of the initial study design (see McCutcheon, 2022; Tkachuck, 2019; Tkachuck et al., 2022), it is not certain that the veterans with warzone deployments experienced greater threats to meaning that would influence subsequent loss of meaning following the return from deployment. As described above, both groups may experience a decrease in purpose following exiting the military as alternate life paths are considered and explored (Owens et al., 2009; Steger et al., 2015). However, as traumatic experiences were not assessed as a course of the initial study, these data were therefore not available for the current study. It is possible that the groups with and without previous warzone deployments do not differ on traumatic experiences that may influence perceived meaning in life. As discussed for psychological distress, future research that directly assesses the meaning-making processes,

experiences of threat to meaning (e.g., a “crisis of identity”; Ahren, 2015), and combat exposure, may provide a better understanding of the relationship between combat exposure and meaning in life.

#### **e. Study Strengths, Limitations, and Directions for Research**

The current study is strengthened by the large sample size, veterans with a diverse range of experiences, and meaningful contribution to the veteran acculturation literature through the identification of aspects of acculturation impacted by previous warzone deployment. However, there are several limitations that warrant caution to be taken when interpreting the results and considering their implications. First, the sample consisted primarily of older, white males, which limits the generalizability of the results to marginalized and underrepresented groups (e.g., Black, Hispanic, female). Additionally, the sample consisted of only veterans currently enrolled in university courses and demographic information regarding income, employment history, and other socioeconomic influences was not collected. Veterans may face various difficulties in enrolling in and completing courses in the context of higher education (Kranke et al., 2017; Morissette et al., 2021; Naphan & Elliot, 2015). Therefore, the current samples’ enrollment in university courses suggests that they are a subsample of veterans that potentially experience fewer functional impairments from acculturative stress or psychological distress compared to veterans without successful enrollment in university courses, which may limit the generalizability of the current findings. This indicates that the current sample is likely a more well-adjusted subsample of the veteran population. This sample was also primarily 10+ years post discharge, potentially limiting the impact of deployment experience and acculturation challenges. Furthermore, reports of warzone deployment were used to indicate potential for combat exposure, however as a course of this study warzone experience and combat exposure



were not directly assessed in any kind of depth. Therefore, lack of significant results that are counter to expectations based on previous research on combat veterans may be influenced by a discrepancy between warzone deployment and combat exposure. Lastly, PTSD was not assessed in the current study, withholding conclusions relating acculturation, deployment history, and psychological distress via PTSD, a primary form of distress amongst veterans (Brinker et al., 2007). The current scores of psychological distress through the DASS-21 falling primarily in the normal-mild range of severity, indicate that the current sample is experiencing markedly lower psychological distress than other veteran samples (Held et al., 2019; Krpalek et al., 2020). Lower symptom severity on the DASS-21 may suggest lower psychological distress related to PTSD, however experience of and lasting responses to trauma cannot be determined as they were not assessed. Future research assessing PTSD in a more generalizable sample (i.e., experiencing psychological distress comparable to other veteran samples) will help add better understanding of the current findings and the relationships between combat experience, psychological distress, and acculturation.

Additionally, there are limitations with regards to the methodology and measures used in the current study. Firstly, as adapted the acculturation measures (BAOS-MV, BSAS-MV, BPAS-MV, BPCDS-MV) have yet to be validated across multiple samples via independent research groups (Tkachuck, 2019; Tkachuck et al., 2021 provides initial validation). Therefore, validity of these measures has not been demonstrated across the larger veteran population. Secondly, the PIL-SF has been validated across samples (Fischer et al., 2023; Rubio-Belmonte et al., 2022; Schulenberg, 2011; Weber et al., 2020), but the limitations in depth of assessment through a brief measure must be considered in the interpretation of these results. While results involving the PIL-SF were insignificant in the current study, only presence of perceived purpose was assessed.

There is a possibility that the process of searching for meaning or other aspects of meaning in life (e.g., significance, coherence) differ amongst veteran groups and were not assessed.

Future research can build off the current study and address the described limitations in a variety of ways, a few of which have been introduced throughout the discussion. For starters, additional information regarding combat exposure, traumatic experience, and presence of PTSD symptoms should be assessed. This information was not collected in the original study but would provide a greater understanding of the driving factors behind the current results. This information would be helpful in further describing and distinguishing the two groups, as it is not clear in the present study if a lower percentage of combat exposure or traumatic experiences within the warzone deployment group influenced the lack of a significant difference on psychological distress and meaning in life. Collecting this information would also allow for support on targeting combat/trauma versus increased cultural exposure or a combination of the two in improving psychological and sociocultural adaptation.

Progressing the current research in this manner would also be aided by addressing some concerns regarding generalizability. Future research could assess a community sample of veterans to limit the selection bias resulting from recruiting within a university population. This recruitment method may have influenced the level of distress and purpose that was evaluated due to the support present within a university setting and the level of functioning that must be present to enroll in a university. Additionally, generalizability could be improved through future studies assessing acculturation in veterans in differing stages following discharge (e.g., one month after, one year after, 5 years after) in order to gain a better insight on acculturation during varying stages of the transition to civilian life. This in addition to the developments mentioned above

would allow for a better understand of the direct impact of transitioning to civilian life through timepoints closer to discharge and gathering a more generalizable sample.

Furthermore, current results suggest the presence of disparity in adaptation but not psychological distress. As explored in the discussion, this information is incongruent with the general association between adaptation and distress found in the existing literature. Therefore, future research should assess the direct connection between adaptation and distress in veteran populations and examine the potential for other factors influencing this relationship within combat and noncombat veterans. Assessing for these variables can provide necessary information on protective factors against distress from difficulties with adaptation. Understanding how adaptation and psychological distress are related and which factors influence this relationship can help identify variables for intervention. This would be especially important when there are practical barriers to adaptation or to maintain limited distress while working to improve adaptation to civilian life.

Finally, as the military version of the acculturation scales are relatively new, additional research utilizing these scales would enhance understanding of military reintegration under the umbrella of acculturation. Having widely tested and well-validated measures of acculturation for the military can enhance clinicians' ability to effectively assess and treat veterans encountering difficulty with the transition and inform programs that assist with reintegration.

## **f. Conclusions**

Overall, the current study demonstrated variability in the experience of acculturation between veteran groups in adapting to civilian life. This supports the framework of viewing the transition to civilian life as a transition between cultures, and that veterans with warzone deployment histories will be especially likely to struggle with the sociocultural and

psychological adaptation aspects of that transition. However, the current study does not support attributing this increased difficulty to differences in meaning in life or psychological distress (i.e., anxiety, depression, stress), therefore other factors should be examined as driving factors for this disparity. Given the dearth of research on military reintegration through an acculturation lens, the current support for disparity in adaptation—both psychological and sociocultural—based on warzone deployment provides support for increased intervention amongst a population of veterans that is experiencing enhanced difficulty in successfully transitioning to civilian life. These findings suggest the importance of developing additional research to identify and curtail factors that are contributing to additional difficulty of veterans with previous warzone deployments in transitioning to civilian life.

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## **VI. APPENDIX**

**Table 1***Demographics of Study Sample (Total N = 284)*

	<u>Previous Warzone Deployment</u>		<u>No Warzone Deployment</u>		<u>Total</u>
	<i>n</i>	%	<i>n</i>	%	%
	177	62.3	107	37.7	100
<b>Gender</b>					
Male	150	84.7	81	75.7	81.3
Female	26	14.7	25	23.4	18
Did not disclose	1	0.6	1	0.9	.7
<b>Age<sup>a</sup></b>					
Less than 25	3	1.8	13	12.1	5.6
Between 25-34	80	45.2	43	40.2	43.3
35-44	60	33.9	19	17.7	27.8
45-54	25	14.2	17	15.9	14.8
55+	9	5.3	15	13.9	8.5
<b>Marital Status</b>					
Married	106	59.9	61	57	58.8
Single	36	20.3	32	29.9	23.9
Divorced	24	13.6	13	12.1	13.0
Separated	7	4.0	1	0.9	2.8
Widowed	2	1.1	0	0	0.7
Civil Union	2	1.1	0	0	0.7
<b>Race</b>					
White	137	77.4	81	75.7	78.5
Latinx	12	6.8	7	6.5	6.7
Black/African American	7	4.0	7	6.5	4.9
Asian	5	2.8	2	1.9	2.5
Native American/Hawaiian	4	2.3	0	0	1.4
Pacific Islander	0	0	1	0.9	.4
Multiracial	8	4.5	6	5.6	4.9
Did not disclose	4	2.3	3	2.8	2.5
<b>Branch of Service</b>					
Army	94	53.1	33	30.8	44.7
Marines	42	23.7	20	18.7	21.8
Air Force	24	13.6	23	21.5	16.5
Navy	19	10.7	24	22.4	15.1
National Guard/Reserve	15	8.5	5	4.7	7.0
Coast Guard	0	0	3	2.8	1.1
<b>Parental Service History</b>					
Parent served in military	83	46.9	51	47.7	47.2
No parent served	93	52.5	55	51.4	52.1
Did not disclose	1	0.6	1	0.9	0.7
<b>Number Deployments</b>					
1	93	52.5			
2	54	30.5			
3	15	8.5			
4	8	4.5			
5	2	1.1			

	<u>Previous Warzone Deployment</u>		<u>No Warzone Deployment</u>		<u>Total</u>
	<i>n</i>	%	<i>n</i>	%	%
6	1	0.6			
7	1	0.6			
8	1	0.6			
Did not disclose	2	1.1			
<b>Years Since Discharge</b>					
1	14	7.9	17	15.9	10.9
2	26	14.7	8	7.5	12.0
3	13	7.3	9	8.4	7.7
4	18	10.2	4	3.7	7.7
5	12	6.8	8	7.5	7.0
6	11	6.2	3	2.8	4.9
7	6	3.4	3	2.8	3.2
8	15	8.5	4	3.7	6.7
9	14	7.9	2	1.9	5.6
10	47	26.6	47	43.9	33.1
Did not disclose	1	0.6	2	1.9	1.1
<b>Years Living Off Base</b>					
0	1	0.6	0	0.0	0.4
1	6	3.4	14	13.1	7.0
2	22	12.4	9	8.4	10.9
3	11	6.2	6	5.6	6.0
4	15	8.5	2	1.9	6.0
5	15	8.5	9	8.4	8.5
6	12	6.8	3	2.8	5.3
7	2	1.1	6	5.6	2.8
8	17	9.6	4	3.7	7.4
9	15	8.5	1	0.9	5.6
10	60	33.9	52	48.6	39.4
Did not disclose	1	0.6	1	0.9	0.7

<sup>a</sup> Participants entered their age into an open answer box. Age ranges presented in this table were grouped in 10-year

bands for a more parsimonious interpretation of data.

**Table 2**  
*Correlation Matrix*

	<b>BAOS-MV Home</b>	<b>BAOS-MV Host</b>	<b>BPAS-MV</b>	<b>BSAS-MV</b>	<b>BPCDS-MV</b>	<b>DASS-21 Overall</b>	<b>DASS-21 Depression</b>	<b>DASS-21 Anxiety</b>	<b>DASS-21 Stress</b>
<b>BAOS-MV Host</b>	-.01								
<b>BPAS-MV</b>	-.37**	.26**							
<b>BSAS-MV</b>	-.18**	.25**	.64**						
<b>BPCDS-MV</b>	.11	-.05	-.38**	-.48**					
<b>DASS-21 Overall</b>	.13*	-.13*	-.67**	-.59**	.30**				
<b>DASS-21 Depression</b>	.09	-.13*	-.63**	-.53**	.24**	.90**			
<b>DASS-21 Anxiety</b>	.13*	-.11	-.57**	-.50**	.28**	.89**	.69**		
<b>DASS-21 Stress</b>	.15*	-.11	-.60**	-.56**	.29**	.92**	.73**	.76**	
<b>PIL-SF</b>	-.02	.16**	.52**	.49**	-.17**	-.60**	-.73**	-.42**	-.44**

\*\*correlation is significant at  $p < .01$

\*correlation is significant at  $p < .05$

**Table 3**

*Description of Total Sample*

	<i>N</i>	Mean	Standard Deviation	Min Score	Max Score
<b>BAOS-MV</b>					
<b>Acculturation Orientation</b>					
Home	284	4.88	1.28	1	7
Host	284	4.96	1.14	1	7
<b>BPAS-MV</b>	284	4.26	1.17	1.25	7
<b>Psychological Adaptation</b>					
<b>BSAS-MV</b>	284	4.34	1.21	1	7
<b>Sociocultural Adaptation</b>					
<b>BPCDS-MV</b>	284	5.17	1.08	1.33	7
<b>Perceived Cultural Distance</b>					
<b>DASS-21</b>					
Overall	284	37.25	26.02	0	114
Depression	284	12.21	10.46	0	42
Anxiety	284	9.30	8.37	0	38
Stress	284	15.74	9.91	0	42
<b>PIL-SF</b>	284	20.79	5.15	4	28



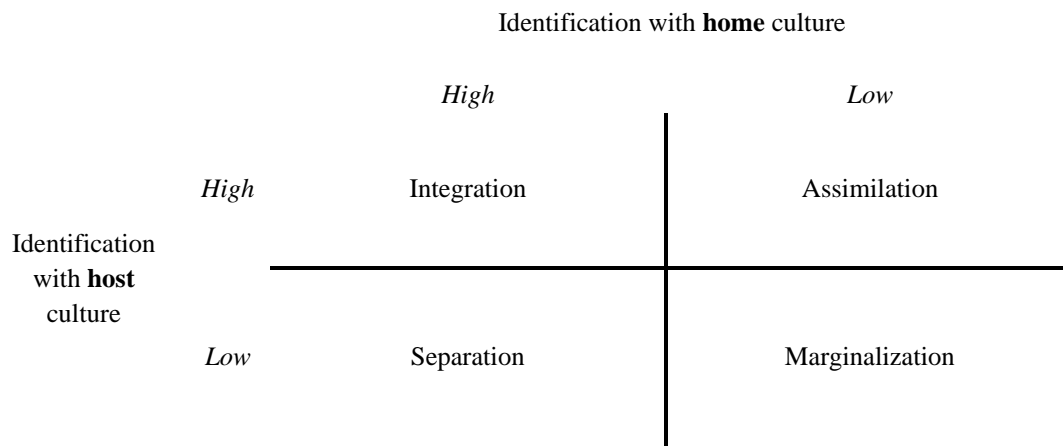
**Table 4**

*Description of Sub-Samples*

	<i>n</i>	<b>Previous Warzone Deployment</b>			
		Mean	Standard Deviation	Min Score	Max Score
<b>BAOS-MV</b>					
<b>Acculturation Orientation</b>					
Home	177	4.91	1.26	1	7
Host	177	4.84	1.20	1	7
<b>BPAS-MV</b>	177	4.14	1.16	1.25	6.63
<b>Psychological Adaptation</b>					
<b>BSAS-MV</b>	177	4.17	1.16	1	7
<b>Sociocultural Adaptation</b>					
<b>BPCDS-MV</b>	177	5.23	1.02	2.08	7
<b>Perceived Cultural Distance</b>					
<b>DASS-21</b>					
Overall	177	38.11	26.42	0	106
Depression	177	12.10	10.10	0	40
Anxiety	177	9.62	8.51	0	36
Stress	177	16.40	10.45	0	38
<b>PIL-SF</b>	177	20.73	5.00	4	28
	<i>n</i>	Mean	Standard Deviation	Min Score	Max Score
<b>No Warzone Deployment</b>					
<b>BAOS-MV</b>					
<b>Acculturation Orientation</b>					
Home	107	4.82	1.32	1	7
Host	107	5.16	0.99	1.75	7
<b>BPAS-MV</b>	107	4.45	1.16	1.38	7
<b>Psychological Adaptation</b>					
<b>BSAS-MV</b>	107	4.64	1.24	1.08	7
<b>Sociocultural Adaptation</b>					
<b>BPCDS-MV</b>	107	5.05	1.17	1.33	7
<b>Perceived Cultural Distance</b>					
<b>DASS-21</b>					
Overall	107	35.83	25.40	0	114
Depression	107	12.39	11.07	0	42
Anxiety	107	8.78	8.15	0	38
Stress	107	14.65	8.88	0	42
<b>PIL-SF</b>	107	20.88	5.41	5	28

**Figure 1**

*Berry's Model of Acculturation*



*Note.* Figure is a composite adapted from images and descriptions within various sources, including Berry et al. (1987), Kiylioglu and Wimmer (2015), and Rasmi et al. (2014).

**Appendix A—Brief Acculturation Orientation Scale—Military Version**

**Instructions:** Think about living as a civilian. How much do you agree with the following sentences? As a civilian, it is important for me to...

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>

***Please circle one answer for the following questions:***

- 1 2 3 4 5 6 7 Have military/veteran friends
- 1 2 3 4 5 6 7 Take part in military traditions
- 1 2 3 4 5 6 7 Hold on to my military characteristics
- 1 2 3 4 5 6 7 Do things the way military people do
- 1 2 3 4 5 6 7 Have civilian friends
- 1 2 3 4 5 6 7 Take part in civilian traditions
- 1 2 3 4 5 6 7 Hold on to (or develop) civilian characteristics
- 1 2 3 4 5 6 7 Do things the way civilians do

*Note.* Original measure developed by Demes and Geeraert (2014). Variation validated by Tkachuck (2019) and Tkachuck et al. (2021).

**Appendix B—Brief Psychological Adaptation Scale—Military Version**

**Instructions:** Think about being a civilian. In the last 2 weeks, how often have you felt:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Never</b>	<b>Very Rarely</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Usually</b>	<b>Always</b>

***Please circle one answer for the following questions:***

- 1 2 3 4 5 6 7 Excited about being a civilian
- 1 2 3 4 5 6 7 Out of place, like you don't fit into the civilian culture
- 1 2 3 4 5 6 7 Sad to be away from the military culture
- 1 2 3 4 5 6 7 Nervous about how to behave in certain situations
- 1 2 3 4 5 6 7 Lonely without your military family and friends around you
- 1 2 3 4 5 6 7 Homesick when you think of being in the military
- 1 2 3 4 5 6 7 Frustrated by difficulties adapting to being a civilian
- 1 2 3 4 5 6 7 Happy with your day to day life as a civilian

*Note.* Original measure developed by Demes and Geeraert (2014). Variation validated by Tkachuck (2019) and Tkachuck et al. (2021).

## Appendix C—Brief Sociocultural Adaptation Scale—Military Version

**Instructions:** Think about your life as a civilian. How easy or difficult has it been for you to adapt to:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>Very Difficult</b>	<b>Difficult</b>	<b>Somewhat Difficult</b>	<b>Neither Difficult or Easy</b>	<b>Somewhat Easy</b>	<b>Easy</b>	<b>Very Easy</b>

***Please circle one answer for the following questions:***

- 1 2 3 4 5 6 7 Climate** (temperature, rainfall, humidity)
- 1 2 3 4 5 6 7 Natural Environment** (plants and animals, pollution, scenery)
- 1 2 3 4 5 6 7 Social Environment** (size of the community, pace of life, noise)
- 1 2 3 4 5 6 7 Living** (hygiene, sleeping practices, how safe you feel)
- 1 2 3 4 5 6 7 Practicalities** (getting around, using public transport, shopping)
- 1 2 3 4 5 6 7 Food and Eating** (what food is eaten, how food is eaten, time of meals)
- 1 2 3 4 5 6 7 Family Life** (how close family members are, how much time families spend together)
- 1 2 3 4 5 6 7 Social Norms** (how to behave in public, style of clothes, what people think is funny)
- 1 2 3 4 5 6 7 Values and Beliefs** (what people think about religion and politics, what people think is right or wrong)
- 1 2 3 4 5 6 7 People** (how friendly people are, how stressed or relaxed people are, attitudes towards foreigners)
- 1 2 3 4 5 6 7 Friends** (making friends, amount of social interaction, what people do to have fun and relax)
- 1 2 3 4 5 6 7 Language** (understanding people, making yourself understood)

*Note.* Original measure developed by Demes and Geeraert (2014). Variation validated by Tkachuck (2019) and Tkachuck et al. (2021).

## Appendix D—Brief Perceived Cultural Distance Scale—Military Version

**Instructions:** Think about being in the military and being a civilian. In your opinion, how different or similar are these cultures in terms of:

1	2	3	4	5	6	7
<b>Very Similar</b>	<b>Similar</b>	<b>Somewhat Similar</b>	<b>Neither</b>	<b>Somewhat Different</b>	<b>Different</b>	<b>Very Different</b>

***Please circle one answer for the following questions:***

- 1 2 3 4 5 6 7 **Climate** (temperature, rainfall, humidity)
- 1 2 3 4 5 6 7 **Natural Environment** (plants and animals, pollution, scenery)
- 1 2 3 4 5 6 7 **Social Environment** (size of the community, pace of life, noise)
- 1 2 3 4 5 6 7 **Living** (hygiene, sleeping practices, how safe you feel)
- 1 2 3 4 5 6 7 **Practicalities** (getting around, using public transport, shopping)
- 1 2 3 4 5 6 7 **Food and Eating** (what food is eaten, how food is eaten, time of meals)
- 1 2 3 4 5 6 7 **Family Life** (how close family members are, how much time family spend together)
- 1 2 3 4 5 6 7 **Social Norms** (how to behave in public, style of clothes, what people think is funny)
- 1 2 3 4 5 6 7 **Values and Beliefs** (what people think about religion and politics, what people think is right or wrong)
- 1 2 3 4 5 6 7 **People** (how friendly people are, how stressed or relaxed people are, attitudes towards foreigners)
- 1 2 3 4 5 6 7 **Friends** (making friends, amount of social interaction, what people do to have fun and relax)
- 1 2 3 4 5 6 7 **Language** (understanding people, making yourself understood)

*Note.* Original measure developed by Demes and Geeraert (2014). Variation validated by Tkachuck (2019) and Tkachuck et al. (2021).

## Appendix E—Purpose in Life Test—Short Form (PIL-SF)

Directions: For each of the following statements, circle the number that would be most nearly true for you. Note that the numbers always extend from one extreme feeling to its opposite kind of feeling. “Neutral” implies no judgment either way; try to use this rating as little as possible.

- |                                     |   |   |   |           |   |   |   |
|-------------------------------------|---|---|---|-----------|---|---|---|
| 1. In life I have:                  | 1 | 2 | 3 | 4         | 5 | 6 | 7   |
| No goals or aims at all             |   |   |   | (neutral) |   |   | Very clear goals and aims                     |
| 2. My personal existence is:        | 1 | 2 | 3 | 4         | 5 | 6 | 7   |
| Utterly meaningless without purpose |   |   |   | (neutral) |   |   | Very purposeful and meaningful                |
| 3. In achieving life goals I have:  | 1 | 2 | 3 | 4         | 5 | 6 | 7   |
| Made no progress whatsoever         |   |   |   | (neutral) |   |   | Progressed to complete fulfillment            |
| 4. I have discovered                | 1 | 2 | 3 | 4         | 5 | 6 | 7   |
| No mission or purpose in life       |   |   |   | (neutral) |   |   | Clear-cut goals and a satisfying life purpose |

*Note.* Measure validated in Schulenberg et al. (2011) and published as an appendix in Schulenberg et al. (2016).

## VII. VITA

### EDUCATION

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**University of Mississippi- Oxford**

Doctor of Philosophy in Clinical Psychology

*Anticipated 2026*

Dissertation: TBD

Current GPA: 4.00/4.00

Advisor: Stefan Schulenberg, PhD.

**University of Mississippi- Oxford**

Doctor of Philosophy in Clinical Psychology

*Anticipated 2023*

Thesis: Transitioning from Military to Civilian Life: An Examination of Acculturation in Veterans Previously Deployed to Warzones

Current GPA: 4.00/4.00

Advisor: Stefan Schulenberg, PhD.

**Purdue University- West Lafayette**

Bachelor of Science Honors

*December 2019*

Psychological Sciences

Minor: Spanish

Honors Thesis: Personality Profiles of Women in Relationships involving Men with Pathological Personality Features

GPA: 3.78/4.00

### RELATED EXPERIENCE

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**Psychological Services Center – University of Mississippi**

*Graduate Clinician*

*June 2022 – Present*

- Conduct intake interviews with community adults
- Provide individualized interventions to adults with varying psychological concerns
- Conduct full-battery psychological assessments for a variety of presenting problems such as ADHD, learning difficulties, and dyslexia
- Create and present case-conceptualizations weekly based on intake interviews and adapted throughout intervention sessions
- Receive weekly supervision with a licensed clinical psychologist and a team of graduate clinicians

**University Counseling Center – University of Mississippi**



*Graduate Clinician*

*August 2022-Present*

- Provide individualized interventions to university students with varying psychological concerns
- Select and present session recordings and case-conceptualizations weekly based on intervention sessions and adapted throughout treatment
- Participate in weekly supervision with a group of licensed psychologists and graduate students
- Receive weekly individual supervision with a licensed psychologist

**North Mississippi Regional Center**

*Psychology Doctoral Intern*

*July 2021 – June 2022*

- Provide individual counseling to patients of varying levels of functioning
- Lead group counseling sessions of clients with Prader-Willi syndrome and borderline personality disorder
- Evaluate community adults and children on cognitive and adaptive abilities
- Write comprehensive reports on full-battery evaluations
- Assess adaptive behaviors and write annual reports on residential clients

**PCV Partners**

*Respite Caretaker*

*November 2018–Present*

- Work with children with disabilities to achieve academic and social goals set by their parents and teachers.
- Care for children when parents need help or time off.
- Problem solve to manage various behavioral issues present with the child.

**YWCA Domestic Violence Intervention and Prevention Program**

*Intern/Volunteer*

*June 2018–December 2019*

- Assisted with tasks essential to the daily running of the Lafayette domestic violence shelter
- Manned the domestic violence crisis line for callers needing shelter, police intervention, or suicide prevention
- Advocated for clients and ran case management meetings with clients
- Assisted with running weekly domestic violence support groups and classes
- Presented information on domestic violence to schools in the area
- Attended meetings on the welfare of Tippecanoe County with leaders of nonprofit organizations in the area

**RESEARCH EXPERIENCE**

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**Clinical Disaster Research Center- University of Mississippi**

*Graduate Research Assistant- Advisor: Stefan Schulenberg*

*August 2020 – Present*

- Managed undergraduate research assistants working in the lab
- Developed textbook chapters on emergency response to COVID-19

and COVID-19 as it relates to meaning-making

- Composed a master's thesis on acculturation in combat veterans
- Reviewed papers for the Journal of Positive Psychology under the supervision of Stefan Schulenberg.

**Susan South Lab- Purdue University**

*Research Focused Honors Program*

*January – December 2019*

- Developed an individual research study with guidance from a faculty mentor (Dr. Susan South) and RFHP mentor (Dr. Douglas Samuel).
- Studied personality traits of women who had been in relationships involving men with antisocial, borderline, and narcissistic personality disorders.
- Analyzed data: t tests and ANOVAs using SPSS and a latent class analysis using mPlus.
- Composed a research paper/honors thesis and poster for presentation.

*Research Assistant*

*August-December 2017 &*

Studied personality pathology and its interaction with close relationships.

*August-December 2018*

- Contributed to the running of 5 ongoing studies
- Served as the first line of contact for community members interested in participation, answered questions, and provided pre-session instructions
- Ran participants through various studies including a multipart, complex study design involving video recording
- Entered, filtered, and organized participant data and information.
- Lead and participated in weekly discussions over relevant research papers

**Chris Eckhardt Lab- Purdue University**

*Research Assistant*

*January – December 2019*

Studied the factors associated with IPV and aggression.

- Contributed to the running of 2 ongoing studies.
- Ran participants through complex study procedures including deception
- Presented and lead discussions over relevant research articles
- Created and presented unique research proposals

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**COMMUNITY ENGAGEMENT**

**SAFE-Tupelo Women's Shelter Partnership**

*Mental Health Practices and Research Consultant*

*January 2023 – Present*

- Provided training to crisis counselors on psychological measures (e.g., MINI) and suicide assessment practices

- Constructed a pipeline for assessment, crisis management, and group therapy for individuals and families entering the shelter
- Organized a donation drive and fundraiser for necessary items in conjunction with various university organizations

## GRANTS, AWARDS, AND CERTIFICATIONS

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**Community Partnership Development Fund** 2023  
 “Building a SAFE community: Establishing a synergistic relationship between the UM Clinical-Disaster Research Center and SAFE, Inc.”  
 Awarded by: University of Mississippi Division of Diversity and Community Engagement  
 Amount: \$1,000

**Honors Fellowship (4-year award; University of Mississippi)** 2020-2024  
 Awarded by: University of Mississippi Graduate School  
 Amount: \$3,000 annually

**Poster Award for Understanding Trauma and Risk** 2022  
 “Role of experiential avoidance in the relationship between resilience and post-traumatic stress.”  
 Awarded by: Life Paths Research Center- ResilienceCon

**Dean’s List and Semester Honors** December 2016, May 2017,  
December 2017,  
December 2018, May 2019  
 Awarded by: Purdue University

**Question, Persuade, Refer (QPR) Certified Gatekeeper** August 2019

## PUBLICATIONS AND PAPERS

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- Lucas, K.,** Semko, J., Fortner, S. R., & Schulenberg, S.E. (2023) *Meaning-making in the context of COVID-19*. Chapter under review.
- Lucas, K.** (2023) *Transitioning from military to civilian life: An examination of acculturation in veterans previously deployed to warzones*. [Unpublished master’s thesis]. University of Mississippi.
- Lucas, K.,** McCutcheon, V., Hampton, B., Schulenberg, S. E. (2022) *Masking the insanity: The world-wide emergency response to COVID-19*. Chapter in preparation.
- Lucas, K.,** South, S., Brown, S., Young, J., & Samuel, D. (2019) *Personality Profiles of Women in Relationships involving Men with Pathological Personality Features*. Manuscript in preparation.
- Fischer, I. C., Feldman, D. B., Tsai, J. Harpaz-Rotem, I., **Lucas, K. A.,** Schulenberg, S. E., Pietrzak, R. H. (2023) *Identifying important correlates of purpose in life in older U.S. military veterans: Results from the National Health and Resilience in Veterans study*. Manuscript accepted at International Geriatrics.

## POSTER PRESENTATIONS

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- Lucas, K.,** Semko, J., Raley, M., Schulenberg, S. E. (2022) *Is purpose in life, psychological adaptation, or psychological distress more important for veterans' satisfaction with life? Using relative weight analysis to identify expedient variables for intervention.* Poster to be presented at ResilienceCon, Nashville, TN.
- Lucas, K.,** Hampton, B., Fortner, S.R.M., Pavlacic, J., Schulenberg, S. E. (2022) *Role of experiential avoidance in the relationship between resilience and post-traumatic stress.* In *ResilienceCon*, Nashville, TN.
- Lucas, K.,** South, S., Brown, S., Young, J., Massa, A., & Samuel, D. (2019) *Personality profiles of women in relationships involving men with pathological personality features.* In *Purdue Undergraduate Research Expo*. West Lafayette, Indiana.
- Lucas, K.,** South, S., Brown, S., Young, J., Massa, A., & Samuel, D. (2019) *Personality profiles of women in relationships involving men with pathological personality features.* Abstract accepted for *Midwestern Psychological Association*. Chicago, Illinois.