

**Stress, Burnout, and Aggression: The Effects of Personnel Tempo (PERSTEMPO) on  
Special Operations Forces (SOF)**

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### Abstract

Special Operations Forces (SOF) constantly face prolonged high levels of personnel tempo (PERSTEMPO) with minimal time to reset. These constant demands on SOF Soldiers build stress, increase burnout within the force, and ultimately increase the prevalence of negative behaviors. The study examines the relationship between PERSTEMPO stress, burnout, and aggressive behaviors within SOF. The researcher hypothesizes that there is a positive correlation between PERSTEMPO and stress and burnout, and through this relationship, PERSTEMPO has an indirect relationship with aggressive behaviors. The study used correlational and regression analyses on an online survey comprised of open-ended and closed-ended PERSTEMPO questions, the Psychological Stress Measure (PSM-9), the Burnout Measure, and the Buss-Perry Aggression Questionnaire (AGQ) given to Soldiers of the 4<sup>th</sup> PSYOP Group (A) ( $N = 58$ ) to assess the relationship between PERSTEMPO, stress levels, burnout, and aggressive behavior. The correlational analysis found strong relationships between stress, burnout, and aggressive behaviors and moderately positive relationships between stress, burnout, and hours worked per week. Multiple linear regression models found that overall, PERSTEMPO could significantly predict stress levels, with work hours per week being the strongest predictor. Additionally, the models found that stress and burnout could significantly predict aggressive behavior. The study's findings show some concerns that Commanders must address by taking realistic steps like assessing the necessity of excessive training and reevaluating their unit resiliency programs. Finally, future research should continue to dive into the adverse effects of prolonged high PERSTEMPO on Soldiers' psychological and emotional health.

Keywords: *stress, burnout, aggressive behaviors, personnel tempo, special operations forces.*

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**Stress, Burnout, and Aggression: The Effects of High Personnel Tempo (PERSTEMPO) on  
Special Operations Forces (SOF)**

As of 2021, 1,004,299 Soldiers were serving in the U.S. Army (US, 2022). Over 70,000 served in Special Operations Forces (SOF) units in 2020 and 2021 (Military, 2021; SOCOM, 2020). Soldiers within SOF units have some of the highest personnel tempo (PERSTEMPO) in the entire army. PERSTEMPO is a military term to describe the frequency servicemembers conduct military activities that prevent them from being with their families (Managing, 2022). Military activities include training exercises, contingency operations, combat and operational deployments, and support operations state-side and abroad. In 2022 over 5,000 active-duty SOF members deployed to over 80 countries worldwide, and National Guard SOF Soldiers supported operations in 30 countries and 18 states (Clarke, 2022). Most SOF units deploy at a 1:2 ratio (2 days spent state-side for every day deployed). However, this ratio does not account for all the additional training requirements, additional duties, and other stressors that take them away from their support structures. This constant high PERSTEMPO causes stress and burnout, which could lead to aggression and various negative attitudes and behaviors (Elliman et al., 2021).

SOF Soldiers suffer from higher stress levels and burnout from prolonged high PERSTEMPO than the average civilian (Barczak-Scarboro et al., 2020; Bryant-Lees et al., 2021; Chappelle et al., 2019), they risk exhibiting negative behaviors like aggression (Blakey et al., 2018). The build-up of stress and aggression could be turned toward the soldier's family members, resulting in instances of domestic violence and divorce (Bhardwaj et al., 2019). It could turn inward, increasing substance abuse, depression, and suicidal ideation (Bhardwaj et al., 2019). Finally, the aggression and violent behavior could adversely affect relations between allied forces and dignitaries that SOF Soldiers work with, resulting in diplomatic or international

incidents, degradation of allied support, or even imprisonment. For the past few decades, most research focused on aggression and negative mental health effects in military members revolved around combat-based deployments, PTSD, or both (Barczak-Scarboro et al., 2020; Bhardwaj et al., 2019; Blakey et al., 2018; Doody et al., 2022; Wilk et al., 2015)). However, few, if any, examine the impact of non-combat deployments or prolonged high OPTEMPO on stress and aggressive behavior. For example, Chappelle et al. (2019) and Doody et al. (2022) examined how combat and non-combat deployments caused excessive stress, burnout, and other negative psychological effects, and Castro and Adler (2012) looked at the toll operations tempo had on soldier and unit readiness. However, none looked at the impact of PERSTEMPO or its relationship with aggressive behaviors.

The current study will fill in the gaps from prior studies by examining relationships between PERSTEMPO, aggression, stress, and burnout. To this end, the study will utilize the following definitions; 1) stress is the biological or psychological response to internal or external demands and stressors (American, 2023; Nevid et al., 2021); 2) burnout is the physical, emotional, or mental exhaustion that causes decreased motivation, negative attitude, or low work performance (American, 2023); and 3) aggression/reactive-impulsive aggression is behavior, spontaneous or otherwise, intended to cause harm to a person or object in response to provocation (Bartol & Bartol, 2021). Prior studies only looked at one or two variables in the context of a single event (aggression, burnout, or stress) (Barczak-Scarboro et al., 2020; Bhardwaj et al., 2019; Doody et al., 2022) or over time relating to unit readiness (Bryant-Lees et al., 2021; Chappelle et al., 2019). The current study combines parts of these studies by examining how the different variables (stress, burnout, and aggression) increase or decrease

based on prolonged heightened military activity. Simultaneously examining multiple variables will facilitate a better understanding of their relationships and influences on each other.

### **Literature Review**

The literature review examines the prior studies covering the topic broken down into four primary areas of interest in the current study. The first area focuses on studies investigating high PERSTEMPO, stress, and burnout. The second section covers studies looking at mitigating factors for stress and aggression. The third section examines studies on the interactions between mental disorders and aggression. Finally, the fourth section examines studies examining the relationship between trait anger and aggression. Each section highlights essential findings and limitations regarding the relationships between occupational requirements, stress, burnout, and aggression.

### **High PERSTEMPO, Stress, and Burnout**

Constant training and mission requirements regularly push military personnel limits (SOCOM, 2020). As Soldiers face increased PERSTEMPO, it places more stress on them and potentially increases the prevalence of burnout. Bryant-Lees et al. (2021) used the 2018 occupational health assessment results to compare and identify common sources of occupational stress, personnel meeting burnout, and overall psychological distress across Remotely Piloted Aircraft (RPA) operators. Their sample consisted of 571 participants from two major commands, 158 from Air Forces Special Operations Command (AFSOC) and 413 from Air Combat Command (ACC). The participants comprised 331 pilots, 137 sensor operators, and 103 intelligence operators. Eighty-six percent of the participants were male, and 58% were 26-35. First, the participants filled out a demographics questionnaire to examine the usual demographics and operational factors. The participants then rated 14 categories of occupational stress,

identified from prior occupational health assessment research, from 0 (no stress) to 10 (extreme stress). Next, the participants completed the Maslach Burnout Inventory (MBI-GS) to gauge overall burnout, the Outcome Questionnaire (OQ-45.2) to assess psychological distress, and the Embedded Care Provider Assessment to determine their access and interactions with embedded health care providers.

Bryant-Lees et al. (2021) found that 44.4% of participants were stressed over low manning (not enough drill sergeants to fill necessary training requirements), 37% from extra duties, 30.2% from sleep issues, 26.6% from long hours, 25.1% from workload, 23.1% from miscommunication, and 22.6% from the nature of their work. They also found that 30% of participants suffered from mental exhaustion, and 18% reported high cynicism (Bryant-Lees et al., 2021). Additionally, they discovered that AFSOC operators were more likely to be emotionally exhausted than ACC operators. Ultimately, the researchers found that AFSOC pilots and ACC intelligence operators are at higher risk for negative psychological outcomes than other groups.

In a similar study, Chappelle et al. (2019) focused on the stress, burnout, and psychological health of U.S. Air Force Distributed Common Ground Station (DCGS) intelligence operators. 2,252 DCGS operators comprising 1,717 active-duty (AD), 139 active national guardsmen (AGR), and 173 reservists (RE), participated in the study. The participants received a demographic questionnaire, questions about occupational stressors, and any interaction with an operational medical element (OME). Participants also completed the Maslach Burnout Inventory (MBI-GS) to assess occupational burnout and an outcome questionnaire (OQ-45.2) to measure psychological distress. The study showed that 2.4% met the cutoff for overall burnout (2.65% AD, .88% AGN, 1.67% RE), 27% for high exhaustion (28.55% AD, 24.56%



AGN, 14.17 RE), 21.5% for high cynicism (23.47% AD, 10.53% AGN, 9.17 RE), and 6.9% for low professional efficacy (7.03% AD, 7.02% AGN, 5% RE). The researchers found that excessive workload, extra duties, long work hours, organizational communication concerns, and leadership strategies accounted for reported burnout, high exhaustion, high cynicism, and low professional efficacy among the three components. However, excessive workload and extra administrative duties are more common within AD and ANG Soldiers than in RE. These operational and combat-related occupational stressors produce psychological distress and negative psychological behaviors (Chappelle et al., 2019).

SOF Soldiers share similar stressors as RPA and DCGS Soldiers. SOF Soldiers must undergo a lengthy training pipeline that could take 1.5 to 2 years due to the nature of their missions, which causes significant manning shortfalls (military, 2021). Even with these manning shortfalls, SOF Soldiers must complete missions, gain new skills, and maintain current competencies, even if SOF Soldiers must complete back-to-back training and missions (Clarke, 2022). As these two studies showed, the constant work demand and the limited number of Soldiers to "share the workload" cause excessive stress and burnout, which causes negative psychological effects (Bryant-Lees et al., 2021; Chappelle et al., 2019)

Turning to a third sample, Elliman et al. (2021) studied the stressors drill sergeants faced in the line of duty, how their behavioral health and morale changed over time, and looked for mitigating factors. The study included 856 drill sergeants from the four US Army basic training sites. 76% of participants were male, 71% were staff sergeants, and 64% had more than ten years of service. Besides the usual demographics, the researchers gauged stressors by having participants rate 31 stress-related items from 1-5. The researchers assessed behavioral health and morale by using the Patient Health Questionnaire for depression (PHQ-8) for depression, the

Insomnia Severity Index (ISI) scale for sleep problems, the Generalized Anxiety Disorder (GAD-7) scale for anxiety, the Walter Reed Functional Impairment Scale for functional impairment, Alcohol Use Disorders Identification Test-C (AUDIT-C) for alcohol misuse, and single self-report questions for burnout, aggression, and morale.

Elliman et al. (2021) found that 19.2% of participants met the screening criteria for depression, 27.3% for sleep problems, 14.1% for anxiety, 47.5% for burnout, 31.7% for functional impairment, 34.7% for alcohol misuse, 24.9% for low morale, and 32% exhibited off-duty aggression. The researchers also found that 63% of drill sergeants experience the most stress from finding time to exercise, 63% from lack of sleep, and 59% from long work hours. Additionally, drill sergeants in their positions from 13-18 months had significantly worse behavioral health outcomes and morale than any other group. Ultimately, the researchers found that time as a drill sergeant, sleep deprivation, and involuntary assignment were related to lower morale and poor behavioral health. Conversely, positive leadership and unit cohesion were mitigating factors against low morale and poor behavioral health.

Most drill sergeants get under 6 hours of sleep at night, with the rest focused on preparing for or conducting training (Elliman et al., 2021). As the study showed, this constant grind causes poor behavioral health and even aggressive behavior in almost a third of the participants. Similar to drill sergeants, many SOF Soldiers spend countless hours preparing and conducting training with partner forces to prepare for crises or conflicts (Clarke, 2022). However, unlike drill sergeants, SOF Soldiers complete additional mission and individual training requirements on top of training new soldiers. SOF Soldiers' added requirements could potentially increase the severity of negative psychological behaviors and health, which warrants investigation.

### **Mitigating Factors for Stress and Aggression**

Many professionals deal with excessive stress that negatively affects their behavior. To this end, most professional fields develop programs to mitigate the risk of excessive stress and aggressive behavior. Jacobs and Keegan (2022) explored emotional awareness and resilience in emergency services personnel to better understand how they relate with each other in a stressful work environment. There were 11 participants, three females and eight males, ranging from 23 to 55 years old. The participants included police, fire brigade, ambulance, and border patrol services. The researchers excluded anyone seeking psychological services for stress, psychopathology, or other mental disorders; who left the identified occupations over a year ago; or those with pre-existing trauma that impacted their mental health. The researchers conducted one semi-structured interview with each participant for 30-60 minutes. The interview focused on the participants' emotional awareness, resiliency, coping skills, and help-seeking.

The researchers organized their findings into seven interlinked themes: historical experiences, environment and context, resilience, emotional awareness, coping, workplace experiences, and burnout. The researchers found a close relationship between emotional awareness and resiliency and a connection to the other themes. They concluded that emotional awareness is essential for coping and resilience and worked as a protective factor against burnout. Additionally, they established that alcohol misuse, PTSD, and maladaptive coping all lowered resilience and self-awareness. Surprisingly, the researchers found that participants did not actively improve their emotional awareness due to stigmas, toxic masculinity beliefs, the fear of appearing weak, and not seeing the benefit of psychological help-seeking.

In a similar study, Doyle et al. (2021) studied the relationship between occupational stress, anger, and resiliency experienced by first responders. They also looked at whether

resiliency mediated occupational stress and anger. The study included 201 first responders, including police officers, civilian law enforcement personnel, firefighters, and jailers. Seventy-seven and six-tenths percent of participants were male, and the average age was 43.73. The participants completed the Occupational Stress Inventory-R-Occupational Role Questionnaire (ORQ) to assess stress levels derived from 6 areas (overload, insufficiency, ambiguity, boundary, responsibility, and environment), the DSM-5 Self-Rated Level 1 Cross-Cutting Symptom Measure–Anger subscale (DSM-5 Anger) to assess symptoms associated with 13 psychiatric domains, and the Connor-Davidson Resilience Scale (CD-RISC) to gauge trait resilience.

Doyle et al. (2021) found that CD-RISC significantly mediated the effects the different ORQ areas had on DSM-5 Anger, accounting for different levels of variation. For example, the CD-RISC accounted for a 25% variance between DSM-5 Anger and ORQ overload, 9% with ORQ role insufficiency, 7% with ORQ ambiguity, 21% with ORQ role boundary, and 29% with ORQ responsibility. As the researchers expected, occupational stress had a significant positive relationship with anger and a significant negative relationship with resiliency. Additionally, the study suggests that resiliency influences occupational stress and could act as a protective factor against sources of stress. Ultimately, the researchers found that first responders' reported occupational stress was higher than normative samples, resiliency was lower than the general population, and anger severity was twice the size of college samples.

There are many parallels between emergency services personnel and SOF. Like emergency services, SOF units try to implement services and programs to improve resiliency and emotional awareness (Foy, 2019). Additionally, SOF Soldiers rarely take the initiative to improve emotional awareness or seek psychological assistance. Instead, barriers come from job

demands, the belief that they need to carry the burden, suppressed requests for support, and the idea that seeking help is counter to a tough mentality (Foy, 2019).

Looking outside the U.S. military, Doody et al. (2022) studied the psychological strains and traumatic experiences of Defense Forces members pre-, during, and post-deployment and their return to everyday life. Their study consisted of 12 operationally deployed people from the Defense Forces of Ireland (DFI). The participants' mean age was 32, averaging 11.5 years of service. Participants were selected from the Army, Navy, and Air Corps and were all ethnic White Irish. The researchers limited their participants to ranks typically focused on day-to-day activities rather than higher leadership. They created a semi-structured interview schedule consisting of 11 open-ended board questions that focused on the experiences of the DFI, ultimately honing in on stress and trauma, personal resilience, the influence of social dynamics, and the military institution. Doody et al. (2022) found that the Soldiers felt the training did not prepare them for the emotional backlash from critical incidents, chronic stress, and reintegration into home life. Participants reported that coping strategies like compartmentalizing and emotionally detaching from high-stress events made them more resilient (Doody et al., 2022). However, participants reported inadequate training on dealing with emotions and the aftermath of critical incidents, coupled with cultural stigmas regarding mental health and anyone seeking help, which made it difficult to overcome many psychological stressors. This stigmatization and lack of training increase the risks of PTSD and adverse mental health outcomes (Doody et al., 2022).

As these studies showed, cultural stigmas and improper pre-mission training can drastically negatively impact resilience, which could impact stress, burnout, and aggression. Unfortunately, many of the same stigmas, beliefs, and attitudes plague the SOF community.

These issues constantly increase the risk of excessive stress and burnout, which could lead to increased aggressive behavior and other negative psychological behaviors. Although the current study does not focus directly on resiliency within the SOF community, it can indirectly measure the effectiveness of current resiliency programs available to SOF Soldiers.

### **Mental Disorders and Aggression**

There are a multitude of variables that can affect aggressive behavior. These variables could include stress, age, gender, resiliency level, as shown in the previous section, and mental disorders. Anywhere from 11% to 23% of veterans suffer from PTSD (Julia, 2023), and SOF Soldiers are at even higher risk of PTSD due to the nature and length of deployments and military activities (Foy, 2019). The following studies look at how mental disorders contribute to aggressive behavior. Although the current study does not directly focus on mental disorders' effects on stress, burnout, or aggression, it is essential to gain insight into and understand their effects on aggressive behavior.

Bhardwaj et al. (2019) studied the direct and indirect relationships between PTSD, Depression, hostility, anger, and aggression in combat veterans returning from Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). The study consisted of 175 combat veterans, with 95% male and a mean age of 30.36 years. The researchers excluded anyone with a self-reported Axis 1 disorder, current alcohol dependence, or current drug use. The researchers utilized the clinician-administered PTSD scale to examine PTSD symptoms, the Beck Depression Inventory second edition to examine different manifestations of depression, the Cook-Medley hostility scale to gauge aspects of hostility, the state-trait anger expression inventory to measure expressions of anger, and the retrospective overt aggression scale to measure aggression.

Bhardwaj et al. (2019) found that depression rather than PTSD significantly predicted hostility, and depression, PTSD, and hostility significantly affected trait anger. Additionally, the researchers found that only depression directly affected self-inflicted physical aggression. Depression and trait anger significantly affected verbal and physical aggression toward objects, whereas trait anger alone significantly affected physical aggression toward others (Bhardwaj et al., 2019). The results also showed that depressive symptoms explain some indirect relationships between PTSD and all forms of aggression, minus physical aggression toward others. In contrast, trait anger explains the indirect relationship between PTSD and all forms of aggression, minus aggression toward self.

This study brings to light a fascinating dynamic on how the different variables affect each other. Interestingly, variables like trait anger and depression have a more significant direct effect on the different forms of aggression than PTSD (Bhardwaj et al., 2019). This fact brings to question what else could have a significant effect. PTSD is a disorder that revolves around traumatic events, but not everyone meets the diagnostic criteria. Therefore, rather than looking at trauma-induced stress like PTSD, the current study expands the scope of stress to determine if there is a more direct relationship between high PERSTEMPO and aggressive behaviors.

Barczak-Scarboro et al. (2020) took a similar approach by focusing on the mental health symptoms of SOF combat Soldiers. They examined associations between mental health symptoms and mild traumatic brain injury (mTBI). The study consisted of 113 males, 95 from combat arms and 18 from combat support, ranging from 26 to 45 years old. Participants first reported if and when they suffered an mTBI. Next, the participants completed the Brief Symptoms Inventory 18 (BSI-18), the Generalized Anxiety Disorder 7 item (GAD-7), the PTSD Checklist for DSM-5 (PCLR-5), the Patient Health Questionnaire-15 (PHQ-15), and the Mental

Health Continuum Short Form (MHC-SF). These tests assessed the participants' psychological distress, anxiety, post traumatic stress, somatization, and subjective well-being.

Barczak-Scarboro et al.'s (2020) study found that the average SOF combat Soldier reported higher well-being symptoms and lowered psychological distress, anxiety, post traumatic stress, and somatization. Additionally, they discovered that SOF combat Soldiers with at least one mTBI showed lower well-being and higher psychological distress, somatization, stress, and anxiety. After analyzing their data, the researchers concluded that other experiences (career and life) might contribute more to their findings than mTBIs. They believed that the number of mTBIs did not explain the variances in their outcomes to the same degree as other variables.

The results from both studies seem to contradict what is shown in many other studies looking at the same topic area (Dailey et al., 2018; Mosti & Coccaro, 2018 ). Barczak-Scarboro et al. (2020) noted a potential for underreporting or minimizing negative mental health symptoms, especially within the military. Beliefs and stigmas revolving around mental health issues negatively affecting careers could be causing Soldiers to underreport or minimize negative mental health symptoms. Barczak-Scarboro et al. (2020) and Bhardwaj et al. (2019) noted the need to look at variables besides mental health in future studies. The current study will build off these notions by keeping the effects of mental disorders and mTBIs in mind but focusing more on the effect of PERSTEMPO on aggression.

### **Trait Anger and Aggression**

Wilk et al. (2015) examined the direct and indirect relationships between combat exposure to post-deployment PTSD and aggression and how trait anger affected these relationships. The study consisted of 2,420 Soldiers from a brigade combat team that had returned from Afghanistan 3 months prior. The researchers measured combat exposure with the



Combat Experiences Scale (CES), PTSD with the PTSD Checklist (PCL), Major Depressive Disorder (MDD) with the Patient Health Questionnaire-9 (PHQ-9), anxiety with the Generalized Anxiety Disorder (GAD), aggression with questions developed by Walter Reed Army Institute of Research, and trait anger with items from the State-Trait Anger Scale. The study found that Soldiers were more likely to report aggression when they screened positive for PTSD and high levels of trait anger. Conversely, those that screened positive for PTSD and lower trait anger reported less aggression (Wilk et al., 2015). In addition, the researchers found that a pathway relationship between PTSD and aggression was only evident in the presence of higher trait aggression. Finally, the study showed no conditional direct or indirect effects for depressive and generalized anxiety symptoms.

Even though Soldiers experience combat exposure and suffer from PTSD does not mean that they will exhibit more aggressive behavior (Wilk et al., 2015). Trait anger plays a more pivotal role in whether or not people exhibit aggressive behavior than other variables (Wilk et al., 2015; Bhardwaj et al., 2019). Wilk et al.'s 2015 study only focused on one particular unit type after a single event. They knew the limitations of their study and recommended that future studies utilize fully validated metrics to measure trait anger and how anger affects Soldiers across all domains. The current study will build off this by looking at all domains of military activity and how that affects stress and aggression.

Similarly, Gallaway et al. (2012) studied overt aggression among recently deployed Soldiers to identify connections among higher levels of aggression. The study consisted of 6,128 Soldiers from two large units, of which 68% have a deployment history. The researchers utilized the Revised Conflict Tactics Scale (CTS2) to measure physical aggression, the Rapid Alcohol Problems Screen (RAPS4) to measure alcohol misuse, questionnaires to gauge any history of

behavioral health issues, and demographic questions to examine military and other background variables. Additionally, those that reported prior combat experiences received a questionnaire covering their experiences during those deployments.

The study found that the two most common forms of minor aggression were grabbing someone, with a 36% reported prevalence rate, and throwing something at someone, with a 26% reported prevalence rate. The two most common forms of significant aggression were shoving someone, with a 39% prevalence rate, and hitting someone, with a 22% prevalence rate (Gallaway et al., 2012). The researchers also found that 31% of participants met the threshold for alcohol misuse, and another 31% had a history of behavioral health issues, including anxiety, PTSD, depression, and mTBI. The study ultimately showed that higher overt physical actions were more prevalent in participants who experienced combat-intensive deployments than those with no deployments or minimal combat exposure (Gallaway et al., 2012). Additionally, participants that screened positive for alcohol misuse or reported prior altercations with a spouse had a higher prevalence of aggression.

These two studies show how even a single combat deployment can significantly impact the mental well-being of conventional Soldiers. Since the drawdowns in Iraq and Afghanistan, most conventional Soldiers will either never deploy or will deploy once during crisis response. However, SOF Soldiers do not fit within that category. The constant high rate of deployments and other military requirements continually put more stress on SOF Soldiers, and with enough build-up, they will look for an outlet (Blakey et al., 2018). As Wilk et al. (2015) pointed out, PTSD and higher trait aggression lead to a higher prevalence of aggressive behavior. Examining the constant build-up of stress from high PERSTEMPO could result in identifying whether or not SOF Soldiers exhibit aggressive behavior or release that built-up stress in more healthy outlets.

Moving away from a military lens, Blakey et al. (2018) studied the prevalence and risk factors of violent behavior in the U.S. population with no military combat experience. The study comprised 33,215 participants from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). 40% of the participants were males, and the median age was 43. The researchers excluded those that reported a history of active-duty combat. The researchers interviewed participants focusing on demographic and background information, identifying potential psychiatric diagnoses, types of trauma experienced, anger or irritation after the trauma, alcohol use as self-medication, and engaging in violent behavior. The researchers found that all variables, minus just PTSD, were significant predictors of physical aggression or violence. With a 95% confidence interval, alcohol abuse or dependence was the strongest predictor, with a 2.59 odds ratio (OR), followed by gender, with an OR = 2.49, and the third was self-medication with alcohol, with an OR=2.41 (Blakey et al., 2018). Additionally, gender was the strongest predictor of severe violence, with an OR=5.25. Ultimately, Blakey et al. (2018) concluded that PTSD-related phenomena could signal the potential for violent behavior; however, a history of PTSD alone is not a significant risk of violence.

Blakey et al.'s (2018) study provides evidence of the limited effect PTSD alone has on aggressive and violent behaviors. Additionally, it provides valuable insight into aggression and violent behavior outside the confines of the military and dives into what leads non-military populations to exhibit aggression and violent behavior. Multiple studies show the limited effect PTSD has on aggression and violent behavior, both within the military and outside, which raises the question of what variables lend the most weight to aggressive behavior. The current study looks at potential variables outside of PTSD, high PERSTEMPO, and burnout, which affect aggressive behavior.

### Summary and Research Question

Bryant-Lees et al. (2021) and Chappelle et al. (2019) found that issues like minimal manning, extra duties, long working hours, increased workloads, and lack of communication accounted for higher negative psychological outcomes, burnout, high exhaustion, high cynicism, and low professional efficacy. At the same time, Elliman et al. (2021) found that sleep deprivation, assignment length, and involuntary assignment contributed to drill sergeants' lower morale and poor behavioral health. Jacobs and Keegan (2022) found that alcohol misuse, PTSD, and maladaptive coping caused lowered resilience and self-awareness in emergency services personnel. On that same note, Doyle et al. (2021) found that first responders had higher occupational stress, lower resilience, and twice the anger severity than average populations. Doody et al. (2022) found that inadequate training on how to deal with emotions and the aftermath of critical incidents, stigmas regarding mental health, and issues seeking help made it difficult for Soldiers to overcome psychological stressors.

Barczak-Scarboro et al. (2020) found that career and life experiences contributed more to lower well-being and higher negative psychological behaviors than mTBIs. Gallaway et al. (2012) found that higher overt physical aggression was more prevalent in those who experienced combat-intensive deployments than those with little to no combat exposure. Bhardwaj et al. (2019) found that depression and trait anger had a more significant direct effect on aggressive behavior than PTSD. Similarly, Wilk et al. (2015) found that levels of trait aggression contributed more towards aggression than PTSD from combat exposure. Conversely, Blakey et al. (2018) concluded that a history of PTSD alone is not a significant determinant of violent behavior.

The literature review suggests a significant relationship between occupational stressors and negative psychological behavior. It also indicates that PTSD has far less impact on aggressive behavior than other variables like trait anger or depression. However, none of the studies examine how prolonged occupational stressors affect aggressive behavior in a military setting. Therefore, the current research asks: “How does personnel tempo (PERSTEMPO) affect Soldiers’ reported levels of stress, burnout, and aggressive behavior?” I hypothesize that as SOF Soldiers experience longer periods of higher PERSTEMPO, they will perceive higher levels of stress and burnout which, in turn, will increase the prevalence of aggressive behavior.

### **Method**

The current study utilized correlational and regression research designs. The purpose was to explore relationships between PERSTEMPO and Soldiers’ perceived stress levels, burnout, and aggressive behavior. The goal was to answer how PERSTEMPO affects Soldiers’ reported stress levels, burnout, and aggressive behavior. The hypothesis was that as Soldiers experience higher levels of PERSTEMPO, they would experience higher levels of stress and burnout while also exhibiting increased prevalence of aggressive behavior.

### **Participants**

The study announcement went out to over 1,000 personnel from one active duty SOF unit, and 58 Soldiers participated in the study, but only 49 completed at least some portion of the survey (43 SOF Soldiers and 6 SOF Enablers). The participants were assigned to a SOF Group located at Fort Liberty, NC.

The participants consisted of SOF Soldiers and SOF enablers. SOF Soldiers consist of Combat Modifier Folder (CMF) 18, CMF 37, and CMF 38 Soldiers. SOF enablers are Soldiers

assigned to SOF units who do not have one of the three CMFs. Civilians assigned to the unit were excluded from the study.

### **Measures**

The current study examined PERSTEMPO, stress, burnout, and aggressive behavior. *PERSTEMPO* is the frequency service members are engaged in military activities that prevent them from spending time at home (Managing, 2023). These activities could include but are not limited to training exercises, contingency operations, combat deployments, and support operations. *Stress* is the perceived psychological pressure placed on an individual that affects their emotional and physical health. *Burnout* is the psychological, emotional, or mental exhaustion that causes decreased motivation, negative attitude, or low work performance (American, 2023). Finally, *aggressive behavior* is planned or spontaneous behavior intending to harm others or destroy objects (Bartol & Bartol, 2021). The study utilized the Psychological Stress Measure (PSM-9) to measure stress, Pines' and Aronson's Burnout Measure to measure burnout, the Buss-Perry Aggression Questionnaire (AGQ) to measure aggressive behavior, and author-generated questions for demographics and PERSTEMPO measurements.

### ***Demographics and PERSTEMPO***

The first part of the survey consisted of 15 open-ended and multiple-choice questions addressing demographic and PERSTEMPO related items. See Appendix E for the full text of demographic and PERSTEMPO items. The demographic questions gathered biographical data, and PERSTEMPO questions gauged occupational requirements. See Appendix D for the full Survey Development Plan for PERSTEMPO development. Questions were developed and planned to ensure face and content validity.

The study consisted of new survey questions to cover PERSTEMPO. There was no data on the questions' reliability or validity beyond the face and content validity. The demographic questions included gender, age, ethnicity, relationship status, the number of children, rank, unit, education level, time in service, and CMF (recoded as either SOF or SOF enabler). The occupational questions included average weekly work hours, the number of training exercises and deployments soldiers conducted in the last three and five years, respectively, and time away from family over the last three years.

### ***Psychological Stress Measure (PSM-9)***

An abridged version of the Psychological Stress Measures (PSM-9) measured perceived stress levels. The PSM-9 consisted of nine items that utilized an 8-point Likert scale with responses consisting of *not at all*, *not really*, *very little*, *a bit*, *somewhat*, *quite a bit*, *very much*, and *extremely*. The measure had two reverse-scored items, "I feel calm" and "I feel full of energy and keenness," and no subscales. The total score of the PSM-9 ranged from 9 to 72. The higher the score represented more perceived stress levels, and scores higher than 34 met the cut-off for being stressed. See Appendix E for the PSM-9. Lemyre and Lalande-Markon (2009) developed the original version to measure psychological stress within the general population with a Cronbach  $\alpha$  coefficient of .95. The abridged version has similar validity as the original version when applied to general health and well-being surveys in public service fields, hospitals, and community services.

### ***Burnout Measure***

The Pines' and Aronson's (1988) Burnout Measure assessed participants' perceived burnout. The burnout measure consisted of 21 items with a 7-point Likert scale with responses including *never*, *once in a great while*, *rarely*, *sometimes*, *often*, *usually*, and *always* (Pines &

Aronson, 1988). There were three reverse-scored items which included “having a good day,” feeling optimistic,” and “feeling energetic.” The total score of the Burnout measure ranged from 21 to 147. The higher the score represented higher levels of burnout, and those that had a mean score of 3.5 or higher met the cut-off score identifying burnout. See Appendix E for the Burnout Measure. The Burnout Measure has a coefficient  $\alpha$  between .82 and .95 and showed a negative correlation with job satisfaction, perceived control, and social support while positively correlated with job demands and stressors (Looti, 2023).

### ***Buss-Perry Aggression Questionnaire (AGQ)***

The study used an augmented Buss-Perry Aggression Questionnaire (AGQ) to measure aggressive behavior. The AGQ consisted of 25 items; eight measured physical aggression, four measured verbal aggression, six measured anger, and seven measured hostility. It used a 5-point Likert-type scale where potential responses were *extremely uncharacteristic*, *somewhat uncharacteristic*, *neither*, *somewhat characteristic*, and *extremely characteristic* (Buss & Perry, 1992). There were two reverse scored items, “I am an even-tempered person” and “I can think of no good reason for ever hitting a person.” The total score of the AGQ ranged from 25 to 125. There was no cut-off score for the measure, but the higher the score indicated a higher prevalence of aggressive behavior. See Appendix E for the AGQ. The ACG has a high internal consistency with a total Cronbach’s  $\alpha$  score of .85, physical aggression subscale has .78, hostility has .71, anger has .76, and verbal aggression has .48 (Buss & Perry, 1992).

### **Procedures**

Participants received a research announcement with a link to an anonymous online survey hosted on SurveyMonkey and an informed consent form via a unit-wide email distribution protocol. See Appendix B for the Research announcement and Appendix C for the informed



consent form. The research announcement was disseminated bi-weekly via the unit-wide email protocol for over four weeks. After participants read the research announcement and informed consent, they accessed the anonymous survey via the SurveyMonkey link.

To ensure participants read through the informed consent, the first item of the anonymous survey verified that participants read the informed consent and agreed to participate in the study. The next two items were exclusionary questions to ensure that only Soldiers assigned to the unit took the survey. If participants selected "no" on any of the first three questions, they were sent to a disqualification page informing them of their disqualification and thanked them for their time. The remaining survey questions comprised demographic questions, PERSTEMPO questions, the PSM-9, the Burnout measure, and the AGQ. The survey took participants an average of 8-10 minutes to complete.

Throughout the four weeks of data collection, the data was collected from the online survey tool and transposed into an Excel spreadsheet. The Excel spreadsheet was stored in an encrypted, partitioned drive using AES encryption to prevent theft or leakage of information. The raw data was refined and aggregated for statistical analysis to determine the relationships between the variables. Correlational and regression methods determined the relationships between PERSTEMPO and aggressive behavior; PERSTEMPO and stress levels; PERSTEMPO and burnout; stress levels, burnout, and aggressive behavior; and PERSTEMPO, stress levels, burnout, and aggressive behavior.

### **Data Management**

To ensure the survey participants' anonymity, SurveyMonkey did not collect participants' IP addresses during the survey. The researcher transferred all individual responses from SurveyMonkey into an Excel spreadsheet for analysis and aggregated the final results to protect

participants' identities. The researcher only accessed the data via completed surveys stored on the encrypted, partitioned drive. The researcher was the only one with access to the strong password that protects the dataset. The dataset did not contain coded identifiers and was completely anonymous.

The researcher stored all electronic data on an encrypted, partitioned drive. The researcher utilized an AES encryption algorithm through VeraCrypt. This algorithm uses encryption that U.S. government departments and agencies usually use to protect classified information up to the Top Secret level. The researcher will retain the data set and related files for at least five years after the study's completion in case questions arise about the study's validity and analysis. After five years, the researcher will destroy the data using government data destruction standards.

## **Results**

The following section covers the statistical analysis processes used in the study and their results to answer the research question and hypothesis. Each measure had a similar, yet different, scoring method. The raw data was coded, refined, and analyzed using simple linear regression models, multiple linear regression models, and Pearson correlation coefficient analysis methods to identify the relationships between the different variables. These methods examined the relationships between PERSTEMPO and aggressive behavior; PERSTEMPO and stress levels; PERSTEMPO and burnout; stress levels, burnout, and aggressive behavior; and PERSTEMPO, stress levels, burnout, and aggressive behavior.

### **Participant and Demographic Characteristics**

There were no reverse-scored items or scoring protocols within the demographics measure. Each item was broken down into subcategories to depict the sample characteristics. The

study consisted of 58 Soldiers, but only 47 participants completed all parts of the survey (42 SOF Soldiers and 5 SOF Enablers). The participants were between 22 and 50 years old ( $M= 31.98$ ), with an average of 10.55 years of service. Forty-two (82.35%) participants identified as male, 8 (15.69%) as female, and 1 (1.96%) as other. Forty (78.43%) participants identified as White, 4 (7.84%) as Hispanic or Latino, 1 (1.96%) as Asian or Asian American, 3 (5.88%) as Native Hawaiian or other Pacific Islander, and 3 (5.88%) as other. Twenty-six (50.98%) participants were married, 5 (9.80%) were in a relationship, 5 (9.80%) were separated, and 13 (25.49%) were single. 19 (37.25%) participants had children. Two (3.92%) participants had up to a high school diploma/GED, 7 (13.73%) had some college, but no degree, 9 (17.65%) had an associates degree, 23 (45.10%) had a bachelor's degree, and 9 (17.65%) had a masters degree. See Appendix F; Table 1 for the aggregated responses to the demographic characteristic questions.

Ten (17.24%) participants did not complete all survey portions. The missing data might be due to a variety of reasons. The participants conducted the survey online, and one cause of missing data could be internet interruption or page loading failure. Another potential cause for some of the missing data could be the Soldier's unwillingness to answer questions because of the potential image it might project about the Soldier or their unit. Many Soldiers hesitate to conduct surveys because of the skepticism pertaining to anonymity and potentially having the information they provide used against them in some way.

## **PERSTEMPO**

PERSTEMPO consisted of five subcategories. These included the number of hours worked each week, number of deployments, number of TDY trips lasting longer than a week, number of training exercises, and months away from family. The PERSTEMPO measure had no reverse-scored items or scoring protocols. The study found that participants worked an average

of 42.56 hours each week, with the highest being 75 and the lowest 5.5 ( $SD = 14.15$ , Skewness = -0.40). The average number of TDY trips lasting longer than a week participants reported taking was 8, with the most being 35 trips and the lowest being 0 trips ( $SD = 6.82$ , range = 35, Skewness = 1.91). The average number of training exercises participants took was 5, with the least amount being 0 and the most being 17 ( $SD = 3.37$ , Skewness = 1.53). Finally, the average time participants were away from their families was 6.11 months, with the longest period being 12 months and the shortest being 0 months ( $SD = 3.44$ , Skewness = -0.06). See Appendix F; Table 2 for summarized scores on the PERSTEMPO questionnaire.

### **Psychological Stress Measure (PSM-9)**

The responses were coded from 1 (Not at all) to 8 (Extremely), with the reverse-scored items coded in reverse. The total of all coded numbers together identified the participant's perceived stress level. The majority of respondents, 36 (75%), met the cut-off score of 35 or higher, indicating moderate to high stress, with the lowest score being 12 and the highest 66 ( $M = 43.46$ ,  $SD = 12.07$ , and Skewness = -0.37). The majority of participants reported feeling at least quite a bit rushed or did not have enough time (75%), suffering from physical aches and pains (68.75%), and being stressed (62.5%). Even with a higher prevalence of stress, many participants responded very little to no difficulty controlling themselves (62.5%). Appendix F; Table 3 summarizes participants' responses to the PSM-9.

### **Burnout Measure**

The responses were coded from 1 (Never) to 7 (Always), with reverse-scored items coded in reverse. The sum of all coded items was divided by the number of answered items (21) to identify respondents who met the burnout cut-off. Twenty-six (55.32%) of respondents met the burnout cut-off score, with the minimum score being 37 and the highest score 121 ( $M = 77.40$ ,

$SD = 21.24$ , and Skewness = 0.38). The majority of participants reported higher rates of being tired (76.59%), being emotionally exhausted (63.83%), and rundown (58.7%). Additionally, many participants reported rarely to never feeling weak and susceptible (78.72%), that they cannot take it anymore (74.48%), and feeling worthless (74.46%). Appendix F; Table 4 summarizes participants' responses to the Burnout Measure.

### **Buss-Perry Aggression Questionnaire (AGQ)**

The responses were coded from 1 (extremely uncharacteristic) to 5 (Extremely Characteristic), with the reverse-scored items coded in reverse. The total of all coded responses identified the level of aggressive behavior. The mean score was 61.68, ranging between 26 and 86 ( $SD = 13.28$ , Skewness = -0.27). The majority of respondents reported that it was uncharacteristic to some degree that if they were pushed too far that they hit someone (91.49%), felt that they were a powder keg ready to explode (76.6%), and became so mad that they broke things (78.72%). All respondents reported that it was uncharacteristic to some degree that they could not control the urge to strike someone. Finally, the majority reported that it is to some degree characteristic to openly disagree with friends (87.23%), that they are an even-tempered person (80.85%), and that if someone hits them, they will hit back (70.21%). Appendix F; Table 5 summarizes participants' responses to the AGQ

### **Correlational Analysis**

Multiple Pearson correlation coefficients were computed to assess the relationship between the different aspects of PERSTEMPO and stress, burnout, and aggressive behavior. There were statistically significant, very strong to moderate positive relationships between stress and burnout ( $r(46) = .82, p = <.001$ ), stress and AGQ ( $r(46) = .59, p = <.001$ ), and finally burnout and AGQ ( $r(46) = .69, p = <.001$ ). There was a moderately positive relationship between

stress and WH/W ( $r(46) = .50, p = .25$ ). There were statistically significant weak positive relationships between burnout and WH/W ( $r(45) = .34, p = <.001$ ) and AGQ and WH/W ( $r(45) = .23, p = <.001$ ). There were statistically significant, very weak to no relationships between stress and M/A ( $r(47) = .13, p = <.001$ ), burnout and M/A ( $r(46) = .15, p = <.001$ ), AGQ and M/A ( $r(46) = .12, p = <.001$ ), stress and TE ( $r(47) = -.04, p = <.001$ ), burnout and TE ( $r(47) = -.05, p = <.001$ ), AGQ and TE ( $r(47) = -.00, p = <.001$ ), stress and TDY ( $r(47) = .06, p = <.001$ ), burnout and TDY ( $r(46) = -.06, p = <.001$ ), AGQ and TDY ( $r(46) = .06, p = <.001$ ), stress and DEP ( $r(47) = -.09, p = <.001$ ), Burnout and DEP ( $r(46) = .03, p = <.001$ ), and finally AGQ and DEP ( $r(46) = .05, p = <.001$ ). See Appendix F; Table 6 for the Pearson correlation coefficient results summary.

### Multiple Linear Regression Analyses

Multiple linear regression was used to determine if the five subcategories of PERSTEMPO, work hours per week (WH/W), number of deployments (DEP), number of TDY trips (TDY), number of training exercises (TE), and months away from family (MA) significantly predicted stress levels. The fitted regression model was  $\text{Stress} = 26.04 + 0.47*(\text{WH/W}) - 1.2*(\text{DEP}) - .07*(\text{TDY}) - 0.32*(\text{TE}) + 0.27*(\text{MA})$ . The overall regression was statistically significant ( $R^2 = .29, F(5, 42) = 3.39, p = 0.01$ ). WH/W significantly predicted stress levels ( $\beta = 0.47, p = <.001$ ). DEP did not significantly predict stress levels ( $\beta = -1.19, p = .42$ ), nor did TDY ( $\beta = -0.07, p = .81$ ), TE ( $\beta = -0.32, p = 0.54$ ), and MA ( $\beta = 0.27, p = 0.38$ ). See Appendix F; Table 7 for the multiple linear regression analysis results between PERSTEMPO and stress.

Multiple linear regression analysis was used to test if PERSTEMPO significantly predicted burnout. The fitted regression model was  $\text{burnout} = 51.85 + 0.63*(\text{WH/W}) +$

.92\*(DEP) – 0.59\*(TDY) – 0.20\*(TE) + 0.40\*(MA). The overall regression was not statistically significant ( $R^2 = 0.16$ ,  $F(5, 41) = 1.6$ ,  $p = .18$ ). WH/W significantly predicted burnout ( $\beta = 0.63$ ,  $p = .01$ ). DEP did not significantly predict stress levels ( $\beta = 0.92$ ,  $p = .75$ ), nor did TDY ( $\beta = -0.59$ ,  $p = .27$ ), TE ( $\beta = -0.20$ ,  $p = .85$ ), and MA ( $\beta = 0.40$ ,  $p = .51$ ). See Appendix F; Table 8 for the multiple linear regression analysis results between PERSTEMPO and burnout

Multiple linear regression analysis was used to test if PERSTEMPO significantly predicted aggressive behaviors. The fitted regression model was aggressive behaviors =  $49.06 + 0.24*(WH/W) + 0.18*(DEP) - 0.01*(TDY) - 0.17*(TE) + 0.43*(MA)$ . The overall regression was not statistically significant ( $R^2 = .08$ ,  $F(5, 41) = 0.75$ ,  $p = .59$ ). None of the individual subcategories significantly predicted aggressive behaviors; WH/W ( $\beta = 0.24$ ,  $p = .12$ ), DEP ( $\beta = 0.18$ ,  $p = .92$ ), TDY ( $\beta = -0.01$ ,  $p = .98$ ), TE ( $\beta = -0.17$ ,  $p = .80$ ), and MA ( $\beta = 0.43$ ,  $p = .27$ ). See Appendix F; Table 9 for the multiple linear regression analysis results between PERSTEMPO and aggressive behaviors.

Finally, multiple linear regression analysis was used to test if stress and burnout significantly predicted aggressive behaviors. The fitted regression model was aggressive behaviors =  $27.69 + .09*(\text{stress score}) + 0.39*(\text{burnout score})$ . The overall regression was statistically significant ( $R^2 = .47$ ,  $F(2, 44) = 20.05$ ,  $p = <.001$ ). The burnout measure score significantly predicted aggressive behaviors ( $\beta = 0.39$ ,  $p = <.001$ ). The PSM-9 score did not significantly predict aggressive behaviors ( $\beta = 0.08$ ,  $p = .68$ ). See Appendix F; Table 10 for the multiple linear regression analysis results between stress, burnout, and aggressive behaviors.

### Discussion

The study results helped better understand how PERSTEMPO affects Soldiers' stress levels, burnout, and aggressive behavior, which is missing in current academic literature. The

study found that elevated levels of PERSTEMPO, through increased work hours and time away from the Soldier's family, had a statistically significant relationship with stress levels and burnout. Additionally, stress and burnout levels are statistically related to aggressive behaviors. The relationship between PERSTEMPO, stress levels, and burnout and, subsequently, between stress levels, burnout, and aggressive behaviors confirms the hypothesis that longer periods of elevated PERSTEMPO increase stress levels and burnout, thus increasing the prevalence of aggressive behavior within the SOF community. PERSTEMPO indirectly affects aggressive behaviors through its effects on stress levels and burnout.

### **Implications**

There are many implications from this study that unit commanders should address or watch out for. Foremost is the need to address the stress and burnout Soldiers are suffering from down at the units, especially when most participants exceeded cutoff scores for burnout and even more reported moderate to severe stress levels. As elevated stress levels and burnout persist and increase as more requirements are placed on soldiers, they will be at an increased risk for domestic problems, degraded work performance, and increased aggressive behaviors, as shown in the study (Lampkin, 2019). The Army instituted the Comprehensive Soldier and Family Fitness (CSF2) program to improve Soldiers' mental, physical, emotional, and behavioral resilience and performance, reducing stress and burnout and their negative psychological effects (U.S., 2014).

The study identified that most respondents reported being even-tempered, able to control the urge to strike someone, and able to control their temper. These and other characteristics highlight the level of discipline instilled into the Soldiers and what is expected from SOF. However, what poses concern is the prevalence of respondents that would strike



back against another person, would allow their irritation to show while frustrated, and how often the respondents would openly disagree with people. While these characteristics would not, in and of themselves, be a cause for concern, they can lead to disastrous outcomes under certain circumstances.

SOF soldiers are often put into situations when they have to conduct meetings with high-level dignitaries, like ambassadors, heads of state, high-ranking governmental and military figures, and even heads of major corporations and businesses. While the respondents claim they can maintain their temper, the study showed that the prevalence of aggressive behaviors increases as stress and burnout levels increase. Soldiers, especially SOF Soldiers, tend to push through any issues they have, and this mentality could result in SOF soldiers reaching a breaking point during one of these meetings and “snapping” either in the meeting or outside somewhere. This can potentially cause diplomatic issues or international incidents because SOF Soldiers are considered representatives of the U.S. government, and any negative behaviors could potentially damage international relationships between countries or spark conflicts.

### **Similarities and Differences**

The current study found very similar and different results from prior studies while filling in some gaps in other studies. For starters, like Bryant-Lees et al.’s (2021) study and Chappelle et al.’s (2019) study, the current study also found that longer working hours and workloads caused higher burnout and negative psychological outcomes. Additionally, the current study expanded the generalizability of their findings to include SOF Soldiers and SOF Enablers and confirmed one of the potential negative outcomes of increased stress and burnout, aggressive behaviors. Like Elliman et al.’s (2021) study, the current study found that most stress comes

from long work hours. Finally, similar to Doyle et al.'s (2021) results, stress levels had a positive relationship with anger but added the effect of burnout as another potential cause for increased anger.

Elliman et al.'s (2021) study examining drill sergeants showed a lower percentage of participants meeting burnout screening criteria and aggression than the current study found, even when they share similar work demands. This difference might be attributed to the difference in assessment tools utilized, as Elliman et al. used a single self-report question, and the current study used a more comprehensive assessment tool to gauge burnout. Next, Jacobs and Keegan (2022) found that emotional awareness is a protective factor against burnout; however, the current study found that many respondents had higher levels of burnout while still showing good emotional awareness, as seen in responses in the AGQ. This difference might be contributed to the difference in burnout levels between the two populations, the differences in emotional awareness improvement training available to the different populations, or the stigmas to seeking assistance or focus on mental health might be higher within the SOF community than first responders which hinder Soldiers' opportunities to decrease stress and burnout levels. Although not a complete difference, Bhardwaj et al. (2019) did not find a strong relationship between their main independent variable, PTSD, and aggression; however, in the current study, PERSTEMPO showed a strong indirect relationship with aggression. Additionally, expanding the scope that PERSTEMPO has an indirect effect on aggressive behavior through stress and burnout could lead to further exploration of how it would interact with those suffering from PTSD.

### **Limitations**

There are some minor limitations to the current study's findings. The first limitation falls within the methodology of the study. The study was conducted remotely through email

and online survey means. Although the email reached a wider audience than face-to-face recruitment, very few people responded and conducted the study. This can reduce the accuracy of the findings as respondent outliers could skew the results. A more reliable and validated method to gauge PERSTEMPO would also benefit future studies. Although PERSTEMPO comprises all military requirements that take Soldiers away from home, finding an effective way to quantify that in a standard way would help future studies identify the effects it has on Soldiers and how unit commanders can combat those issues.

Although the distribution between participating SOF soldiers and SOF enablers and the demographic characteristics ratios reflects those of the research population, the sample size was smaller than desired and focused on a single SOF unit. The smaller sample size risks reducing the reliability of the findings, as more data points would provide more accurate results and protect against outlier skewing. Additionally, due to unforeseen complications, SOF Soldier participation comprised only one CMF. This reduces the finding's generalizability when applied to all SOF soldiers. Each SOF unit and CMF has different mission requirements, stressors, and resiliency programs that can affect Soldiers' stress, burnout, and prevalence of aggressive behaviors.

## **Conclusions**

SOF units are often seen as the "tip of the spear" and are sent into regions with minimal command support and oversight. This is why it is imperative that these professionals are focused and ready to accomplish their mission. However, stress levels, burnout, and aggressive behaviors reported in the study pose potential risks to military operations across the globe. Unfortunately, all it could take is one miss spoken word or action at the wrong moment could lead to dire consequences that would not be easily

remedied. The study's findings show that the resiliency programs set up in the unit are ineffective in addressing and combating Soldiers' stress levels and burnout. It is unrealistic to recommend that unit commanders stop operations to address these issues, nor is it realistic to tell our adversaries to allow our Soldiers a breather. However, it is realistic that, moving forward, commanders evaluate their training plans to ensure they do not burnout out their Soldiers before they even get to the fight. Additionally, unit commanders need to take the time to reevaluate the effectiveness of their unit resiliency program and ensure they are not "pencil whipped" and just say they are completed. Finally, future researchers should delve more into the various effects PERSTEMPO has on Soldier's psychological and emotional health rather than the generalized OPTEMPO that only shows requirements at the unit level.

### References

- American Psychological Association. (2023). *APA Dictionary of Psychology*. American Psychological Association. Retrieved February 9, 2023, from <https://dictionary.apa.org>
- Barczak-Scarboro, N. E., Cole, W. R., DeLellis, S. M., Means, G. E., Kane, S. F., Lynch, J. H., & Mihalik, J. P. (2020). Mental health symptoms are associated with mild traumatic brain injury history in active Special Operations Forces (SOF) combat and combat support Soldiers. *Military Medicine*, *185*(11/12), e1946–e1953. <https://doi.org/10.1093/milmed/usaa167>
- Bartol, C. R., & Bartol, A. M. (2021). *Criminal behavior: a psychological approach* (12th ed.). Pearson.
- Bhardwaj, V., Angkaw, A. C., Franceschetti, M., Rao, R., & Baker, D. G. (2019). Direct and indirect relationships among posttraumatic stress disorder, depression, hostility, anger, and verbal and physical aggression in returning veterans. *Aggressive Behavior*, *45*(4), 417–426. <https://doi.org/10.1002/ab.21827>
- Blakey, S. M., Love, H., Lindquist, L., Beckham, J. C., & Elbogen, E. B. (2018). Disentangling the link between posttraumatic stress disorder and violent behavior: Findings from a nationally representative sample. *Journal of Consulting and Clinical Psychology*, *86*(2), 169–178. <https://doi.org/10.1037/ccp0000253>
- Bryant-Lees, K. B., Prince, L., Goodman, T., Chappelle, W., & Thompson, B. (2021). Sources of stress and psychological health outcomes for remotely piloted aircraft operators: A comparison across career fields and major commands. *Military Medicine*, *186*(7–8), e784–e795. <https://doi.org/10.1093/milmed/usaa257>

- Buss, A. H., & Perry, M. P. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology*, 63, 452-459.
- Castro, C. A., & Adler, A. (2012, November 15). *The impact of operation tempo: Issues in measurement - researchgate*. ResearchGate. Retrieved February 11, 2023, from [https://www.researchgate.net/publication/235094044\\_The\\_Impact\\_of\\_Operation\\_Tempo\\_Issues\\_in\\_Measurement](https://www.researchgate.net/publication/235094044_The_Impact_of_Operation_Tempo_Issues_in_Measurement)
- Chappelle, W. L., Prince, L. R., & Goodman, T. M. (2019). Sources of stress and psychological health outcomes among U.S. air force total force distributed common ground system operators. *Military Medicine*, 184(Suppl. 1), 451–460.
- Clarke, R. D. (2022, April 5). *Statement of general Richard D. Clarke, USA commander, United States ...* Retrieved February 9, 2023, from [https://www.armed-services.senate.gov/imo/media/doc/2022%20USSOCOM%20Posture%20-%20Clarke%20-%20SASC%20\(5APR22\)%20\(FINAL\).pdf](https://www.armed-services.senate.gov/imo/media/doc/2022%20USSOCOM%20Posture%20-%20Clarke%20-%20SASC%20(5APR22)%20(FINAL).pdf)
- Dailey, N. S., Smith, R., Vanuk, J. R., Raikes, A. C., & Killgore, W. D. S. (2018). Resting-state functional connectivity as a biomarker of aggression in mild traumatic brain injury. *Neuro report*, 29(16), 1413–1417. <https://doi.org/10.1097/WNR.0000000000001127>
- Doody, C. B., Egan, J., Bogue, J., & Sarma, K. M. (2022). Military personnels' experience of deployment: An exploration of psychological trauma, protective influences, and resilience. *Psychological Trauma: Theory, Research, Practice, and Policy*, 14(4), 545–557. <https://doi.org/10.1037/tra0001114>
- Doyle, J. N., Campbell, M. A., and Gryshchuk, L. (2021). Occupational stress and anger: Mediating effects of resiliency in first responders. *J. Police Crim. Psychol.* 36, 463–472. <https://doi.org/10.1007/s11896-021-09429-y>

- Elliman, T. D., Schwalb, M. E., Krauss, S., Mikoski, P., & Adler, A. B. (2021). U.S. Army drill sergeants: Stressors, behavioral health, and mitigating factors. *Military Medicine*, 186(7-8) 767-776. <https://doi.org/10.1093/milmed/usab002>
- Foy, C. (2019, August 15). *PTSD in the Special Forces: Everything You Need To Know*. FHE Health – Addiction & Mental Health Care. Retrieved February 21, 2023, from <https://fherehab.com/news/ptsd-in-the-special-forces/>
- Gallaway, M. S., Fink, D. S., Millikan, A. M., & Bell, M. R. (2012). Factors Associated With Physical Aggression Among US Army Soldiers. *Aggressive Behavior*, 38(5), 357–367. <https://doi.org/10.1002/ab.21436>
- Jacobs, E., & Keegan, R. J. (2022). Sustaining optimal performance when the stakes could not be higher: Emotional awareness and resilience in emergency service personnel (with learnings for elite sport). *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.891585>
- Julia, N. (2023, January 9). *Post-traumatic stress disorder (PTSD) statistics: 2023 update*. CFAH. Retrieved February 21, 2023, from <https://cfah.org/ptsd-statistics/>
- Lampkin, D. R. (2019, April 5). *The Army's ready and resilient program*. Army University Press. <https://www.armyupress.army.mil/Journals/NCO-Journal/Archives/2019/April/R2-Program/>
- Lemyre L. & Lalande-Markon M. (2009). Psychological stress measure (PSM-9): Integration of an evidence-based approach to assessment, monitoring, and evaluation of stress in physical therapy practice. *Physiotherapy Theory & Practice*, 25(5/6) 453-462. <https://doi.org/10.1080/09593980902886321>

Looti, M. (2022, December 12). *Buss-Perry Aggression Questionnaire (AGQ)*.

PSYCHOLOGICAL SCALES. Retrieved April 15, 2023, from

<https://scales.arabpsychology.com/s/buss-perry-aggression-questionnaire-agq/>

Looti, M. (2023, February 19). *Burnout measure*. PSYCHOLOGICAL SCALES. Retrieved

April 14, 2023, from <https://scales.arabpsychology.com/s/burnout-measure/>

Management of deployments of members and measurement and data collection of unit operating and personnel tempo, 10 U.S.C. § 991 (2022).

[https://uscode.house.gov/view.xhtml?req=\(title:10%20section:991%20edition:prelim\)#so  
urcecredit](https://uscode.house.gov/view.xhtml?req=(title:10%20section:991%20edition:prelim)#sourcecredit)

Military.com. (2021, July 9). *Special Operations Command (SOCOM): Overview*. Military.com.

Retrieved February 9, 2023, from [https://www.military.com/special-operations/socom-  
special-operations-command.html](https://www.military.com/special-operations/socom-special-operations-command.html)

Military.com. (2021, July 8). *Army Special Forces training*. Military.com. Retrieved February

24, 2023, from [https://www.military.com/special-operations/army-special-forces-  
training.html](https://www.military.com/special-operations/army-special-forces-training.html)

Miller, L. A., & Lovler, R. L. (2020). *Foundations of Psychological Testing: A Practical Approach* (6th ed.). SAGE.

Mosti, C. & Coccaro, E. F. (2018). Mild traumatic brain injury and aggression, impulsivity, and history of other- and self-directed aggression. *Neuropsychiatry* 30(3), 220–227.

<https://doi.org/10.1176/appi.neuropsych.17070141>

Nevid, J. S., Rathus, S. A., & Greene, B. (2021). *Abnormal psychology in a Changing World* (11th ed.). Pearson.

Pines, A., & Aronson, E. (1988). *Career burnout: Causes and cures*. New York: Free Press.



SOCOM Public Affairs. (2020). *SOCOM Fact Book 2020*. socom.mil. Retrieved February 9, 2023, from <https://www.socom.mil/FactBook/2020%20Fact%20Book.pdf>

Test Stress. (2023). *Stress, stress test, Burnout, anxiety, depression, personality*. Stress Test: Do you Have Psychological Stress? - Free Stress Test. Retrieved April 9, 2023, from <https://www.test-stress.com/en/psychological-stress-test.php#:~:text=The%20MSP-9%20test%20%28Psychological%20stress%20measure%29%20is%20designed,of%20your%20stress%20%28see%20an%20example%20of%20results%29>

U.S. Department of the Army. (2014, June 19). *Comprehensive Soldier and Family Fitness: Army Regulation 350-53*

U.S. Department of Defense. (2022, November 28). Active Duty United States Army personnel from 1995 to 2021 [Graph]. In *Statista*. Retrieved February 08, 2023, from <https://www-statista-com.libauth.purdueglobal.edu/statistics/232339/us-army-personnel-numbers/>

Wilk, J. E., Quartana, P. J., Clarke-Walper, K., Kok, B. C., & Riviere, L. A. (2015). Aggression in US Soldiers post-deployment: Associations with combat exposure and PTSD and the moderating role of trait anger. *Aggressive Behavior*, *41*(6), 556–565.  
<https://doi.org/10.1002/ab.21595>

## Appendix A

### Letter of Authorization from Research Site



Institutional Review Board  
2550 Northwestern Ave Suite 1100  
West Lafayette, IN 47906

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#### Expedited Review – Final Approval

JuLY 7, 2023

Mr. Anthony Sheets  
Purdue University Global  
[anthony sheets1@student.purdueglobal.edu](mailto:anthony sheets1@student.purdueglobal.edu)

Re: Protocol #23-59– “**Stress, Burnout, and Aggression: The Effects of High Personnel Tempo (PERSTEMPO) on Special Operations Forces (SOF).**”

Dear Mr. Sheets:

Your proposed project was reviewed by the Purdue University Global Institutional Review Board (IRB) for the protection of human subjects under an Expedited Category. It was determined that your project activity meets the expedited criteria as defined by the DHHS Regulations for the Protection of Human Subjects (45 CFR 46), and is in compliance with this institution’s Federal Wide Assurance 00010056.

Please notify the IRB immediately of any proposed changes that may affect the expedited status of your project. You should report any unanticipated problems involving risks to human subjects or others to the IRB.

If you have any questions or need additional information, please contact feel free to contact me at [spettine@purdueglobal.edu](mailto:spettine@purdueglobal.edu). I wish you well with your project!

Sincerely,

*Susan B. Pettine*

Susan B. Pettine, Ph.D., CBM  
IRB Chair  
Purdue University Global

cc: Dr. Gabrielle Blackman

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## **Appendix B**

### Research Announcement

My name is Anthony Sheets.

I am conducting research through Purdue University Global to obtain a Master's

Degree in Psychology.

The research explores the effects of high PERSTEMPO on Soldiers' perceived stress levels, burnout, and aggressive behavior within SOF.

If you are an enlisted soldier, Noncommissioned Officer, or commissioned officer, assigned to Redacted for Privacy, and are interested in being part of this study, please read through the attached informed consent form. After reading through the informed consent form and wish to participate in the study, click on the link below to take the anonymous survey for the study:

Redacted for Privacy

If you have any questions or concerns about the study, feel free to reach out to the researcher at:

Redacted for Privacy

The survey will take about 10-15 minutes of your time.

**Appendix C**  
Purdue University Global  
Consent for Participation in Research  
“Stress, Burnout, and Aggression: The Effects of High Personnel Tempo (PERSTEMPO) on  
Special Operations Forces (SOF)”

**CONCISE SUMMARY**

The study examines the effects of high PERSTEMPO on Soldiers’ perceived stress levels, burnout, and aggressive behavior in SOF. Participants will be asked to complete an anonymous survey covering military requirements and work-life balance, sources of stress, burnout, and instances and types of aggressive behavior that will take 10-15 minutes. There is no physical or psychological risk to participating in the study. The study will benefit unit commanders through risk mitigation planning and improving the effectiveness of unit resiliency programs to help their Soldiers. Participants have the right to withdraw at any point during the study without risk of repercussions.

**Why am I being asked?**

You are being asked to participate in a research study about the effects of high PERSTEMPO on Soldiers’ perceived stress levels, burnout, and aggressive behavior in SOF. This research study is being conducted by Anthony Sheets, a Master’s of Science in Psychology student at Purdue University Global and a Noncommissioned Officer of the U.S. Army. You have been asked to participate in the research because you are a soldier assigned to either the 4<sup>th</sup> Psychological Operations Group (Airborne) or 10<sup>th</sup> Special Forces Group (Airborne) and may be eligible to participate. We ask that you read this form and ask any questions you may have before agreeing to be in the research.

Your participation in this research is voluntary. Your decision on whether or not to participate will not affect your current or future relations with Purdue University Global, your unit, or the U.S. Army. If you decide to participate, you can withdraw anytime without affecting that relationship.

**What is the purpose of this research?**

The purpose of this research is to examine the effects high PERSTEMPO has on Soldiers’ perceived stress levels, burnout, and aggressive behavior within SOF.

**What procedures are involved?**

If you agree to be in this research, we would ask you to do the following things:

- A. Participants need to read through the informed consent form and, once finished, click on the link located in the research announcement to participate in the anonymous survey.
  - a. If there are any questions or concerns regarding the survey, participants can contact the researcher at the email address in the research announcement.
- B. The survey should take 10-15 minutes of the participants' time.
- C. At least 200 participants from two different units will be involved in the survey.
- D. Once the participant has completed the survey, their part of the study is complete, and if they have any questions or concerns, they can reach out to the researcher at the following address: [anthony sheets1@student.purdueglobal.edu](mailto:anthony sheets1@student.purdueglobal.edu).

### **What are the potential risks and discomforts?**

The research should not pose any physical or psychological risk or discomfort to the participants. There is a minor risk that participants experiencing emotional distress at work might get triggered due to the nature of the survey questions, or the feelings of guilt over admitting to the aggressive behaviors that they exhibited. If participants are feeling any psychological or emotional distress they can reach out to The Military Crisis Line, available 24/7 for free at 1-800-273-8255, or talk to their unit chaplain.

### **Are there benefits to taking part in the research?**

There are no direct benefits to the study participants; however, there are some indirect benefits. The results from the study could provide valuable insight into how constant high PERSTEMPO negatively affects Soldiers. This insight would provide commanders valuable insight for planning operations and when to reduce excess requirements. Additionally, the study could indirectly show the effectiveness of each unit's resiliency program and other programs designed to assist Soldiers in reducing stress.

### **What about privacy and confidentiality?**

No one other than the research team will know you are a research subject because the survey is anonymous. No information about you or provided by you during the research can ever be disclosed to others because no information that can identify you as an individual will be

collected. When the study results are published or discussed at conferences, no information that could ever reveal your identity will be included. The only data showing that you participated in the research will be the signed consent form which only has your name and signature. This form and the survey data will be stored on an encrypted flash drive using an AES encryption algorithm. This algorithm uses encryption that U.S. government departments and agencies usually use to protect classified information up to the Top Secret level. The survey will be stored on the encrypted flash drive for five years, after which the data will be destroyed

**Will I be reimbursed for any of my expenses or paid for my participation in this research?**

At this time, no reimbursement is available for participation in this research. Additionally, participants will not receive any form of payment or gift for participating in the study.

**Can I withdraw from the study?**

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences. You may also refuse to answer any questions you don't want to answer and remain in the study.

**Whom should I contact if I have questions?**

The researcher conducting this study is Anthony Sheets. You may ask any questions you have now. If you have questions later, you can contact the researcher, Anthony Sheets at [anthonyssheets642@gmail.com](mailto:anthonyssheets642@gmail.com). You may also contact the researcher's thesis adviser, Dr. Gabrielle Blackman, Ph.D., at [gblackman@purdueglobal.edu](mailto:gblackman@purdueglobal.edu).

**What are my rights as a research subject?**

If you feel you have not been treated according to the descriptions in this form, or you have any questions about your rights as a research subject, you may contact the Institutional Review Board (IRB) at Purdue University Global through the following representative:

Susan Pettine, IRB Chair

Email: [spettine@purdueglobal.edu](mailto:spettine@purdueglobal.edu)

Remember: Your participation in this research is voluntary. Your decision on whether or not to participate will not affect your current or future relations with Purdue University Global, your unit, or the U.S. Army. If you decide to participate, you can withdraw anytime without affecting that relationship.

You may keep a copy of this form for your information and your records.

## Appendix D

**Table 1.**

*Survey Development Plan*

**Note:** If you are creating your own survey, please use the following (refer to your PS505 Miller & Lovler textbook for additional guidance). If you are not developing your own survey, questionnaire, or interview questions, you can simply delete this section.

Survey Development Plan (based on Miller & Lovler, 2015):

For each variable, skill, behavior, etc... that you would like to measure, include an objective statement, operational definition, and brief description of the number and type of items you will include in your survey. Use this to plan your survey, then create your survey and include it in the Appendix section.

Objective	Operational Definition	Number and Type of Items
To assess personnel tempo (PERSTEMPO)	<ul style="list-style-type: none"> <li>- I define PERSTEMPO as the frequency servicemembers conduct military activities that prevent them from being with their families. These could include:               <ul style="list-style-type: none"> <li>- · Deployments</li> <li>- · Training exercises</li> <li>- · Temporary duty (TDY) assignments</li> <li>- · Hours spent at the office per week</li> </ul> </li> </ul>	I will measure this objective using # open-ended items. These items comprise Q11 – Q14.



## Appendix E

### Informed Consent and screening Questions

1. Have you read through the informed consent form and agree to participate in the study?
  - a. Yes
  - b. No
2. Are you serving in a unit within 4th POG (A) or 10th SFG (A)?
  - a. Yes
  - b. No (disqualifying answer)
3. Are you an enlisted soldier, noncommissioned officer, or commissioned officer in the U.S. Army?
  - a. Yes
  - b. No (Disqualifying answer)

### Demographics Questionnaire

4. What is your race/ethnicity?
  - a. American Indian or Alaskan native
  - b. Asian/Pacific Islander
  - c. Black or African American
  - d. Hispanic
  - e. White/Caucasian
  - f. Multiple ethnicities/Other (please specify): \_\_\_\_\_
  - g. Prefer Not to Answer
5. What is your gender identity?

- a. Woman
  - b. Man
  - c. Transgender
  - d. Non-binary/non-conforming
  - e. Other (please specify): \_\_\_\_\_
  - f. Prefer Not to Answer
6. What is your age?
- a. \_\_\_\_ <<let them type in the number
7. What is the highest level of education you have attained:
- a. High School degree or equivalent (GED)
  - b. Some college, but no degree
  - c. Associate degree
  - d. Bachelor's degree
  - e. Master's degree
  - f. Doctoral degree
  - g. Other (please specify): \_\_\_\_\_
8. What is your relationship status?
- a. Single
  - b. In a relationship (not married)
  - c. Separated
  - d. Married
  - e. Widowed
  - f. Other (please specify): \_\_\_\_\_

- g. Prefer Not to Answer
9. Do you have children at home?
- a. Yes
  - b. No
  - c. Prefer Not to Answer
10. What unit are you assigned to (Group and Battalion)?
- a. \_\_\_\_ <<let them type the answer
11. What is your rank?
- a. E1-E4
  - b. E5-E6
  - c. E7-E9
  - d. O1-O3
  - e. O4-O6
  - f. W1-W4
12. What is your MOS?
- a. \_\_\_\_ <<let them type the answer
13. How many years have you served in the military?
- a. \_\_\_\_\_<<let them type the number

**PERSTEMPO Questions**

1. How many hours per week do you work while in garrison?
- a. \_\_\_\_<<let them type in the number
2. How many operational or combat deployments have you done in the last five years?
- a. \_\_\_\_<<let them type in the number



I feel preoccupied, tormented, or worried.								
I feel confused; my thoughts are muddled; I lack concentration; I cannot focus.								
I feel full of energy and keenness:								
I feel a great weight on my shoulders:								
I have difficulty controlling my reactions, emotions, moods, or gestures:								
I feel stressed:								

*The questions for the PSM-9 were attained through public domain (Test, 2023)*

**Burnout Measure**

**Indicates the degree to which each statement applies to how you feel about work:**

Questions	Never	Once in a great while	Rarely	Sometimes	Often	Usually	Always
Being tired							
Being weary							
Feeling depressed							
Being troubled							
Having a good day							
Feeling disillusioned and resentful							
Being physically exhausted							
Being emotionally exhausted							
Being weak and susceptible							
Being happy to get sick							

Being “wiped out.”							
Feeling hopeless							
“Cannot take it anymore.”							
Feeling rejected							
Being unhappy							
Feeling optimistic							
Feeling run-down							
Feeling energetic							
Feeling trapped							
Feeling anxious							
Feeling worthless							

*The questions for the Burnout measure questions were secured under a CC-BY license*

[\(https://creativecommons.org/licenses/by/4.0/\)](https://creativecommons.org/licenses/by/4.0/) (Looti, 2023).

**Modified Buss-Perry Aggression Questionnaire (AGQ)**

**Indicate how characteristic or uncharacteristic each statement describes you over the past year.**

	Extremely Uncharacteristic  1	Somewhat Uncharacteristic  2	Neither  3	Somewhat Characteristic  4	Extremely Characteristic  5
Some of my friends think I am a hothead.					
If I have to resort to violence to protect my rights, I will.					
When people are especially nice to me, I wonder what they want.					
I tell my friends openly when I disagree with them.					
I have become so mad that I have broken things.					
I can't help getting into arguments when people disagree with me.					



<p>I wonder why sometimes I feel so <a href="#">bitter</a> about things.</p>					
<p>Once in a while, I can't control the urge to strike another person.</p>					
<p>I am an even-tempered person.</p>					
<p>I am suspicious of overly friendly strangers.</p>					
<p>I have threatened people I know.</p>					
<p>I flare up quickly but get over it quickly.</p>					
<p>Given enough provocation, I may hit another person.</p>					
<p>When people annoy me, I may tell them what I think of them.</p>					

<p>I am sometimes eaten up with <a href="#">jealousy</a>.</p>					
<p>I can think of no good <a href="#">reason</a> for ever hitting a person.</p>					
<p>At times I feel I have gotten a raw deal out of life.</p>					
<p>I have trouble controlling my temper.</p>					
<p>When frustrated, I let my irritation show.</p>					
<p>I sometimes feel that people are laughing at me behind my back.</p>					
<p>I often find myself disagreeing with people.</p>					
<p>If somebody hits me, I hit back.</p>					

I sometimes feel like a powder keg ready to explode.					
Other people always seem to get the breaks.					
There are people who pushed me so far that we came to blows.					

*The current questionnaire was modified from the Buss-Parry Aggression Questionnaire (AGQ) that was under a CC-BY license (<https://creativecommons.org/licenses/by/4.0/>) (Looti, 2022)*

## Appendix F

**Table 1 (Demographic Information)***Sample Demographic Information (N=51)*

Measure	% (N)
<b>Age (N = 50)</b>	
20-25	18% (9)
26-30	34% (17)
31-35	18% (9)
36-40	24% (12)
41-50	6% (3)
<b>Marital Status (N = 51)</b>	
Single	25.49% (13)
In a relationship (not married)	9.80% (5)
Separated	9.80% (5)
Married	50.98% (26)
Prefer not to answer	1.96% (1)
Other (please specify)	1.96% (1)
<b>Race and Ethnicity (N = 51)</b>	
White or Caucasian	78.43% (40)
Hispanic or Latino	7.84% (4)
Asian or Asian American	1.96% (1)
Native Hawaiian or Pacific Islander	5.88% (3)

Another Race	5.88% (3)
Gender Identity ( <i>N</i> = 51)	
Male	82.35% (42)
Woman	15.69% (8)
Other	1.96% (1)
Children at home ( <i>N</i> = 51)	
Yes	37.25% (19)
No	62.75% (32)
Education Level ( <i>N</i> = 51)	
High School Degree or GED)	3.92% (2)
Some college, but no degree	13.73% (7)
Associate's degree	17.65% (9)
Bachelor's degree	45.10% (23)
Master's Degree	17.65% (9)
Other (please specify	1.96% (1)
Rank ( <i>N</i> = 51)	
E1-E4	7.84% (4)

E5-E6	39.22% (20)
E7-E9	31.37 (16)
O1-O3	13.73 (7)
O4-O6	7.84 (4)
SOF status ( <i>N</i> = 50)	
SOF	88% (44)
SOF Enabler	12% (6)
Years of Service ( <i>N</i> = 51)	
1-5 years	25.50% (13)
6-10	25.50% (13)
11-15	27.45% (14)
16-20	17.65% (9)
21+	3.92% (2)

**Table 2 (Responses to PERSTEMPO Questionnaire)**

*Responses to PERSTEMPO Questionnaire (N = 49)*

Subscales	Mean	SD	Min	Max	Range	Skewness
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Work Hours per week ( $N = 48$ )	42.6	14.2	5.5	75	69.5	-0.40
Number of deployments ( $N = 49$ )	1.9	1.2	0	4	4	0.08
TDY Trips ( $N = 49$ )	7.8	6.8	0	35	35	1.91
Training Exercises ( $N = 49$ )	4.7	3.4	0	17	17	1.53
Months away from family ( $N = 49$ )	6.1	3.5	0	12	12	-0.06

**Table 3 (Responses to PSM-9 Questionnaire)***Responses to PSM-9 Questionnaire ( $N = 48$ )*

Items	Not at all	Not really	Very little	A bit	Somewhat	Quite a Bit	Very much	Extremely
I feel calm	4.17% 2	8.33% 4	4.17% 2	27.08% 13	29.17% 14	16.67% 8	6.25% 3	4.17% 2
I feel rushed; I do not have enough time.	2.08% 1	4.17% 2	8.33% 4	10.42% 5	14.58% 7	25.00% 12	22.92% 11	12.50% 6
I have physical aches and pains: sore back, headache, stiff neck, or stomach ache.	4.17% 2	2.08% 1	10.42% 5	6.25% 3	8.33% 4	22.92% 11	16.67% 8	29.17% 14
I feel preoccupied, tormented, or worried	6.25% 3	10.42% 5	14.58% 7	16.67% 8	22.92% 11	16.67% 8	8.33% 4	4.17% 2

I feel confused; my thoughts are muddled; I lack concentration; I cannot focus.	12.50% 6	6.25% 3	22.92% 11	22.92% 11	18.75% 9	10.42% 5	6.25% 3	0.00% 0
I feel full of energy and keenness	10.42% 5	20.83% 10	12.50% 6	20.83% 10	20.83% 10	10.42% 5	4.17% 2	0.00% 0
I feel a great weight on my shoulders.	4.17% 2	6.25% 3	10.42% 5	14.58% 7	25.00% 12	10.42% 5	16.67% 8	12.50% 6
I have difficulty controlling my reactions, emotions, moods, or gestures.	16.67% 8	31.25% 15	14.58% 7	12.50% 6	12.50% 6	4.17% 2	4.17% 2	4.17% 2
I feel stressed.	4.17% 2	4.17% 2	10.42% 5	10.42% 5	8.33% 4	22.92% 11	18.75% 9	20.83% 10

*The questions for the PSM-9 were attained through public domain (Test, 2023)*

**Table 4 (Responses to the Burnout Measure Questionnaire)**

*Responses to the Burnout Measure Questionnaire (N = 47)*

Items	Never	Once in a great while	Rarely	Sometimes	Often	Usually	Always
Being tired	0.00% 0	2.13% 1	6.38% 3	14.89% 7	27.66% 13	34.04% 16	14.89% 7



Being weary	2.13% 1	2.13% 1	19.15% 9	25.53% 12	27.66% 13	17.02% 8	6.38% 3
Feeling depressed	13.04% 6	13.04% 6	19.57% 9	30.43% 14	4.35% 2	10.87% 5	8.70% 4
Being troubled	6.38% 3	12.77% 6	17.02% 8	29.79% 14	21.28% 10	8.51% 4	4.26% 2
Having a good day	2.13% 1	4.26% 2	12.77% 6	38.30% 18	23.40% 11	19.15% 9	0.00% 0
Feeling disillusioned and resentful	10.64% 5	19.15% 9	10.64% 5	21.28% 10	17.02% 8	14.89% 7	6.38% 3
Being physically exhausted	2.13% 1	8.51% 4	19.15% 9	23.40% 11	21.28% 10	12.77% 6	12.77% 6
Being emotionally exhausted	2.13% 1	6.38% 3	10.64% 5	17.02% 8	31.91% 15	10.64% 5	21.28% 10
Being weak and susceptible	23.40% 11	34.04% 16	21.28% 10	4.26% 2	10.64% 5	0.00% 0	6.38% 3

Being happy to get sick	53.19% 25	12.77% 6	8.51% 4	12.77% 6	4.26% 2	4.26% 2	4.26% 2
Being "wiped out"	10.87% 5	10.87% 5	6.52% 3	26.09% 12	23.91% 11	8.70% 4	13.04% 6
Feeling hopeless	26.09% 12	32.61% 15	6.52% 3	15.22% 7	8.70% 4	4.35% 2	6.52% 3
"Cannot take it anymore"	40.43% 19	12.77% 6	21.28% 10	4.26% 2	12.77% 6	2.13% 1	6.38% 3
Feeling rejected	38.30% 18	23.40% 11	6.38% 3	12.77% 6	2.13% 1	8.51% 4	8.51% 4
Being unhappy	10.64% 5	19.15% 9	8.51% 4	17.02% 8	21.28% 10	8.51% 4	14.89% 7
Feeling optimistic	6.38% 3	21.28% 10	19.15% 9	23.40% 11	14.89% 7	8.51% 4	6.38% 3
Feeling run-down	4.35% 2	8.70% 4	13.04% 6	15.22% 7	32.61% 15	17.39% 8	8.70% 4
Feeling energetic	4.35% 2	15.22% 7	36.96% 17	13.04% 6	23.91% 11	4.35% 2	2.17% 1

Feeling trapped	19.57% 9	13.04% 6	10.87% 5	19.57% 9	15.22% 7	4.35% 2	17.39% 8
Feeling anxious	6.38% 3	19.15% 9	6.38% 3	21.28% 10	21.28% 10	14.89% 7	10.64% 5
Feeling worthless	44.68% 21	23.40% 11	6.38% 3	10.64% 5	0.00% 0	6.38% 3	8.51% 4

*The questions for the Burnout measure questions were secured under a CC-BY license*

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**Table 5 (Summarized Responses to the Modified Buss-Perry Aggression Questionnaire)**

*Summarized Responses to the Modified Buss-Perry Aggression Questionnaire (AGQ) (N = 47)*

Items	Extremely Uncharacteristic	Somewhat Uncharacteristic	Neither	Somewhat Characteristic	Extremely Characteristic
Some of my friends think I am a hothead.	40.43% 19	23.40% 11	8.51% 4	25.53% 12	2.13% 1
If I have to resort to violence to protect my rights, I will.	40.43% 19	6.38% 3	12.77% 6	19.15% 9	21.28% 10
When people are especially nice to me, I wonder what they want	12.77% 6	21.28% 10	10.64% 5	34.04% 16	21.28% 10

I tell my friends openly when I disagree with them	6.38% 3	2.13% 1	4.26% 2	53.19% 25	34.04% 16
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I have become so mad that I have broken things	59.57% 28	19.15% 9	4.26% 2	8.51% 4	8.51% 4
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I can't help getting into arguments when people disagree with me	34.04% 16	38.30% 18	17.02% 8	10.64% 5	0.00% 0
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I wonder why sometimes I feel so bitter about things.	31.91% 15	10.64% 5	17.02% 8	27.66% 13	12.77% 6
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Once in a while, I can't control the urge to strike another person.	89.36% 42	10.64% 5	0.00% 0	0.00% 0	0.00% 0
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I am an even-tempered person.	0.00% 0	8.51% 4	10.64% 5	44.68% 21	36.17% 17
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I am suspicious of overly friendly strangers.	10.64% 5	12.77% 6	12.77% 6	38.30% 18	25.53% 12
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I have threatened people I know.	78.72% 37	10.64% 5	4.26% 2	4.26% 2	2.13% 1
I flare up quickly but get over it quickly	36.17% 17	21.28% 10	19.15% 9	10.64% 5	12.77% 6
Given enough provocation, I may hit another person.	48.94% 23	10.64% 5	17.02% 8	17.02% 8	6.38% 3
When people annoy me, I may tell them what I think of them	21.28% 10	19.15% 9	10.64% 5	36.17% 17	12.77% 6
I am sometimes eaten up with jealousy.	59.57% 28	21.28% 10	14.89% 7	2.13% 1	2.13% 1
I can think of no good reason for ever hitting a person.	23.40% 11	27.66% 13	19.15% 9	12.77% 6	17.02% 8
At times I feel I have gotten a raw deal out of life	29.79% 14	14.89% 7	25.53% 12	23.40% 11	6.38% 3
I have trouble controlling my temper.	51.06% 24	23.40% 11	14.89% 7	8.51% 4	2.13% 1

When frustrated, I let my irritation show	12.77% 6	25.53% 12	17.02% 8	34.04% 16	10.64% 5
I sometimes feel that people are laughing at me behind my back	40.43% 19	25.53% 12	17.02% 8	14.89% 7	2.13% 1
I often find myself disagreeing with people	6.38% 3	25.53% 12	36.17% 17	23.40% 11	8.51% 4
If somebody hits me, I hit back	2.13% 1	12.77% 6	14.89% 7	36.17% 17	34.04% 16
I sometimes feel like a powder keg ready to explode	57.45% 27	19.15% 9	10.64% 5	8.51% 4	4.26% 2
Other people always seem to get the breaks.	42.55% 20	14.89% 7	21.28% 10	8.51% 4	12.77% 6
There are people who pushed me so far that we came to blows.	74.47% 35	17.02% 8	8.51% 4	0.00% 0	0.00% 0

*The current questionnaire was modified from the Buss-Parry Aggression Questionnaire (AGQ) that was under a CC-BY license (<https://creativecommons.org/licenses/by/4.0/>) (Looti, 2022)*

**Table 6 (Pearson Correlation Coefficients)***Pearson Correlation Coefficients*

<i>Variables</i>	<i>Stress</i>	<i>Burnout</i>	<i>Aggressive Behaviors</i>
<i>Stress</i>	-	.82*	.58*
<i>Burnout</i>	.82*	-	.69*
<i>Work Hours per Week</i>	.50	.34*	-
<i>Number of Deployments</i>	-.09*	.03*	.05*
<i>TDY Trips</i>	.06*	-.06	.06
<i>Training Exercises</i>	-.04*	-.05*	.00*
<i>Months Away from Family</i>	.13*	.16*	.12*

\*Correlation is significant at the .01 level (1-tailed)

**Table 7 (PERSTEMPO Regression Coefficients for Predicting Stress)***PERSTEMPO Regression Coefficients for Predicting Stress*

<i>Variable</i>	$\beta$	<i>Standard-error</i>	<i>t</i>	<i>95% CI</i>	<i>p</i>
<i>Intercept</i>	26.04	6.27	4.15	[13.39, 38.69]	<.001
<i>Work hours per week</i>	0.47	0.12	3.91	[0.23, 0.72]	<.001
<i>Number of deployments</i>	-1.20	1.48	-0.81	[-4.17, 1.78]	.42
<i>Number of TDY trips</i>	-0.08	0.28	-0.24	[-0.63, 0.49]	.81
<i>Number of training exercises</i>	-0.32	0.52	-0.62	[-1.38, 0.73]	.54

<i>Months away from family</i>	0.27	0.30	0.89	[-0.34, 0.87]	.38
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Note:  $R^2 = .29$  ( $N = 47$ ,  $F(5,42) = 3.39$ ,  $p = .01$ ). CI = confidence interval for  $\beta$

**Table 8 (PERSTEMPO Regression Coefficients for Predicting Burnout)**

*PERSTEMPO Regression Coefficients for Predicting Burnout*

<i>Variable</i>	$\beta$	<i>Standard-error</i>	<i>t</i>	<i>95% CI</i>	<i>p</i>
<i>Intercept</i>	51.85	11.98	4.33	[27.66, 76.05]	<.001
<i>Work hours per week</i>	0.63	0.23	2.73	[0.16, 1.10]	.01
<i>Number of deployments</i>	0.92	2.89	0.32	[-4.91, 6.75]	.75
<i>Number of TDY trips</i>	-0.59	0.53	-1.11	[-1.67, 0.48]	.27
<i>Number of training exercises</i>	-0.20	1.04	-0.19	[-2.29, 1.89]	.85
<i>Months away from family</i>	0.40	0.59	0.67	[-0.80, 1.59]	.51

Note:  $R^2 = 0.16$  ( $N = 46$ ,  $F(5,41) = 1.6$ ,  $p = .18$ ). CI = confidence interval for  $\beta$

**Table 9 (PERSTEMPO Regression Coefficients for Predicting Aggressive Behaviors)**

*PERSTEMPO Regression Coefficients for Predicting Aggressive Behaviors*

<i>Variable</i>	$\beta$	<i>Standard-error</i>	<i>t</i>	<i>95% CI</i>	<i>p</i>
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<i>Intercept</i>	49.06	7.84	6.25	[33.22, 64.90]	<.001
<i>Work hours per week</i>	0.24	0.15	1.59	[-0.07, 0.54]	.12
<i>Number of deployments</i>	0.18	1.89	0.10	[-3.63, 4.00]	.92
<i>Number of TDY trips</i>	-0.01	0.35	-0.02	[-0.71, 0.70]	.98
<i>Number of training exercises</i>	-0.17	0.68	-0.25	[-1.54, 1.20]	.80
<i>Months away from family</i>	0.43	0.39	1.12	[-0.35, 1.22]	.27

Note:  $R^2 = 0.08$  ( $N=47$ ,  $F(5, 41) = 0.75$ ,  $p = .59$ ) CI = confidence interval for  $\beta$

**Table 10 (Stress and Burnout Regression Coefficients for Predicting Aggressive Behaviors)**

*Stress and Burnout Regression Coefficients for Predicting Aggressive Behaviors*

<i>Variable</i>	$\beta$	<i>Standard-error</i>	<i>t</i>	<i>95% CI</i>	<i>p</i>
<i>Intercept</i>	27.69	5.67	4.88	[16.26, 39.13]	<.001
<i>PSM-9 Score</i>	0.09	0.21	0.41	[-0.33, 0.50]	.68
<i>Burnout Score</i>	0.39	0.12	3.30	[0.15, 0.63]	<.001

Note:  $R^2 = 0.47$  ( $N = 47$ ,  $F(2, 44) = 20.05$ ,  $p = <.001$ ) CI = confidence interval for  $\beta$