

# Resilience and Suicide in Special Operations Forces

## State of the Science via Integrative Review

Kate Rocklein Kemplin, DNP, RN<sup>1\*</sup>; Olimpia Paun, PhD, PMHCNS-BC<sup>2</sup>;  
Dan Godbee, MD, FACEP<sup>3</sup>; Jonathan Brandon, MD<sup>4</sup>

### ABSTRACT

**Background:** Due to alarming rates of suicide in Special Operations Forces (SOF) and associated effects of traumatic stress in military populations writ large, resilience initiatives thought to influence Servicemembers' mitigation of traumatic stress and thus lower suicide risks have been implemented throughout the services. Since combat operations commenced in multiple theaters of war nearly two decades ago, resilience in conventional military populations became a topic of keen interest throughout departments of defense worldwide as well. Despite researchers' consistent assertions that SOF are highly resilient and at low risk for suicide, granular analysis of pertinent research and escalating suicide in SOF reveals no empirical basis for those beliefs. **Methods:** We report findings from an integrative review of resilience research in SOF and larger military populations to contextualize and augment understanding of the phenomenon. **Results:** Throughout the literature, conceptual and operational definitions of resilience varied based on country, context, investigators, and military populations studied. We identified critical gaps in resilience knowledge in the military, specifically: Resilience has not been studied in SOF; resilience is not concretely established to reduce suicide risk or proven to improve mental health outcomes; resilience differs when applied as a psychological construct; resilience research is based on specific assumptions of what composes resilience, depending on methods of measurement; resilience studies in this population lack rigor; research methodologies and conflicting interests invite potential bias. **Conclusion:** This integrative review highlights emergent issues and repetitive themes throughout military resilience research: resilience program inefficacy, potential investigator bias, perpetuated assumptions, and failure to capture and appropriately analyze germane data. Because of overall inconsistency in military resilience research, studies have limited external validity, and cannot be applied beyond sampled populations. Resilience cannot be responsibly offered as a solution to mitigating posttraumatic stress disorder nor suicide without detailed study of both in SOF.

**Keywords:** military; Special Operations Forces; resilience; suicide; traumatic stress; integrative review

### Introduction

Special Operations Forces (SOF) are highly trained, elite military Servicemembers<sup>1</sup> “chosen from the larger pool of military personnel [from criteria] that are *believed to be* associated with increased resilience to operational and work-related stressors” [emphasis ours].<sup>2</sup> Such statements assign resilience in SOF as an inborn trait those Servicemembers possess and bolster beliefs that being selected for SOF units is due to candidates' inborn resilience.<sup>3-6</sup> Because of similarities in selection, qualifications, and length of training, SOF in this study refers primarily to US Army Special Forces (SF; “Green Berets”) and US Navy Sea, Air, and Land (SEAL) Special Warfare Servicemembers, though we note SOF includes US Army Rangers and US Air Force pararescue jumpers, and other specialized elite and clandestine units.

### Key Takeaways

- In 2017, one of the largest suicide studies in military history concluded that SOF had nearly zero risk of suicide, asserting SOF are highly resilient due to their “rigorous selection, intense training, strong unit cohesion, or psychological and biological characteristics.” In 2018, SOF suicides tripled.
- Amid “historically heightened suicide rates,” the current US SOCOM strategy is to augment resilience through wellness programs emphasizing elite athleticism and psychosocial fitness.
- Suicides in SOF could be due to organic, occupational causes of neuropsychiatric symptom spectra; augmentation of psychosocial resilience will obviously not reverse physiologic sequelae from organic brain injuries.
- From a clinical perspective, overemphasis on resilience could be denying resources needed to investigate the multifaceted natures of PTSD and suicide.
- The military's insistence on resilience could be interpreted as shifting responsibility for effects of chronic physiologic and neurologic stress to Servicemembers characterized as not being positive enough in thought or resilient if they succumb to PTSD or suicide to stop their suffering.

\*Correspondence to kemplinkate@gmail.com

<sup>1</sup>Dr Rocklein Kemplin is assistant professor of Nursing Research and Graduate Statistics Faculty, The University of Tennessee at Chattanooga; 2014–2018 Research Program Chair for the Special Operations Medical Association; and a 2012 Jonas Foundation Veterans Healthcare Scholar.

<sup>2</sup>Dr Paun is associate professor and Inaugural Kellogg Faculty Scholar, Rush University College of Nursing, Chicago, IL, and an advanced practice registered nurse board certified as a psychiatric mental health clinical nurse specialist. <sup>3</sup>COL Godbee is the group surgeon for US Army 20th Special Forces Group; a board-certified practicing emergency medicine physician; emergency medical services director for Baton Rouge Parish, LA; and previously an enlisted 18C, 18D, 18E, and 18Z. <sup>4</sup>SFC (Ret) Brandon is a former 18D for US Army 1st Special Forces Group and Joint Special Operations Medical Training Center faculty; a 2018 graduate of the University of California San Francisco School of Medicine; and currently an emergency medicine resident at Ryder Trauma Center, Jackson Memorial Hospital, Miami, FL.

- We argue here that Servicemembers cannot overcome even indirect indicators of PTSD and suicidality (e.g., relationship dysfunction, anger, depression, addiction) by embodying tenets of positive psychology such as positive thinking and virtuousness. Moreover, we are unaware of Servicemembers whose suicides or PTSD were caused by ingratitude, optional pessimism, being less than a model citizen, or for not living one's best life.
- Resilience is certainly an element contributing to overall wellness and ability to withstand adversity. However, presenting resilience as something that can be built to reduce PTSD and suicide implies that those suffering from combat stress reactions, chronic traumatic stress, or those who have considered or committed suicide are at fault for being low in resilience.
- Physical injuries, skyrocketing suicide rates, and underexplored PTSD in SOF can be neither fully explained nor mitigated by Servicemembers' resilience.
- Current resilience and suicide prevention programs in the military are influenced heavily by positive psychology paradigms in which pain and suffering are variables to be avoided, despite negative experiences being known essentials in overcoming trauma and for posttraumatic growth.
- Resilience in SOF must be studied by independent investigators researching it with SOF personnel.

Consistent assertions that SOF Servicemembers are highest in resilience throughout the armed forces<sup>4-6</sup> are undermined by SOF's escalating rates of suicide, qualitatively described by the Special Operations Command (SOCOM) commander in 2017 as "morbid . . . [SOF] is suffering."<sup>7</sup> Active-duty military and veteran deaths by suicide eclipsed combat fatalities in recent years.<sup>8,9</sup> One estimate concluded 22 veterans commit suicide daily.<sup>10</sup> Overall, active military and veteran suicides surpassed combat deaths and civilian suicide rates in the past several years.<sup>11</sup> In 2018, SOF suicide rates tripled from years prior.<sup>12</sup> SOF sustained almost 85% of combat fatalities after 9/11,<sup>8,9</sup> and SOF posttraumatic stress disorder (PTSD) symptom incidence is nearly double estimates compared with conventional forces.<sup>13</sup> Perpetual deployments in SOF, in addition to intense training while home, leads to a lack of decompressing dwell time needed to reset resilience, mitigate stress, and enable reintegration. Military populations obviously are at increased risk for developing PTSD and associated mental health outcomes (e.g., anxiety, mood disorders, substance abuse, suicidal behaviors) because of occupational exposure to trauma, deployment-related separation from support networks, and substantial physiological and emotional stress.<sup>14</sup> As such, resilience is a timely and important concept in studying health of military (active, reserve, and veteran) Servicemembers.<sup>15-17</sup>

Suicide risk in adult civilian populations is believed to decrease as elements of resilience increase, such as social connectedness and strong interpersonal relationships.<sup>18</sup> Similarly, Rossetti et al.<sup>19</sup> found that protective elements of resilience, such as social resources and cohesion, modulate suicide risk in civilian populations. Resilience studied within communities at risk<sup>20</sup> and in vulnerable groups after natural disasters<sup>21</sup> found similar protective factors instrumental in resilience exhibited in both contexts. This begs the question whether those same protective factors could apply in sustaining resilience in military

populations, specifically within populations with the highest operations tempo, elevated PTSD-symptom reporting,<sup>13</sup> and sustained fatalities: in other words, SOF.

Individual Servicemembers' personal histories and/or behavioral health patterns are part of the calculus involving suicidal behaviors. Some military occupational specialties may increase risk of suicidal behaviors because of those occupations' increased exposure to trauma.<sup>22</sup> High-risk careers (e.g., SOF), by nature, may attract people attracted to risk: propensities toward suicide and propensities toward risk are connected.<sup>23</sup> Furthermore, some Servicemembers may exhibit higher suicide risk because of suicidal behaviors demonstrated before joining the military.<sup>22</sup> Yet, no large-scale studies of resilience nor its connection to adverse mental health outcomes, suicide included, specifically involved active units of SOF Servicemembers beyond civilian-driven academic estimates, retrospective reviews of Department of Defense (DoD) medical records,<sup>4-6</sup> and reports of print and television media.<sup>7-9,12</sup>

### *Resilience: Definitions and Origins*

For SOF, resilience-building initiatives are part of a multi-million-dollar program called Preservation of the Force and Family, offered through SOCOM.<sup>24</sup> Regarding building resilience, Gauvin-Lepage et al.<sup>26,27</sup> determined resilience is an ability developed to cope with stress and catastrophe, though Rice and Liu<sup>15</sup> suggest resilience-type coping behaviors are not born of specific inherent traits enabling resilience. Whether resilient abilities are inborn or learned traits is often presented without concrete support thoroughly justifying either perspective.<sup>28</sup> Mangham et al.<sup>29</sup> and Stewart et al.<sup>30</sup> held that resilience evolves on the basis of available resources. Investigators also use resilience as a preemptive factor in deflecting stress and its effects.<sup>31</sup> When posited as a dispositional personality trait, similar to neuroticism or extraversion, resilience is referred to and used synonymously with hardiness.<sup>32</sup> As amalgamated elements of commitment, control, and challenge,<sup>33</sup> hardiness as an operationalized concept launched several iterations of an instrument of measurement used to quantify its presence in military Servicemembers<sup>34</sup> and military candidates aiming to be selected for elite units, such as US Army SF trainees.<sup>35</sup>

### *Purpose*

Given varying views of resilience and disagreement on how resilience develops and/or is evident in humans, the purpose of this integrative review was to examine and synthesize evidence on resilience studied in military populations. The research question was: What is known about resilience in Special Operations Forces?

### *Methods*

#### *Design and Sample*

Whittemore and Knafel's seminal work<sup>36</sup> on conducting rigorous integrative reviews served as our framework. Electronic research databases were searched separately, though it is now accepted that commercial search programs are a combination of individual repositories<sup>37</sup> and thus our searched databases totaled more than two dozen. Search terms used were "resilience, hardiness" and then combined separately with "special operations" (which returned zero results) and then "military," which expanded our question to resilience in conventional-forces military versus SOF alone. Inclusion

criteria were (1) peer-reviewed research articles written or translated into English; (2) titles indicating resilience was the main topic; (3) articles with titles indicating military populations' resilience, or resilience in veteran, military, or combat situations was specifically studied; and (4) published within the past 20 years (up to mid-2018). Exclusion criteria were (1) resilience studied solely in civilian children and adolescents; (2) resilience in civilian organizations separate from the military or armed conflicts; (3) articles that were in a language other than English; (4) works on resilience in textbooks, manuals, and/or self-help books without clear empirical basis; (5) resilience in populations with a chronic physiological disease; and (6) resilience in populations caring for a loved one with a chronic disease or special needs. Quantitative, qualitative, mixed-methods, and concept analyses were included for review. Data evaluation commenced via constructing an evidence table by which final samples of literature were included and examined (see online Appendix).

## Results

Ultimately, 32 articles met inclusion criteria. Of those, 27 were based in quantitative methods, one was mixed methods (e.g., researchers combined quantitative and qualitative methods), and four qualitative articles were examined. We found resilience is implemented programmatically throughout the military intended as a salutogenic (i.e., a curative) method used to ward off deleterious effects of traumatic stress. Overall, resilience remained mostly couched as an elemental trait versus a contextual response, elicited in reaction to environmental stress or threats. Quantitative resilience research mostly used instruments of measurement to capture participants' self-reported resilience, yet no recent studies critically examined variables and underlying concepts constructing the instruments they used.

Most quantitative research of resilience in the military used operationalized variables in psychometric instruments, though none was notably critical in examining resilience as a construct. Detailed analysis of accepted articles' evidence rating is found in the evidence table (see Appendix); article selection is noted in Figure 1 within a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (healthcare) diagram to visually represent the flow of accepted evidence into the integrative review.<sup>38</sup>

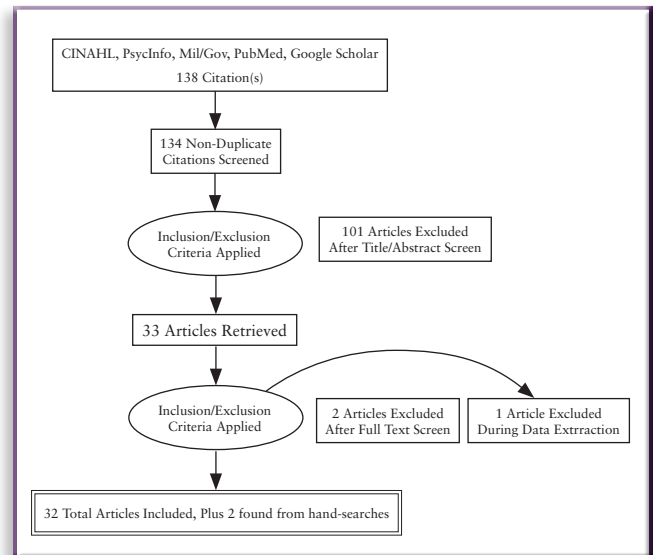
### Quantitative Studies: Resilience Measurement Literature

Resilience measured in military populations (i.e., resilience quantified via operationalized variables in an instrument of measurement) revealed additional variation in definitions and use of proxy measures. Meadows et al.<sup>39</sup> explains that the Department of Defense (United States; DoD) does not have an official, force-wide, consistent definition of resilience. Lee et al.<sup>31</sup> likewise indicated resilience in the military is defined vaguely and definitions imply there are multiple cognitive and behavioral elements. Lack of clear conceptual definition is reflected in variances in studies' particular measurements and methods.

### Resilience measured within broader military assessments

In contrast to most cross-sectional quantitative studies of resilience in the American military, Lee et al.<sup>40</sup> studied the resilience of Canadian Forces personnel longitudinally: at baseline and then approximately 4 years later. All participants had combat experience.<sup>40</sup> In 1,315 Servicemembers using the broader

FIGURE 1 Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram.



Canadian Forces Recruit Health Questionnaire, resilience was captured through elements of conscientiousness, emotional stability, and mastery (e.g., “I can accomplish anything I set my mind to”), which were associated with constructs of mental health—not psychopathology, such as PTSD—after deployments.<sup>40</sup> In fact, Lee et al.<sup>40</sup> found lengths of service and deployment experiences actually decreased neuroticism and increased resilience. Combat experiences did have an effect on post-deployment mental health, though main effects of deployments and combat experiences were small, and agreeableness was the main personality trait that moderated associations between the two.<sup>40</sup>

In contrast, American military resilience researchers' cross-sectional results deviate from longitudinal findings of Lee et al. of deployments' effects on resilience. In 2011, Peterson et al.<sup>41</sup> attributed poor mental health (e.g., PTSD) to “deployments that are repeated, extended, and at a fast tempo.”<sup>41</sup> In 8,000 US Army Soldiers of multiple ranks, Peterson et al. measured resilience within the Global Assessment Tool (GAT), which measures resilience within overall psychosocial well-being.<sup>41</sup> The GAT is used to evaluate the success of the Comprehensive Soldier Fitness (CSF) program, designed to improve Soldiers' emotional, social, family, and spiritual fitness,<sup>41</sup> all considered by those investigators as resilience domains.

Programs such as CSF center on resilience building in military populations and are typically compulsory for US Army Servicemembers. Results from the GAT are given to Soldiers' commanders: “[the] GAT provide[s] a way to articulate the strengths and assets of an individual soldier's own self as well as those with whom [they] work . . . when a soldier completes the GAT, immediate feedback about his or her profile of strengths is provided.”<sup>41</sup> Soldiers' results are compared with those of their peers. For example, if a Soldier scores a 3.9 out of 5 in resilience but everyone else in their unit scores a 4.2, the Soldier with a 3.9 could be flagged as deficient. Developers of the GAT cite  $\alpha$  coefficients greater than .80 in their description of GAT psychometrics but note that none of the initial 180 GAT questions inquire about Soldiers' depression or suicide risk: “To avoid legal issues, we did not include questions asking explicitly about suicidal or violent thoughts and actions.”<sup>41</sup>

In 2016, more than 5 years after initial publications about CSF and GAT implementation,<sup>41</sup> Vie et al.<sup>42</sup> reported the “Initial Validation of the US Army Global Assessment Tool,” in which 40,000 soldiers participated. In their report, the theoretical basis for the GAT is discussed in regard to the development of the CSF program. CSF is “framed by positive psychology” and the GAT assesses positive individual personality traits, positive emotions, positive psychological attributes, and positive mental health outcomes.<sup>42</sup> Many elements of the GAT draw from previous work of one of its principal architects, positive psychology guru Martin Seligman.<sup>42</sup> Specifically, “the GAT assesses positive emotions, meaning, and personal attributes (i.e., optimism) that contribute to a full life” such as good citizenship and other admirable character traits.<sup>42</sup>

Developers creating the GAT elected to not use some elements of more-established resilience scales and instead substituted and interchanged psychosocial fitness with resilience in regard to assessing Servicemembers’ strengths; however, the rationale for specific substitutions is not described.<sup>42</sup> The GAT was reportedly developed from extant validated scales measuring coping, pessimism, work satisfaction, loneliness, flexibility, and so forth, but developers excluded specific measures of friendship and social supports. Vie et al. omitted those measures “because of the different [dichotomous] response formats.”<sup>42</sup> They referenced the work of Paul Bartone,<sup>32,34,35</sup> principal architect of the Dispositional Resilience Scale (DRS), used widely in military resilience research, as inspiration for GAT construction, but specific elements of Bartone’s DRS (e.g., commitment, control, and challenge)<sup>34,35</sup> are not immediately visible within the GAT’s structure nor subscales.<sup>42</sup>

#### *Resilience measured as a response to stress*

In 2016, Vyas et al.,<sup>16</sup> of the Naval Center for Combat and Operational Stress Control (part of the Operational Stress Control and Readiness [OSCAR] resilience program), retrospectively examined 2,171 Servicemembers’ mental health records from 2009 to 2013 to determine those Servicemembers’ resilience from proxy measurements found in the Response to Stressful Events Scale (RSES).<sup>16</sup> Their interpretation of results indicated that improving resilience in Servicemembers by even 20% would significantly reduce statistical risks of PTSD, depression, and subsequently save the DoD approximately \$600 million or more in health care costs.<sup>16</sup> No discussion occurred regarding the RSES’ specific psychometric properties, nor was a rationale presented for choosing an instrument that measures responses to stressful events versus using an instrument that specifically measures resilience.<sup>16</sup> Using odds calculations and logistic regression, investigators estimated substantial cost savings but then disclose that the population of participants was drawn from military mental health clinics, possibly skewing the underlying resilience and psychopathology of the group, and thus the results.<sup>16</sup>

Resilience and human responses to stress were similarly interchanged by Johnson et al.<sup>43</sup> in their 2011 study of resilience with 870 Servicemembers and veterans. Johnson et al. also proposed that resilience is found by a complete absence of PTSD.<sup>43</sup> However, main constructs of the RSES (e.g., social support, personal faith, positivity, cognitive flexibility, self-efficacy, coping, and hardiness) are disconnected from diagnostic criteria for PTSD (e.g., traumatic exposure, persistent re-experiencing, avoidance, anhedonia, sustained hypervigilance and/or aggression, creating functional impairments).<sup>44</sup>

From distilling the RSES, De La Rosa et al.<sup>45</sup> developed and validated a four-item instrument intended to measure resilience in military populations. Researchers sampled several participant groups with different instruments: the RSES, the PTSD Checklist (military) scale (PCL-M), brief resilience scale, burnout measure, and quality-of-life burnout subscale.<sup>45</sup> To develop the four-item instrument, four participant samples of various sizes were used; civilian personnel and active-duty personnel were included as participants in the last sample group (sample 4), whereas sample groups 1–3 excluded civilians and maintained participant homogeneity,<sup>45</sup> a plus for internal validity. Sample 1 in that study had 1,448 participants, whereas sample 4 had 68 participants.<sup>45</sup> Granular psychometric properties of each scale used in development of the four-item scale were not discussed before descriptions of their use in the study. The reduction by De La Rosa et al. of the RSES from a 22-item to a four-item instrument was shown by them to be psychometrically valid,<sup>45</sup> yet its application as a tool to measure resilience was not explained fully, because they primarily used proxy measures of stress responses.

#### *Resilience measured in nontherapeutic contexts*

Originally developed for civilian clinical practice to determine baseline resilience and therapeutic results to improve coping mechanisms, the Connor-Davidson Resilience Scale (CD-RISC) is built on factors of individual competency, trust, tolerance, effects of stress on personal strength, assimilation of change, relationship stability, locus of control, and effects of individual spirituality.<sup>37</sup> To evaluate the efficacy of master resilience training (MRT) program integration, Carr et al.<sup>46</sup> administered the CD-RISC to more than 200 military participants before and after resilience training. In 2013, Carr et al. combined the CD-RISC with an instrument they created and found overall resilience declined in their selected sample.<sup>46</sup> MRT did not improve stress mitigation or, by proxy, coping; resilience training significantly decreased resilience and morale ( $p = .007$ ).<sup>46</sup> The CD-RISC has high internal reliability (Cronbach’s  $\alpha = .89$ ) and is often used as a standard against which new instruments measuring resilience are designed.<sup>46</sup>

Within similar nontherapeutic contexts, Hernandez et al.<sup>47</sup> studied 245 military registered nurses (RNs) and medical personnel with the CD-RISC; reliability of the CD-RISC ranged from .89 to .94,<sup>47</sup> though that was their only discussion of the CD-RISC’s psychometric properties in that study. Via the CD-RISC, Hernandez et al. found weak statistical connections among stress, mental health stigma, and resilience in their sample of military clinicians, though stigma and resilience were determined to be negatively associated factors.<sup>47</sup> In that study, military RNs ( $n = 141$ ), who are officers, had higher measured resilience and reported more mental health stigma ( $p < .05$ ) than did enlisted military medical technicians ( $n = 104$ ), though enlisted technicians reported significantly higher stress than did RNs ( $p < .05$ ).<sup>47</sup>

#### *Resilience as a dispositional personality trait*

Bartone’s original 22-item DRS instrument has been used widely to measure resilience in military populations.<sup>34</sup> Bartone et al.<sup>48</sup> also administered the DRS-15 (shortened to 15 questions) to 7,555 Norwegian soldiers while measuring self-reported alcohol use. They reported that subscale analyses found acceptable DRS internal consistency ( $\alpha$  coefficients for commitment = .77; control = .68; challenge = .69). Those findings were consistent with psychometric results obtained



by Sandvik et al.,<sup>49</sup> who administered the DRS-15 to 21 Norwegian sailors in simulated stress scenarios while measuring neuropeptide-Y (NPY) levels corresponding to physiological stress responses.<sup>49</sup> Among participants with high scores of resilience, subscale scores of control, commitment, and challenge aligned with NPY measurements, whereas imbalanced subscale scores of commitment, control, and challenge on the DRS-15 corresponded with variances in NPY reactivity.<sup>49</sup>

Using the DRS-15 as well, Bue et al.<sup>50</sup> studied 252 active-duty Belgian soldiers' resilience. Like Lee et al.,<sup>31</sup> Bue et al. found numbers of deployments were not significantly associated with resilience nor with cynicism, though resilience was associated with dedication (positively) and cynicism (negatively).<sup>50</sup> Resilience accounted for less than 20% of the variance in participants' reported dedication and emotional exhaustion, and less than 30% of the variance for vigor and cynicism.<sup>50</sup> The DRS-15 had an internal consistency of .78 in a study of 561 American active-duty Soldiers in which Escolas et al.<sup>51</sup> determined hardiness did not significantly modify PTSD symptomology. Length of military service had stronger associations with decreased PTSD symptoms than overall resilience had with reducing PTSD symptom prevalence.<sup>51</sup>

#### *Resilience inferred from proxy measures*

In a longitudinal study of 280 active-duty American military personnel and families, Lester et al.<sup>52</sup> evaluated a resilience-enhancement program (called "FOCUS") delivered to US Navy and Marine personnel. Participants were not specified as SOF or conventional, though we presume FOCUS was available to Naval Special Warfare families. Measured constructs in the Lester et al. study included parental distress, child distress, PTSD symptoms, and family adjustment.<sup>52</sup> Other than  $\alpha$  coefficients, the authors did not specifically discuss the psychometric properties of the instruments used and did not report using any instruments specific to measuring resilience.<sup>52</sup>

Lester et al.<sup>52</sup> wrote at length about their program's intervention and effects on distress and resilience, yet resilience in this population was not measured at baseline nor after completion of the intervention program with any recognized or commonly used instrument that measures resilience. Those investigators used four other instruments (the Brief Symptom Inventory, PCL-M, Strengths and Difficulties Questionnaire, and McMaster Family Assessment Device) of varying psychometric properties,<sup>52</sup> but none is conceptually specific for measuring resilience. Lester et al.<sup>52</sup> found that family adjustment measures predicted reduced distress and described some inverse relationships between distress and program adherence, but reported variance was less than 17%, and no measures used were vetted instruments in resilience research, though the investigators stated the intervention program was specifically designed to improve resilience.<sup>52</sup>

#### *Resilience defined by study participants*

In a 2015 study by Gayton and Kehoe,<sup>53</sup> 95 Australian Special Forces candidates (described by the authors as a population similar to US Army Rangers in scope) were asked to self-rank character traits they believe align with resilience. Participants did not report their own resilience via a psychometrically valid instrument; instead, they self-ranked personality traits the authors designated for participants as "strong" characteristics.<sup>53</sup> The title of the article indicated hardiness (a synonym of resilience used often by non-American investigators) was

measured in those participants and thus characterized resilience as being a team worker, having integrity, and demonstrating persistence.<sup>53</sup> Persistence and resilience were used as interchangeable constructs, though neither hardiness nor resilience was actually named as a category nor as an elemental construct in the list of available personality characteristics.<sup>53</sup>

As reported by those authors,<sup>53</sup> hardiness was not significantly associated with the three top-ranked personality characteristics, nor was hardiness as a specific construct actually measured in the study, and resilient traits did not distinguish between successful and unsuccessful candidates. No psychometric analysis of the list of personality characteristics was discussed, nor was hardiness as a construct or part of the list's subscale discussed in the study. Gayton and Kehoe<sup>53</sup> did not present any statistical analyses beyond descriptive calculations of ratio data and percentages. The participant-driven results were then used by the authors in their 2016 article about the character strengths of SF personnel<sup>54</sup> and as framework by several other researchers investigating resilience and "character strengths."<sup>55-57</sup> Participants in the original study ranked forgiveness lowest among all desirable traits, which conflicts with Hystad et al.,<sup>32</sup> who determined that forgiveness and tendencies to let go of resentment were key components of resilient behaviors.

#### *Quasi-experimental military resilience research*

Neither referenced nor discussed in the Vyas et al.<sup>16</sup> 2016 OSCAR-affiliated resilience research is a RAND study released the year before by Vaughan et al.,<sup>58</sup> which we discovered during a hand search of the literature. In the Vaughan et al. study,<sup>58</sup> the OSCAR (operational stress control) program of Vyas et al. was comprehensively evaluated by third-party external investigators (i.e., RAND researchers) for efficacy.<sup>58</sup> Aside from Carr et al.<sup>46</sup> studying resilience pre- and post-MRT, Vaughn et al. had the only quasi-experimental comparative study found in our searches of military resilience literature: 1,307 Marine participants were studied before and after deployment and compared between those who received OSCAR training and those who did not.<sup>58</sup> Study arms of Marines who received OSCAR training reported higher help-seeking behaviors for stress than did non-OSCAR-trained participants.<sup>58</sup>

However, Vaughan et al.<sup>58</sup> found no evidence indicating OSCAR had a positive distal impact on participants' depression, PTSD, substance abuse, or stress coping. Indeed, Marines in the OSCAR training group had more mental health issues than did the control group.<sup>58</sup> Those data were corroborated by other program metrics from which investigators inferred no evidence fully indicated that resilience-building efforts of OSCAR were effective.<sup>58</sup> In fact, stigmatization of seeking help and tendencies toward psychiatric overdiagnoses were thought to decrease Marines' readiness and were main concerns voiced by participants. Attempts to build resilience through OSCAR initiatives had no demonstrable effect on PTSD, depression, or other desired outcomes.<sup>58</sup>

#### *Mixed-methods military resilience research*

Scott et al.<sup>59</sup> reported using a mixed-methods (e.g. combined qualitative and quantitative) approach to their study of more than 400 US Army National Guard participants. This study was the only one in which we found SF participants at all; this study had one SF Army National Guard participant and investigators included his narrative response in one paragraph.<sup>59</sup>

Scott et al. used mixed methods to develop their own resilience scale, based on the CD-RISC.<sup>59</sup> Their study is unique in that one SF Servicemember participated in the qualitative portion. Though Scott et al. used the CD-RISC in this study, they did not report quantitative results of participants' CD-RISC scores other than to describe CD-RISC factor analyses of their new instrument in comparison.<sup>59</sup>

Resilience was deemed present by Scott et al. if participants indicated in qualitative interviews that they attempted to overcome adversity.<sup>59</sup> The authors reported quantitative results for their investigator-created deployment stress scales, yet, regarding the CD-RISC they used as an instrument of measurement, their reporting of CD-RISC results was limited to qualitative descriptions (e.g., "our factor analysis [of the CD-RISC] confirmed the single-construct integrity of [investigator-created] 10 items."<sup>59</sup> Scott et al. did not report numeric scores from extant resilience scales they administered to their participants (i.e., the CD-RISC, the PCL-M, and the post-traumatic growth inventory.<sup>59</sup>

### *Qualitative Literature on Resilience*

Qualitative military resilience research was scant but rich in depth, and descriptions of what constitutes resilience were more detailed and explicit in comparison with quantitative resilience research. Participants in qualitative resilience research were more heterogenous demographically than in quantitative studies. In their study of 201 transgender veterans' resilience, Chen et al.<sup>60</sup> described social structures as essential to resilience, namely community involvement, activism, social support, and interpersonal connections such as friendships and relationships. They provide ample justification for their use of minority stress theory, in which societal conditions (e.g., stigma, prejudice, and discrimination) have deleterious effects on mental health.<sup>60</sup> Through thematic analysis, the authors described transgendered veterans' (per the authors' description: the transgendered community's association accept "transvets" as an abbreviation) sense of resilience as exemplified by personal pride, being one's authentic self, and overcoming adversity.<sup>60</sup> Participants cited military service as instrumental to their resilience in overcoming obstacles as a trans-vet: "I am a warrior on multiple levels" and "The strength I gained in the military has allowed me to transition."<sup>60</sup>

Somasundaram and Sivayokan<sup>61</sup> studied resilience in northern Sri Lankan environments, in which citizens experienced and participated in over 30 years of combat, armed conflict, and displacement from their homes. Using an ethnographic qualitative design, the authors found protective factors were instrumental in resilience; families remained intact, especially with strong matriarchal influences, in addition to participants developing aesthetic narratives of their experience, which appeared to endow more hope in the participants.<sup>61</sup> Though ethnographic in design, Somasundaram and Sivayokan<sup>61</sup> used an ecological model to examine participant experiences. Using an ethnographic paradigm would presumably emphasize participants' cultural influences over an ecological approach, which entails examining participants as embedded in micro- to macrosystems at corresponding levels.<sup>61, 62</sup>

Among veterans of the Vietnam war, Song et al.<sup>63</sup> proposed the presence of PTSD affected those veterans' children's traumatic stress greater than veterans' actual PTSD stemming from personal involvement in direct combat. Such osmoses

of trauma, though surely unintentional, imbued children with main clinical domains of PTSD: hypervigilance, avoidance, and dissociation.<sup>44,63</sup> The researchers' choice to study effects of war and PTSD on veterans' children is interesting because they assumed external forces caused transmitted trauma; first was war, upon the veteran, then second was the PTSD of the veteran transmitted to the child.<sup>63</sup> Although titular nomenclature indicated Song et al. had concurrently studied resilience in this population, within the manuscript, "resilience" was only found in the title.<sup>63</sup>

In studying resilience in 20 Muslim Soldiers in the American military, Abu-Ras and Hosein<sup>64</sup> used grounded theory methodology, and reported using that method for analysis of collected data. As stated by the authors: "[G]rounded thematic analysis guided the processing of qualitative interview data,"<sup>64</sup> yet Abu-Ras and Hosein did not delve further into how grounded theory specifically provided structure other than for their analyses.<sup>64</sup> Abu-Ras and Hosein stated interest in specific demographic variables of possible influence, portending an ethnographic approach as "ethnicity, rank, gender, [Muslim] conversion status, branches of service, immigration status, religious disclosure, and the post-9/11 political climate" affected their resilience differently than non-Muslim Servicemembers.<sup>64</sup>

Abu-Ras and Hosein identified spirituality and community as central to resilience in Muslim military persons: "Islam's definition of spirituality has a unique impact and may have different meanings on [Muslim military persons'] resiliency."<sup>64</sup> For Muslims in the military, their spirituality may become a risk factor, not a protective factor; several participants stated they felt they had to hide their religious practices from military colleagues,<sup>64</sup> especially after the attacks of September 11, 2001, in which middle-eastern persons killed thousands of Americans. Islam provided deep senses of personal values and a sense of community when practiced within their faith communities, yet being an openly practicing Muslim in their military units sometimes resulted in Muslim Soldiers feeling ostracized by non-Muslim colleagues.<sup>64</sup>

These themes suggest that when other military resilience researchers hark to "spirituality" or "spiritual fitness" as a subscale construct or essential element of resilience, those investigators implicitly imply a paradigm of Judeo-Christian spirituality, which is widespread and accepted throughout the United States and its military. Muslim Servicemembers may feel the need to obfuscate their spirituality to remain resilient in their Servicemember roles, which, in turn, could negatively affect their resilience.

### **Discussion**

We were unable to examine independent resilience research conducted specifically with populations of SOF personnel in SOF units, because none exists at the time of this writing. To our knowledge, in 32 studies of military resilience we examined, only one study had a participant who identified as SF in a sample of more than 400.<sup>59</sup> Quantitative resilience research with military participants varied widely in defining resilience, with resultant variance in how resilience was operationalized for measurement. Such disparity in definitions likely precludes consistent and accurate measurement. We found one quasi-experimental study wherein resilience training was present in a specific group and compared with a nontreatment group

before and after deployment.<sup>58</sup> Many investigators attempted to connect resilience with PTSD, but no studies conceptually aligned domains of resilience with those of PTSD. For example, resilience research in the military measured psychosocial functioning (e.g., emotional, social, family, and spiritual fitness)<sup>41</sup> or responses to commitment, control, and challenge<sup>34</sup> as elemental resilience traits, yet those elements do not marry up with PTSD's specific clinical domains of traumatic exposure, persistent re-experiencing, avoidance, anhedonia, nor sustained hypervigilance and/or aggression.<sup>44</sup>

In contrast to US studies, longitudinal research of Canadian forces' resilience refutes previously held assumptions that deployments are inherently injurious and destructive to resilience.<sup>40</sup> Furthermore, longitudinal study of resilience in Servicemembers provided more meaningful, and possibly foundational, causal data than did overall cross-sectional resilience measurement. In fact, studies from the United States' NATO partner countries (e.g., Belgium, Scandinavia, Canada) notably diverged in results from resilience research in US studies. Within US studies, findings from positive psychology proponents and authors affiliated with military resilience and stress control programs consistently aligned with each other in suggesting resilience is *sine qua non* to preventing mental health issues, yet substantively differed in findings when compared with research conducted by investigators external to and independent of military resilience programs or international militaries.

### The GAT

In the largest studies of resilience in the military using the GAT, investigators had unprecedented opportunities to assess suicidality and depression in tens of thousands of Soldiers during some of the most stressful combat and most alarming soldier suicides, yet they elected not to ask any questions about either, citing legal issues and difficulties analyzing some dichotomous variables.<sup>41,42</sup> If the main mission of improving Soldiers' resilience is to mitigate depression and suicide, consciously choosing to not assess either is troubling, because that frustrates PTSD symptom incidence and suicide-risk statistical reporting. Issues of research ethics, such as Soldiers' autonomy in refusing to take the GAT or participate in CSF, remain unaddressed, as do those Soldiers' rights to health information privacy, because their superiors receive immediate feedback of their GAT results.

Military resilience research may be at risk from its own Servicemember participants: described as the Masling "Screw You Effect,"<sup>65</sup> participants may skew responses out of frustration with authorities conducting the exercises. The conventional US military's resilience programs are not wholly voluntary, nor are the exercises conducted anonymously, begging questions of rights to autonomy, privacy, confidentiality, and anonymity for the participants. If participants respond "deficiently," they could be mandated to attend MRT retraining, which is a drain on devoted combat-specific training time. With training time at a premium, mission-driven and career-cognizant commanders could be enticed to encourage their Soldiers to game those tests by responding positively to assessments of resiliency, regardless of how Soldiers actually feel internally.

Publications from GAT-associated researchers are notably confirmatory toward each other; the literature on MRT, CSF, and GAT evaluation<sup>41,66</sup> has superlative compliments of fellow

investigators and resilience programs throughout, yet little to no frank critique, a rarity in scientific literature and even more rare in external tests of instruments' psychometric properties. No comprehensive external psychometric analysis of the CSF program's principal instrument of measurement, the GAT, is provided nor are data presented to support continuing CSF/MRT or use of the GAT. Analysis by others indicates that the GAT is incapable of predicting suicides, has poor factor loading with which overall fitness is quantified—particularly psychological and spiritual—and has miniscule effect sizes.<sup>65</sup> Lester et al.<sup>52</sup> disclose in fine print that MRT modules had little measured impact on resilience; in particular, the GAT was unable to determine any significant differences in resilience between participants who have been through resilience training versus those who had not.<sup>65</sup> Vie et al.<sup>42</sup> justify omitting measures of family support, friendships, and other known elements of resilience in their study of 40,000 participants was due to dichotomous response formats and some missing data, both of which are easily handled by basic statistical procedures.

Lester et al.<sup>52</sup> and associated researchers like Peterson et al.<sup>41</sup> had contractual and/or research relationships with the military to implement resilience-building initiatives, including designing elements of DoD-funded resilience programs.<sup>65</sup> Those researchers also participated first-hand in evaluating resilience in their target populations: Servicemembers who went through resilience programs designed by those resilience measurement researchers,<sup>65</sup> conflicts of interest presenting potentials for bias. The legitimacy of resilience measurement instruments and resilience program evaluation warrants scrutiny when both involve parties are personally invested in military program success. Resilience program design, instrument development and administration, and program evaluation should be validated separately and independently by external, disinterested third parties,<sup>65</sup> even if programs and measurements are government property.

### Success of Resilience-Building Programs in the Military

Resilience initiatives in the military are woven into and born of the positive psychology movement, spearheaded by Martin Seligman—a movement of benefit to society by bringing the power of attitude, having goals of happiness, and embodying a position of gratitude into public discourse.<sup>67</sup> Positive psychologists Peterson and Seligman<sup>68</sup> list admirable character traits that they operationalized to evaluate psychological interventions, with aims toward inculcating individual happiness.<sup>69</sup> Leaders in the positive psychology movement were also principals in military resilience efforts and program evaluation. Others note that positive psychology proponents are prone to self-certifying the worth of their own work, and also tend to "present [positive psychology work] as virtuous."<sup>67</sup> Housing military resilience initiatives within positive psychology paradigms present several conundra.

First, positive psychology proponents view trauma and suffering as undesirable experiences to be avoided,<sup>70</sup> possibly suppressing known benefits of posttraumatic growth from combat experiences and war-related trauma. In contrast to positive psychology, the underlying philosophy of SOF is arguably stoicism,<sup>71</sup> in which pain is welcomed as part of the natural order and suffering is relieved by maintaining objectivity and equilibrium. Designing military resilience programs and evaluating them on tenets of positive psychology<sup>24,42</sup> could misplace emphases on pain avoidance and overemphasize virtuousness

and happiness, which cannot mitigate psychopathological processes of PTSD and suicidality. Indeed, Vie et al.<sup>42</sup> affirm that the theoretical foundations of the GAT's resilience instrumentation are "framed by positive psychology . . . the GAT assesses positive emotions, meaning, and personal attributes (i.e. optimism) that contribute to a full life."<sup>42</sup>

Resilience-building programs in the military have millions, if not billions, of dollars of dedicated funding and are often a lodestar, useful to Secretaries of Defense and other government leaders, in particular when they are asked to answer about Servicemembers' PTSD and suicide.<sup>72</sup> Comprehensive soldier fitness was declared a success<sup>73</sup> on the basis of one US Army study<sup>66</sup> in which Lester et al.<sup>66</sup> cited statistically significant results of MRT (effectively the precursor for CSF) in more than 10,000 Soldiers studied, but they acknowledge marginal effect sizes (e.g., 1.31% increases in emotional fitness). Lester et al.<sup>66</sup> used omnibus tests (e.g., regression, analyses of covariance) rather than using advanced multivariate methods to determine mediating and moderating effects of covariates and confounders on MRT effectiveness and Soldiers' resilience. With such a powerful sample size, statistical significance can be detected even when clinical significance may be marginal.

Studies led by other investigators found that resilience declined in Servicemembers after their mandatory participation in resilience-building initiatives<sup>40,46</sup> which align with the Vaughan et al.<sup>58</sup> external evaluation that found the OSCAR program was ineffectual, or at least inconclusive, in improving Servicemembers' mental health. Vyas et al.,<sup>16</sup> authors affiliated with the US Navy's OSCAR resilience program, estimated from retrospective chart reviews that building resilience would save hundreds of millions in health care costs. Vyas et al.<sup>16</sup> substituted incidence of PTSD and depression as "functions of resilience" without visible justification. They also used adjusted odds ratios (AORs) extensively, methods accompanied by notable limitations and restrictions outlined in the very manuscript on odds ratios and likelihood estimations those authors followed to execute their analyses.<sup>74</sup>

First, logistic regression with AORs are used for dichotomous outcome variables, such as lived/died, treatment success/failure, and so forth<sup>75</sup>—not for outcome variables sought by Vyas et al.<sup>16</sup> Second, there was no report of which statistical program was used for analysis, nor was it noted if binomial or ordinal logistic regression was used.<sup>16</sup> Third, their statistical reporting aligned with analyses of variance and bivariate correlation but not regression used to predict phenomena. For example, the study reported *F* and *p* values, but not other measures, such as proportional odds, full likelihood-ratio testing, comparing a fitted model to a model with variant parameters,  $\chi^2$  results, goodness-of-fit testing, final model versus intercept-only model, linearity to logit of dependent variables (e.g., Box-Tidwell procedure), any Bonferroni corrections, standardized residuals, Nagelkerke *R*<sup>2</sup> for variance, sensitivity, specificity, or positive/negative predictive values.<sup>75</sup> Cost calculations were similarly unclear: The Tanielian and Jaycox 2008 report on traumatic brain injury and PTSD<sup>76</sup> was used by Vyas et al. to project costs through multiple micromodels and scenarios of care.<sup>16</sup> It is not clear how Vyas et al.<sup>16</sup> determined parameters for determining cost savings with point-increases on the RSES when (1) stress responses are not identical to resilience and (2) those investigators did not specify directly which of Tanielian and Jaycox's many robust cost models they used.

Attention to precision, or the lack thereof, affected that and other studies of resilience measurement in the military. Vyas et al.<sup>16</sup> did not discuss any subscale elements of the RSES nor did they explain how it measures resilience. Therefore, their assertions that resilience shares an inverse relationship with PTSD symptom prevalence warrant additional study. In other instances,<sup>46</sup> investigators chose the CD-RISC to measure resilience, but we recall here that the CD-RISC is designed for therapeutic, clinical use to quantify patients' use of coping mechanisms through cognitive activity.<sup>77</sup> Using the CD-RISC to estimate resilience before and after MRT could compromise results' validity, internally and externally. When used to quantify resilience outside of therapeutic milieu, CD-RISC precision is questionable, especially in military sample populations not undergoing active, consistent cognitive therapies and/or psychotherapy.

Several studies captured divergent elements of resilience, and one mixed military participants with civilians<sup>45</sup> despite those populations having vastly different stressors and extant support structures. In contrast to the GAT, in which spiritual fitness is an essential element of resilience, De La Rosa et al.<sup>45</sup> asserted that spirituality does not factor into resilience. In their last sample (sample 4), they tested an abbreviated version of the RSES, in which participant numbers were approximately 1,380 fewer than in sample 1, and heterogenized their sample population to include DoD civilians. It was this last sample from which they were able to show significant associations of the four-item RSES to other instruments.<sup>45</sup> In the abbreviated version, no measures of spirituality or specific social supports are included in the four questions, which were responded to on a Likert scale (e.g., "During life's most stressful events, I tend to: find a way to carry on, know I will bounce back, learn important and useful life lessons, practice ways to handle it better next time").<sup>45</sup> Though likely appealing in utility and ease of administration, this reductionist approach to Servicemembers' resilience appears flawed in its approach to holistic assessment.

Multiple quantitative studies of military resilience focused on the psychometric properties of the instruments of measurement, to the detriment of reporting actual numerical levels of resilience. Similarities were found in empirical and/or theoretical literature in which resilience was deemed a process or an in-born personality trait, though contributory constructs of what constitutes resilience differed significantly. Other evidence contradicted those findings in asserting that resilience can be developed and augmented by using protective factors. Similarities in protective factor elements were found, though methodological rigor was inconsistent in quantitative and qualitative studies examined. Overall, the literature lacked consensus on resilience, particularly in its measurement within military populations at risk; most studies proposed that resilience is augmented by protective resources, but significant divergence was evident in pinpointing which factors were specifically germane.

Qualitative studies of military resilience were few and mostly tangential in examining Servicemembers' resilience, with the exception of studying trans-vets<sup>60</sup> and Muslim Servicemembers<sup>64</sup> directly. Though labeled mixed-methods, the Scott et al.<sup>59</sup> study does not appear to have followed accepted tenets in executing mixed-methods methodologies. Omission of quantitative results prevented reflexivity and triangulation with their qualitative results<sup>59</sup> and stymies future attempts at replication by other researchers.



### Gaps in the Literature

Although we synthesized multiple studies of military resilience, a notable gap—absence, actually—of resilience research for SOF is troubling. The lack of research on resilience in the SOF community indicates poor progress in understanding the experiences of SOF Servicemembers, failure to link resilience and suicide risk, inadequate measurement of incidence of PTSD, and other predicates. Military resilience research overall is not of the highest evidence; resilience has not been shown to reduce suicide risk or improve mental health outcomes; resilience research is based on specific assumptions of what composes resilience depending on methods of measurement; resilience studies in this population lack rigor. The social-cognitive nature of resilience appears to preclude highly controlled experimental research and meta-analyses of the same, at the apex of research hierarchies.<sup>78</sup> During synthesis, we found resilience morphed conceptually from an historical construct in positive psychology into a structural element used individually, enabling ability to withstand adversity—findings proposed previously.<sup>1</sup>

Despite our admiration for and gratitude toward everyone involved with initiatives designed to improve the lives and experiences of Servicemembers, we note, metaphorically, that resilience initiatives were the cart, and measurement research was the horse. Military resilience programs were launched years before accompanying science,<sup>66</sup> and unquestioned or unchallenged positive psychology paradigms heavily influenced research frameworks and programmatic pillars.<sup>42</sup> The interdependence between research findings confirming programmatic success invites innumerable potentials for bias, which must be addressed. At least, next phases of military resilience program evaluation should be examined by third-party investigators without potential conflicts of interest. Military commands—the entire US Army (MRT, CSF), US Navy (OSCAR), US SOCOM (Preservation of the Force and Family)—have invested heavily in resilience-building initiatives, and we presume researchers associated with those endeavors concurrently built considerable standing spearheading those efforts and studying those programs' outcomes.

Efforts aimed toward increasing resilience to mitigate negative mental health sequelae continue despite resilience research characterized as executed with poor methodologies, substandard rigor, and lack of conceptual analyses.<sup>31,79</sup> In particular, resilience is often couched within a pathogenic paradigm: Lack of resilience is associated with negative health outcomes, whereas the presence of resilience is proffered as a salutogenic element leading to positive health outcomes.<sup>31</sup> No evidence supporting such curative claims was found. Given such contradictions, this integrative review was warranted to determine the state of the science on resilience research through structured and replicable methods.<sup>36</sup>

American quantitative studies were weakened by some absences of full discussion of resilience measurements' psychometric properties or subscale analyses. It was particularly difficult to evaluate military participants' baseline or changed resilience measurements when investigators excluded norms, historical referents, cutoff scores, and comparisons to other populations' resilience. Leading researchers in military resilience may have neglected elements that could enhance their outcomes measurements' rigor and ultimately, credibility.

### Clinical Implications

In 2017, some of the largest suicide studies in military history (namely, Army STARRS) were released<sup>4-6,22,80</sup> in which one concluded that SF had nearly zero risk of suicide because SF are highly resilient due to their "rigorous selection, intense training, strong unit cohesion, or psychological and biological characteristics."<sup>5</sup> In 2018, SOF suicides tripled.<sup>12</sup> Amid "historically heightened suicide rates,"<sup>77</sup> the current US SOCOM strategy is to augment resilience through wellness programs emphasizing elite athleticism and psychosocial fitness.<sup>82</sup>

Other than the Hing et al. 2012 study of US Army SOF PTSD incidence,<sup>13</sup> few to no studies of mental health issues in SOF exist either. Moreover, concomitant brain injuries such as astroglial scarring, believed due to years of exposure to heavy weaponry, breaching, and explosives, could be causing neuropathologies in SOF similar to those reported in 2017<sup>83</sup> such as symptoms mimicking PTSD. Suicides in SOF could be equally due to organic, occupational causes of neuropsychiatric symptom spectra and augmenting psychosocial resilience will obviously not reverse physiologic sequelae from organic brain injuries.

From a clinical perspective, overemphasis on resilience could be stealing resources needed to investigate the multifaceted natures of PTSD and suicide, especially in SOF. Resistance to resilience-building groupthink is starting to emerge as voices are being raised in opposition to deleterious and ineffective mental health initiatives that may be doing Servicemembers more harm than good,<sup>84</sup> despite the purest of intentions. As a population under significant stress and threat, targeted study of resilience in SOF personnel is both warranted and exigent, especially given historically elevated suicidality, SOF-specific stressors, and occupational lethality faced by Special Operations entities.

The military's insistence on resilience could be interpreted as shifting responsibility for effects of chronic physiologic and neurologic stress to Servicemembers unfairly characterized as not being positive enough in thought or resilient if they succumb to PTSD or suicide to stop their suffering. In February 2019, SOCOM's spokesman appeared to perpetuate this 'blame and shame' narrative when in response to SOF suicides, he stated publicly that SOCOM resilience training aims to train participants toward positivity, that signs of suicidality (e.g., substance abuse, relationship problems) are causes of suicide<sup>12</sup> (rather than symptomatic indicators), and thinking happy thoughts somehow prevent suicide.<sup>12</sup> "Many suicides appear to be related to substance abuse, personal relationship issues or financial problems, [SOCOM] officials said . . . 'SOCOM is working with researchers, for example, to understand underlying thought processes that lead to suicide and what actions can be taken to mitigate that behavior . . . The training we have developed is intended to teach skills that help participants recognize inflexible, rigid thought patterns and to substitute those patterns of thinking with more adaptable thoughts,' McGraw said. The training is heavily based in cognitive behavior therapy, and is designed to provide benefit to any participant regardless of their risk for suicide."<sup>12</sup>

### Recommendations

We argue here that Servicemembers cannot overcome even indirect indicators of PTSD and suicidality (e.g., relationship

dysfunction, substance abuse, anger, depression)<sup>85</sup> by embodying tenets of positive psychology such as positive thinking and virtuousness.<sup>86</sup> Moreover, we are unaware of Servicemembers whose suicides were caused by ingratitude, optional pessimism, being less than a model citizen, or for not living one's best life. Predetermining "resilience" as designated character strengths likely ostracizes nonconformists, given that positive psychology's "classifying and characterizing of character strengths and virtues provides a new regulatory tool for the use of selection, control, and discrimination."<sup>87</sup> For SOF and SF in particular, whose *raison d'être* are to free the oppressed, nonconformity and independence are hallmarks of its citizenry,<sup>71</sup> not undesirable traits.

## Conclusion

Resilience is certainly an element contributing to overall wellness and ability to withstand adversity. However, presenting resilience as something that can be built to reduce PTSD and suicide implies those who suffer from combat stress reactions, chronic traumatic stress, or those who have considered or committed suicide are at fault for being low in resilience or

having suboptimal personal character traits. SOF withstands the highest operations tempo and fatalities in the military, while also being those least likely to seek help.<sup>87-90</sup> That said, physical injuries, neurophysiological effects, skyrocketing suicide rates, and underexplored PTSD in SOF<sup>89</sup> can be neither fully explained nor mitigated by Servicemembers' resilience. Current resilience and suicide prevention programs in the military are influenced heavily by positive psychology paradigms in which pain and suffering are variables to be avoided, despite negative experiences being known essentials in overcoming trauma and for posttraumatic growth. Resilience in SOF must be studied by independent investigators researching it with SOF personnel: granularly, with rigor, and then rigorously triangulated<sup>91</sup> with valid PTSD and suicide data.

## Disclosures

The authors have indicated they have no financial relationships relevant to this article to disclose.

## Acknowledgment

Dedicated to SO1 Ryan Francis Larkin. We are listening.

References available at: [jsom.us/1903Rocklein#Refs](https://jsom.us/1903Rocklein#Refs)

Appendix available at: [jsom.us/1903Rocklein#Apdx](https://jsom.us/1903Rocklein#Apdx)

## EDITOR'S NOTE

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Lt Col (Ret) Michelle Landers, MBA, BSN, RN  
JSOM Publisher and Executive Editor

### Mental Health Care Remains Inadequate for Servicemembers and Veterans

Active-duty Servicemembers and Veterans are committing suicide at alarming rates: Special Operations Forces' suicides increased beyond conventional forces' rates in recent years.<sup>1</sup>

Total active-duty reports across the four DoD Services are the highest they've been since 2012, which previously was the DoD Services' worst year since it began centrally tracking suicide reports in 2001.<sup>2</sup> A total of 321 active-duty Servicemembers took their lives during 2018, including 57 Marines, 68 Sailors, 58 Airmen, and 138 Soldiers.<sup>2</sup>

According to Hester's 2017 investigation of military suicide: "The current uneven access to appropriate mental health services that returning U.S. veterans encounter echoes the disparities in access to quality mental health services for the general population. . . . Our findings suggest that mental health disparities are often a leading factor to the high suicide rates among veterans who experience depression and posttraumatic stress disorder."<sup>3</sup> Many Servicemembers experience mental health problems before, during, and after military service, problems not detected and/or left untreated.<sup>4</sup> As a result, when Servicemembers reenter society as veterans, they may now have combat stress and PTSD, which may combine with combat

injuries, depression, unemployment (a percentage that was recently reported at 5%<sup>5</sup>), financial stress, alcoholism, and the inevitable family discord.

The challenges facing the VA are very complex and only one-third of our veterans are in the care of VA Hospitals and Health Systems.<sup>5</sup> There are hotlines set up for the military: military personnel who need help can call the Veterans Crisis Line at 800-273-8255. Suicidal troops and veterans can call the Military Crisis Line at 800-273-8255, press 1, for assistance, or text 838255.<sup>1</sup>

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